4TH EDITION

BASIC MUSIC THEORY

HOW TO READ, WRITE, AND UNDERSTAND WRITTEN MUSIC

JONATHAN HARNUM, PH.D

author of *The Practice of Practice* and
Sound the Trumpet: How to Blow Your Own Horn

Contents

Take a Bow

Other Books by Jonathan Harnum

READ WHAT FOLKS HAVE TO SAY ABOUT THE BEST-SELLING MUSIC THEORY BOOK VERSATILE ENOUGH TO BE USED BY KIDS, ADULTS, SCHOOLS AND UNIVERSITIES.

"Basic Music Theory is an ideal and highly recommended text for anyone of any background wanting to become proficient in the reading, composing, and performance of written and notated music."

—Midwest Book Review
(5 stars, highest rating)

"This is a book that covers lots of ground without ever appearing "difficult." It is written in a breezy, conversational manner, so one "talk" naturally drifts into the next."

—KLIATT Library Review Service

"Finally, someone came up with a basic music theory book that's actually understandable and readable. This is by far the best music theory book I have ever read!"

—Remy Durant, Los Angeles, CA (USA)

"Basic Music Theory by Jonathan Harnum explains the subject in a manner that is light-hearted and easy to follow. For someone in their late forties (like me) who hasn't had formal music training since the age of thirteen, nor picked up a musical instrument until now, it's been extremely useful. To the extent that the dots, p's and d's on a musical score actually have meaning. I can now say that I'm able to read music and understand some of the more-complex musical arrangements. I've been playing the saxophone for about 18 months now and the book has helped to bring me from a level of not being able to read music up to one of reasonable competence at sight reading.

—Chris Ward (Kendal, UK)

"Fun and engaging. A real winner!"

—Terrie Lyons, PhD, PC, Portland, OR (USA)

"Jonathan Harnum has taken an overly complicated subject matter and made it learnable for anyone. And I do mean anyone! Harnum de-cryptifies all that is involved with music theory for the non-musician. But this book is not just

for the non-musician. I have been a student of music for more than 13 years and a teacher for 3 and I found new, interesting and humorous facts about music theory. This book can teach anyone music theory and keep a smile on their face the entire time."

—Robin Gibelhausen, music teacher, Illinois (USA)

"I appreciate the clever and humorous ways that you introduce many of the concepts. The illustrations and pictures are very helpful."

—Dave Larsen, elementary teacher, Hawarden, IA (USA)

"The more I think about your book the more brilliant it becomes. See, the tough part is knowing how to limit the depth to keep it true to your goal of making music theory fun and fathomable. You excelled at it!"

—Charles Reynolds, music education pioneer, Palmer, AK (USA)

"Basic Music Theory by Jonathan Harnum, is an excellent book for people of all levels. Whether you are a beginner, or learned musician, this book is a very comprehensive source of material, that is both accessible,easy to read & understand, and very enjoyable. I have played various instruments over 24 years. And because of Harnum's matter of fact, conversational tone, this book has lent more to my understanding of basic music theory than all my private insturctors combined. Easy and completely understandable!"

—Ruben Tamayo, Los Angeles, CA

MUSIC EXISTS FOR ITS OWN SAKE. WRITTEN NOTES ARE NOT THE REAL MUSIC.

Music programs in schools across the United States struggle to make the case for music in an effort to raise funds and in some cases, to keep programs from being cut altogether. Advocates often point to extra-musical benefits in an effort to justify the inclusion of music in the curriculum. Some of these claims have been supported by quality research, and some have not. For example, researchers at McGill University in Canada found that kids who take piano lessons showed improved general and spatial cognitive development; studies at a Miami Veterans Administration hospital indicate that music making may improve the

brain's natural production of regulatory hormones like melatonin; piano students who begin studying by age 7 have a larger corpus callosum (the channel through which the two hemispheres of the brain communicate). Musicians appear to be better able to detect emotion in sound, and hear better in noisy settings according to research from leading auditory neuroscientist Dr. Nina Kraus and her research team at Northwestern University.

Pretty cool stuff. It's important to remember that the true benefits of music lie elsewhere. Music is its own reason for existence, as is any art form. To justify the existence of music in the schools, or its general importance by pointing to other effects is like saying that eating food is important to the economy. It's true, but there is a more fundamental importance that lies deeper.

Reasons for the inclusion of music and music education in one's life has nothing to do with larger brains, better social skills, or better math skills, even if these benefits actually exist. The reason for including music in one's education is that music is a source of authentic and meaningful personal expression, as valid and important as any other personal expression, whether it be linguistic, mechanical, mathematical or scientific. If providing a balanced education is important, music and the other arts *must* be included.

Written music is a recent development in music history and has only been around for about 800 years in our Western tradition. Many musical traditions, and many highly successful musicians around the world don't use written music at all. Written music is simply one more tool a musician can draw upon in the pursuit of messing around with sound. Being able to read music is no guarantee that you'll actually *be* a musician, of course. In your quest, as soon as you can let go of the written note and dive deeper into the sounds themselves, do it.

The best of luck to you!

Jon Harnum 10/15/13

JUST AS THERE CAN BE NO MUSIC WITHOUT LEARNING,

NO EDUCATION IS COMPLETE WITHOUT MUSIC.

COVER PICTURE: IN THE LATE FOURTEENTH CENTURY, MUSIC WAS READ FROM SCROLLS LIKE THE ONE ABOVE DRAWN BY GIOVANNINO DI GRASSI.

THIS BOOK IS DEDICATED TO ALL MY TEACHERS AND TO MY STUDENTS, WHO ARE ALSO MY TEACHERS.

THANK YOU!

Basic Music Theory: How to Read, Write, and Understand Written Music, 4th ed.

Published by Sol Ut Press

Free Extra Material for this Book Online Get the free extra content On the Web at http://is.gd/guhuga

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chapter 0

The Chapter Everyone Skips

A journey of a thousand miles must
begin with a single footstep.
Lao Tzu

Welcome to Basic Music Theory! If you never thought you'd pick up a book on music theory, you're not alone. I never thought I'd write one, and certainly never anticipated a 4th edition. In my experience as a student, a player, and a teacher, I searched for and used many different methods of learning music theory. Some methods were good, most were okay, and a few were bad, but none of them worked with students to my satisfaction, so I wrote this one. Basic Music Theory has been out since 2001, and was the first of its kind. Since the book came out, I've managed to earn a master's and a Ph.D. in music education, and I've learned a lot, as you might imagine. I'm stoked to update the book with better everything!

I've tried to take all the positive things about teaching theory, thrown in many of the tricks I've used with thousands of students, and tossed in a little humor in an effort to make learning music theory both easier and more enjoyable. These methods and suggestions have worked well with all students of all sizes. I hope they'll work for you too.

About The Book

Basic Music Theory is your introduction to another language—the rich and often strange language of music. By the time you've completed even two lessons in this book, you'll have made big steps down the path toward understanding written music.

With this language you'll be able to reproduce sounds from nearly a thousand years ago by someone like Guillame de Machaut. And with this same language you can play music by contemporary musicians. Name your favorite artist. If it's written down, you'll be able to understand and interpret it!

But let's not get too carried away. Those musicians you look up to have spent thousands of hours learning both their instrument and in many cases, their music theory. Learning theory will take some focus and some work, but that work will be clearly explained, and you'll be surprised to find how easy it can be.

Nobody likes to work on a task endlessly. For that reason, the theory lessons are broken up by Interludes every few chapters. These interludes cover things like practice, conducting, musical terms, and a brief history of musical notation.

So, if you're interested in the music of Mozart or Metallica, Beethoven or B.B. King, Dizzy Gillespie or Vince Gill, The Clash or Johnny Cash, you've finally found the right book.

Why Basic Music Theory?

Learning music theory doesn't have to be a long and difficult process. It does take some work, but with this book you can make that work much easier. I've suffered through some of the most boring music courses a person should be forced to suffer, and before this book was available, I've had experience inflicting such boredom on others as well. Believe me, it's not fun on either side! Whether you're a teacher or a student, I'd like to spare you any of that frustration and difficulty.

Music theory is a language that is used by all Western instruments. Whether you play the kazoo or the krumhorn, voice or vibraphone, French horn or nose flute, pigsnout psaltery or percussion, trombone or triangle, bagpipes or bass fiddle, Sousaphone or Saxophone…you get the idea. Whatever instrument you play, reading music will be a useful tool in your studies, and this book will give you that tool.

What's Inside

Basic Music Theory is divided into seven Parts and in each Part are several chapters. Between some of the Parts are Interludes — stand-alone sections giving information on aspects of music other than theory.

Parts

Each Part is made up of four to seven chapters. The division isn't arbitrary. Information in each Part is related and the reviews come at a point where a review will do the most good.

Part Reviews

At the end of each Part is a comprehensive review in the same format as the chapter reviews. Cross-references below the questions allow you to quickly find and re-read any section that you haven’t quite remembered yet.

Chapters

Each chapter is fairly short and contains detailed information on one or two topics. When an important term appears for the first time, it is in bold and italics so that when you do the chapter review and need to go back to the chapter, you can find the information easily.

Chapter Reviews

At the end of each chapter is a brief review covering the material in the chapter. The reviews are generally very short, the longest being around fifteen questions.

Practical Use

Also at the end of each chapter is a short list (often only one item) of written exercises to hone your music-writing/reading ability using the material you've just studied.

About the Reviews

After each chapter and Part is a section that contains questions on the information presented. The reviews are arranged as quizzes, but with one important difference: the answers are in the margin! That's right, the answers are right there.

The best way to learn is to get immediate feedback. There is no better way to get feedback than to have the answer right there with the question. Of course, this does you no good if you can see the answer before reading the question, so you have to cover up the answers while you give yourself the quiz. In the back of this book is a cut-out bookmark with a piano keyboard on one side and a guitar fretboard on the other. If this is a library book, please photocopy the keyboard and leave the original for others to copy as well. Use the guide to cover up the answers while you test yourself.

After you answer the question, simply uncover the answer in the margin and kiss yourself on the elbow for giving the correct answer. If you didn't get the answer correct, at least you have the answer right there to remind you.

Voilà. Instant feedback, and your memory of the material is enhanced.

Once you're confident you know the information, you can either go on to the next chapter or take the written quiz. You can find the free quizzes and a whole lot more in the *Basic Music Theory* Teaching Packet. For more information go to www.sol-ut.com.

Basic Music Theory is meant to be used as a textbook and study guide, with written work taking place on the blank staff paper you'll find throughout the book, or printed from the free printable files available online. If this book is from the library, photocopy the blank music staves or print the online files, so the book can be used over and over again. Of course, if you've bought this book for

your own personal use, mark it up! It’s kind of fun to write in a book; it feels like you’re breaking some kind of unwritten rule. You can find the free resources on the Web at http://is.gd/guhuga

Helpful Icons

Memory Tip

This icon is placed near methods to improve your memory of terms, notes, and other fun stuff. These little memory tricks will save you some brain strain.

Take Nottice

This icon is placed near information that is particularly useful to know. Heed this information and you’ll avoid common mistakes.

Theory Geek Alert.

This icon is placed near information that isn’t especially necessary, but which you might find interesting.

Overview of Basic Music Theory

Chapter 0: The Chapter Everyone Skips

In addition to what you've already read, this part will give you an overview about the book as well as tips on how to study the information.

Part One: Start Me Up

Prelude, Chapter 1. This section is where the fun begins. And what better way to start than with something other than music theory! The first chapter is an ultra-ultra-brief history of written music. It'll be painless, I promise.

In Chapters 2-5 you'll learn some of the most basic terms and symbols (no, not cymbals) of written music, how they look, what they mean, and what they do. Included are note lengths and rests. You'll be reading music in only one or two lessons.

Once you're done with Part I, peruse the Comprehensive Part Review and see how much you remember.

Part Two: You Got Rhythm

Chapters 6-10. The party continues. In this section you'll find more symbols used in written music including more note lengths, a counting system, time signatures, dotted notes and triplets. And of course, a comprehensive Part Review.

Interlude: The Practice of Practice Chapter 11 and it's time for a break. This Interlude is all about practice. How to go about it, how to structure it, how to record it in a journal and on a tape recorder, equipment you'll need and how to use it, and how to do what must be done to become a better player.

Part Three: Clef Notes

Chapters 12-17. For the first two chapters of this section you'll learn about the letter names for notes and how pitch is shown in written music. The other four chapters are devoted to clefs. You'll learn treble clef, bass clef, percussion clef, and a few other clefs as well.

A Comprehensive Part Review Interlude: Musical Terms

Time for another break with Chapter 18. This Interlude is all about musical terms, most of which are in Italian. You'll learn the terms, what they mean, and what they tell you to do.

Part Four: See Sharp or Be Flat Chapters 19-22. Once you've got the basics of reading music down, we go into more advanced concepts. This section shows you how to use the piano keyboard, covers whole steps and half steps, sharps, flats, and naturals, the chromatic scale, enharmonic notes, and key signatures. And of course, a Comprehensive Part Review when you're ready for it.

Part Five: Intervals and Minor Scales

Chapters 23-26. In this section you'll learn how to measure the interval from one note to another, and using that information, you'll learn how to construct a minor scale beginning on any note. From there you'll move on to modes, and finally to several other types of scales.

A Comprehensive Part Review.

Interlude: Conducting Yourself Chapter 27 is your final Interlude. In this Interlude you'll learn the basics of conducting, conducting patterns, body and facial language, and the work it takes to become a good conductor. Also learn how to use conducting patterns to enable you to write down what you hear.

Part Six: Chords

Chapters 28-31. Here you'll learn about how chords are constructed and the many different types of chords. You'll also learn about chord extensions and the symbols they use, chord inversions, and several basic chord progressions.

A Comprehensive Part Review.

Part Seven: More of the Same

Chapters 32-34. In this final short section are some concepts that go further than when they were originally introduced. Included are double dots, double sharps and double flats, faster notes, 6/8 time and odd meters.

A Comprehensive Part Review.

Extras

Teacher Information: A quick summation of the free Basic Music Theory Quiz-Pack.

Piano Keyboard: One side with the note names, one side without. Also used with the End-of-Section Reviews as mentioned later.

Guitar Fretboard: Guitar is one of the most popular instruments around, so here's a fretboard labeled with note names to help you guitarists out there.

How to Use the Special Features

QR Codes

A lot has changed for us technologically since 2001, when this book first came out. This book takes advantage of greater access to knowledge, providing live links in the PDF and e-book versions of the text, but also in the print version by using QR codes.

With a web-connected eBook reader, you can see, hear, and read more. You'll find all kinds of online extras: videos, pictures, and links to cool related stuff. Whenever there is a relevant link to share, you'll see a highlighted html link. Just click on the address and off you go. Or go old-school and type the address into the browser yourself.

The End-of-Section Reviews

What's different about all the reviews in Basic Music Theory is that the answers are right there with the questions. Below each question in the longer end-of-section reviews you'll see (in itty bitty writing) the page number where you can review the information you didn't quite get.

The answers are on the right side of the page, and the questions on the left. While reviewing the chapter, to cover up the answer, you'll use the piano keyboard in the back of the book.

The Keyboard

In the back of the print edition of this book is a piano keyboard and a guitar fretboard, each with all the note names labeled. Use the guide as a bookmark, as a cover for the study guide answers and as a way to visually understand the concepts in the book. You can print the guide from the web site. Here's the address again: http://is.gd/guhuga

Practical Use

After the chapter Reviews are Practical Use exercises, most of which will be done on the staff paper you've copied from the back of the book. There may be as many as four exercises, or as few as one.

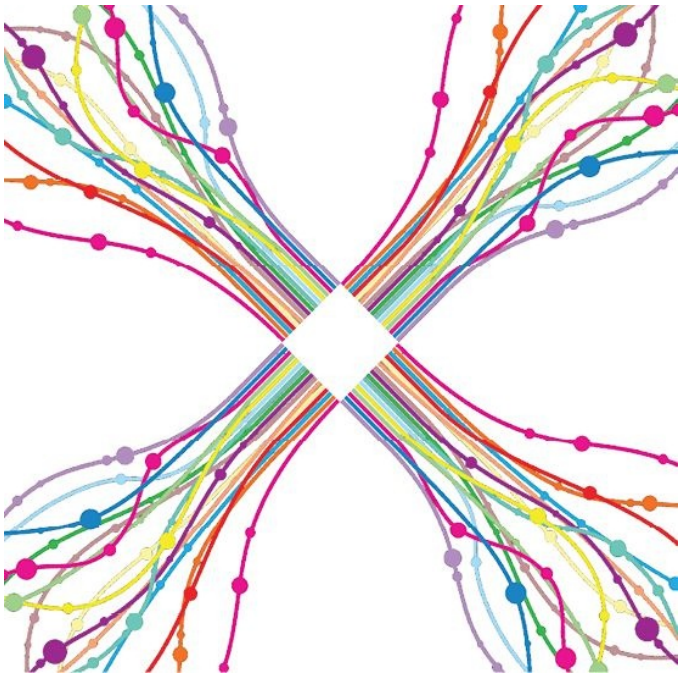
Moving On

Okay, enough details. If you've read them, great! I put a lot of thought into them. You'll have a better handle on how to get the most out of this book and you won't be at all surprised or confused about what's next. Speaking of which....

Part One: Start Me Up is next, and the first chapter is about how Western music notation came to be.

Part One

Start Me Up



In This Section You Learn

A Brief History of Written Music

The Musical Staff

Bar Lines

Measures

The Beat

Note Lengths

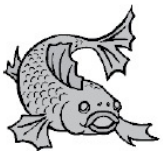
Rests

CHAPTER 1

A Brief History of Musical Notation

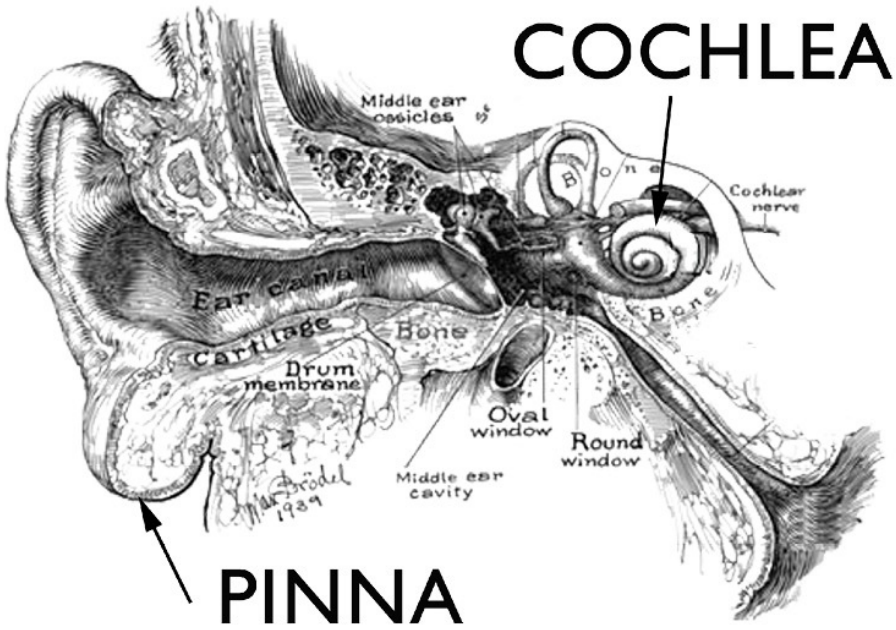
History doesn't repeat itself, but it does rhyme.

HEAR, THERE, EVERYWHERE



When you hear something you like, thank a fish. About five hundred million years ago fish began to develop the ability to sense vibrations, but not with anything we would call an ear. Amphibians improved on the fishy system with sack-like organs containing clumps of neurons devoted only to sensing vibrations, much like the ears frogs have today. Birds improved the design even further.

The ear reached its peak with mammals and the appearance of pinna, the fleshy outer ear that funnels sound to the cochlea, one of the many tiny pieces of the inner ear. The cochlea converts the vibrations into nerve impulses and sends them to the brain where it gets processed by systems like the cortical fugal network.



It had to take over a hundred million generations of critters to evolve an ear capable of hearing the ecstasy of Bach's *B Minor Mass*, the groove of the blues

or the blistering Bebop of Charlie Parker.

With this wonderful ability to hear, it's no surprise that we humans began to organize sounds into patterns of rhythm and pitch. That's music. A question that will remain unanswered forever is what the first instrument was. Some say drum, some say voice, but we'll never know for sure. Maybe it was something completely different. Flutes made from the bones of a vulture were found in Europe that are at least 40,000 years old.

Find interesting links on the ear and other aspects in this chapter on the Web at http://is.gd/guhuga.

Magical Powers of Music (aka Psychology of Music)

From the very beginning, music was linked with magic and shamanism, and still is. Wherever you find a shaman, you'll probably find a drum.

Music has magical powers. It can transport you into an altered state, heal sickness, purify the body and mind, and work miracles in nature. In the Old Testament David cures Saul's madness with a harp, and the walls of Jericho were brought tumbling down by horns.

David & Saul, by Rembrandt, c.1658

You may scoff at such primitivism, but do it softly and don't let anyone hear you. Recent discoveries are showing that such ideas are not so cracked as they seem. Don't believe me? Okay, here are some examples:

Imagine. It's night. A cavern begins to fill with creatures that normally keep distance between themselves and the others of their kind. They rarely touch. Tonight, because of sound, they will experience an altered state of being.

Soon there will be ten thousand of them. Then twenty thousand. Thirty. More. Tonight they will crush together and dance to the music. On a raised platform, anywhere from three to a dozen or more people stroke or bang on or breathe into instruments that produce complex rhythms and pitches. The sound causes us humans to behave in a way that's different from the everyday norm, especially if we really like the band.

Here's another scenario. You've had a long hard day and you arrive home exhausted. At home loud and annoying music plays—something you really hate,

like your dad's vinyl Barry Manilow, or your kid's Megadeth Live! mp3—and it grates and grinds on your nerves.

Once it's turned off, you heave a deep sigh and a peacefulness settles over you. You put on some of your favorite music—say that Barry Manilow record, or maybe that rockin' Megadeth Live! CD—and the relaxation deepens.

Music therapy has shown positive results in those undergoing cardiac rehabilitation, and drug rehabilitation. Music has also helped sufferers of asthma, depression, high blood pressure, migraines and ulcers. Music can help with the production of melatonin, an important chemical in the body, and is linked to an increase in the production of human growth hormone, another beneficial chemical in the body. Music can even recall someone from the depths of dementia, demonstrated powerfully by Henry in a video from the documentary *Alive Inside*, at http://musicandmemory.org. The use of music therapy in healing has gained much credibility and its use is increasing as we test music's effects empirically.

There's more: Ella Fitzgerald breathes deeply, begins a note and holds it. She sings with power and confidence and clarity. The note is high and clear. A tall empty champagne glass sits on a stool nearby and begins to vibrate with her voice. Ella's voice grows louder. The glass begins to tremble. Then it explodes in a shimmering cascade of shards.

Jane Goodall, the famous chimpanzee expert, relates a story about a chimp who discovered that banging two empty gasoline cans together makes a terribly wonderful racket. In a few days of banging the chimp had become the dominant male of the group. A percussionist's dream. There is power in sound.

How long has music been around? Nobody really knows, but we all suspect it's been with us from the beginning.

In a cave in Germany, Hohle Fels, two bone flutes carved from the wingbone of a vulture were found. They were around 40,000 years old. In a clip from the Werner Herzog documentary *Cave of Forgotten Dreams*, you can hear a replica of the 40,000-year-old flute made from a vulture's wing bone, played by Wulf Hein. On the Web: http://bit.ly/1pd1TVm.

Use your imagination to think about what the very first musical experience was. You have about as much chance being correct as anyone, and it's fun to imagine.

Being the creatures that we are, it was only a matter of time until we developed a written language that could record these rhythms and pitches so that others could

make them too.

Just like with language, music existed for a long, long time before it was written down, and some think music may have existed before spoken language. Music was taught by rote, which means copying what another has played or sung. No need to read music, just listen carefully and copy the sounds, the fingerings, or whatever. It’s a method that takes a lot of time but works well and many, many people all over the world still learn this way. But with a system of writing music, a song can be shared with an audience far away, played by a musician who can read the lines and squiggles created by someone she has never met.

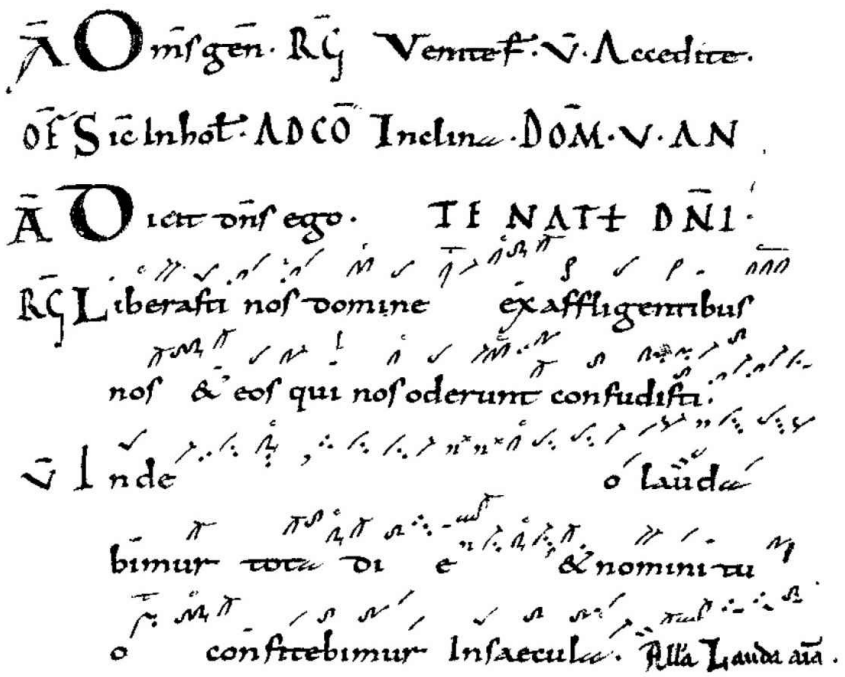
Writing Down the Bones

Our western tradition of written music—what you're about to learn—has only been in existence a thousand years or so and that's not very long in the grand scheme of things. Although it should be obvious, the Western classical music tradition is only one of thousands of different traditions of music, most of which have no use for writing down sounds, and some musical traditions actively discourage written music. However, the Western system for reading and writing music has become pretty useful and widespread.

There are older traditions of written music, too. Ancient Hindus and then the Greeks made use of their alphabet to write out music; the Persians used numbers and a kind of staff with nine lines between which the numbers were written; the Chinese used special signs for their pentatonic scales. The earliest examples of written music come from musical notation on fragments of a stone tablet found in Garit, Syria, dated to around 1200 BC.

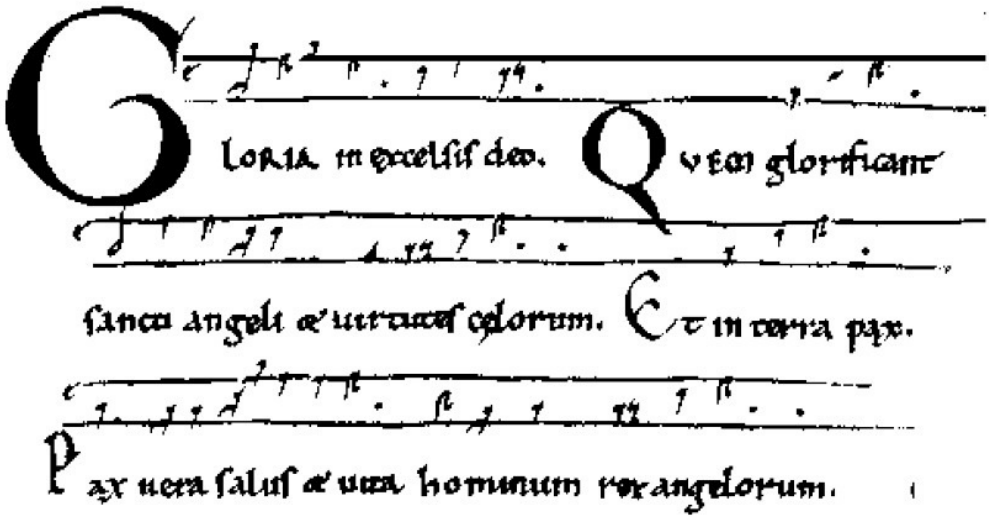
Over a thousand years later, around 500 AD, comes the first glimmer of written Western music. Because Western notation evolved in Greek and Latin-speaking cultures that read from left to right, music is also read from left to right, and top to bottom. Boethius, a Roman poet and philosopher, wrote an important treatise on music around 1492, *De institutione musica*, and this treatise was studied throughout the Middle Ages by monks in monasteries throughout Europe.

In the treatise, Boethius used Latin letters to represent musical sounds. Monks in the monasteries of the Catholic Church studied this treatise by Boethius and improved upon his ideas for their own system. After a few hundred years, in addition to letter names for notes, monks invented a system of neumes—pronounced nooms—meaning *sign* in Greek. Neumes are squiggly bits written above the text of a song that show note length, pitch, and movement from one note to the next.



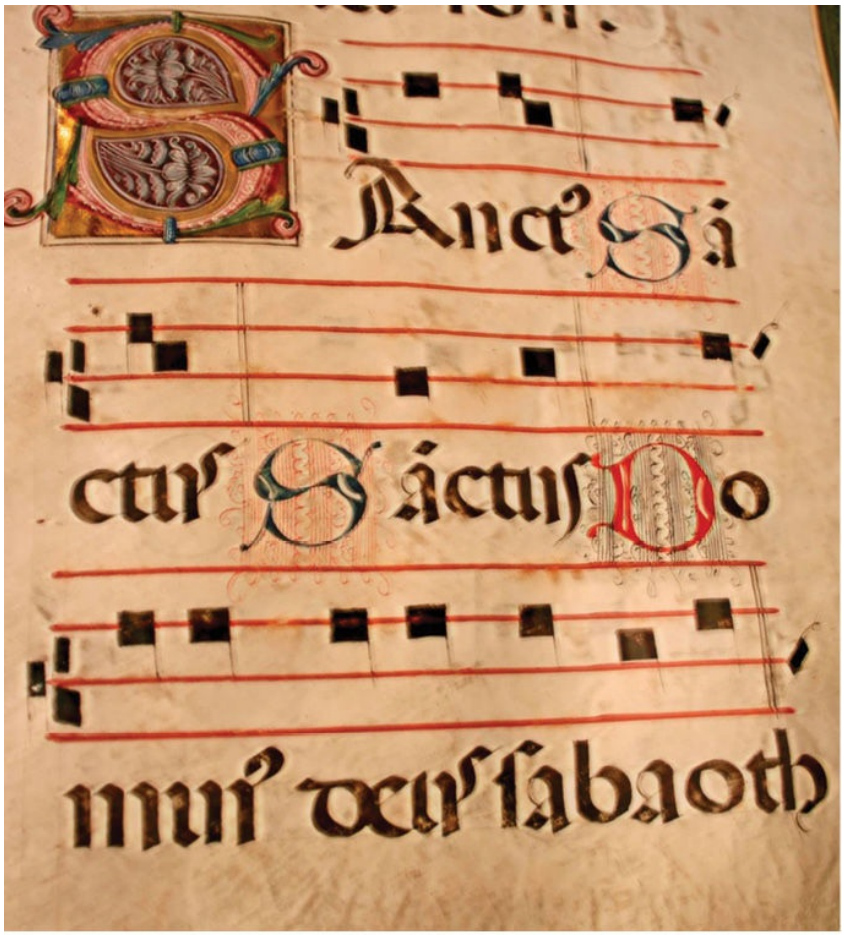
9TH CENTURY MANUSCRIPT WITH NEUMES WRITTEN ABOVE THE LATIN TEXT

After a while, neumes began to be written on, above, or below a single line. The line represented a specific pitch. A neume written above the line was higher in pitch than a neume written below the line.



2-LINE STAFF
12TH CENTURY BCE

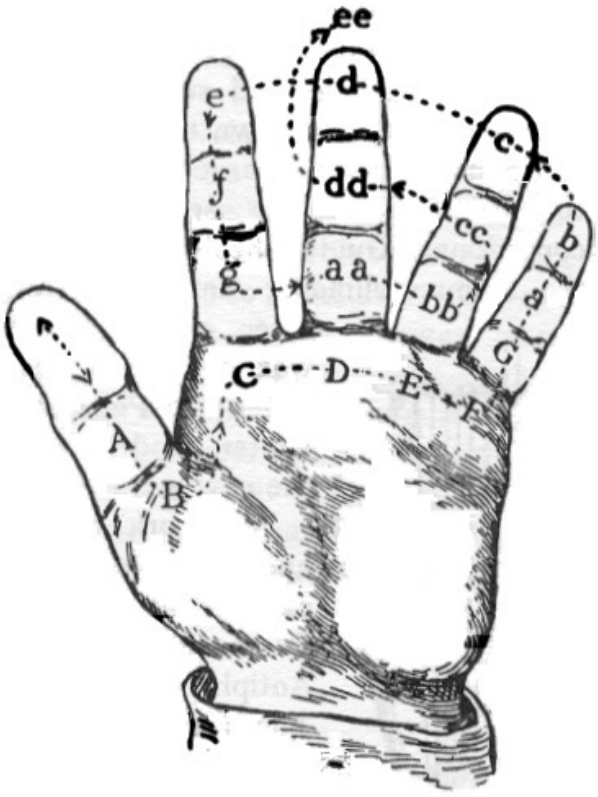
Around 1,000 CE, many innovations in written music came about, but it isn't exactly clear who invented them. Guido di Arezzo is given most of the credit. He was a Benedictine monk who was thrown out of his monastery for his radical innovations in music. It's believed that he didn't actually *invent* the staff, but contributed when he increased the lines from two to four.



4-LINE STAFF

We're lucky Guido got kicked out of the monastery because it caused his ideas to be spread more widely. Kind of like a Medieval "Streisand Effect." After he had an audience with the Pope who recognized Guido's skill, his monastery wanted him back.

Guido di Arezzo was definitely responsible for adding more lines to the staff, and he was also thought to have invented the Guidonian Hand, a system for singing together. He would point to specific places on his upraised hand, each corresponding to a specific note. This allowed a large number of monks to sing together. The drawing below shows the notes from low to high, starting with the thumb. The picture at the beginning of the chapter is another example of the Guidonian Hand with staff lines.



For a long time, music in the monastery was monophonic, which means it had only one part, usually vocal. All of the musical examples that survive from this time come from the church. Of course, there *were* popular secular musicians around at the time, making music, but they weren't writing down what they played and so there is almost no record of it. The oldest written secular music in existence is *Sumer is Icumen In*, a song celebrating the coming of summer, also known as the *Cuckoo Song*.

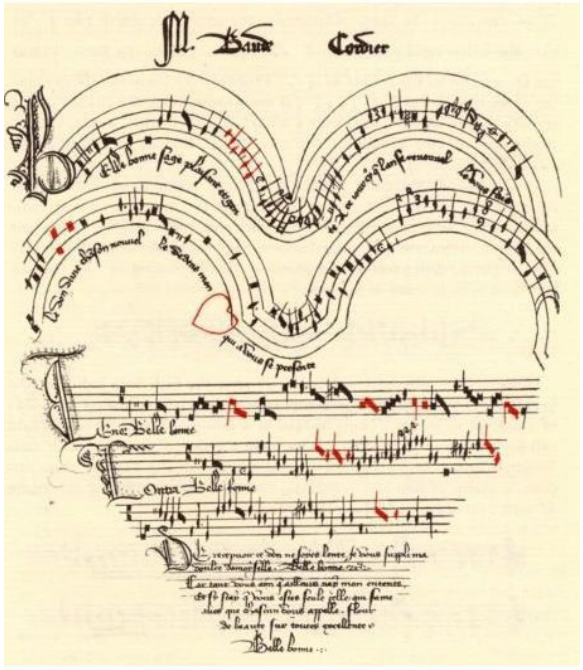
One example of monophonic music is a type of song called a plain chant. Some of the first examples of written western music are plain chants. They sound more like inflection than singing and are still used in Roman Catholic churches today. Eventually all those monks got bored with singing one-line music and began to add other parts. Music in the monastery was becoming more complex, and the written notes needed to reflect that complexity.

Music with more than one part is called polyphonic music. Polyphonic music soon became popular in the monasteries, but was difficult to write out.

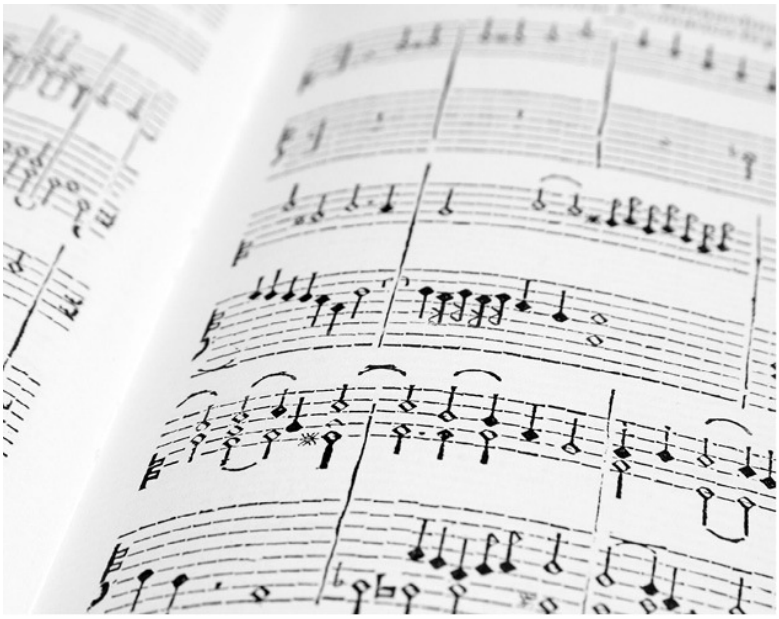
Because polyphonic music is more complex than monophonic music, it was necessary to add more lines to show the other voices. This is where Guido di Arezzo comes in. He expanded the staff to four lines, like the example to the left.

Soon after, a fifth line was added.

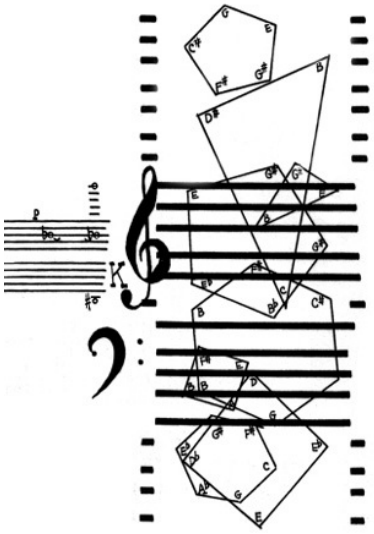
Over the next five hundred years, composers experimented with different systems of writing music. It was written in elaborate shapes, like the heart-shaped love song below, *Belle, bone, sage,* written by Baude Cordier in the 15th century. You can't see it in the print or earlier eBook edition of this book, but some of the notes are colored bright red. Color was sometimes used to alter written notes. Red notes get a different rhythm than uncolored notes.



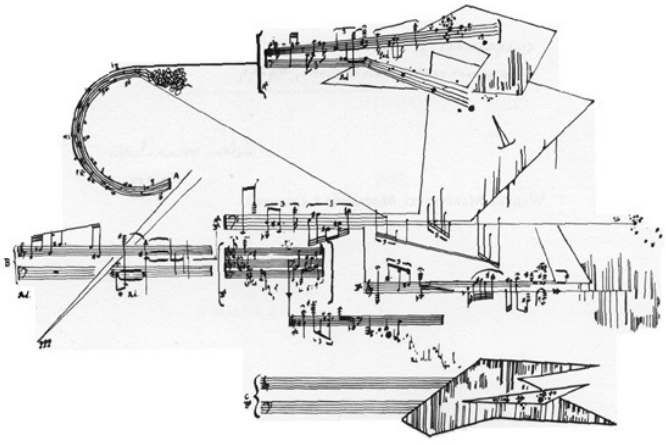
Experimentation also included an 8-line staff, like the one shown below, paired with a four-line staff. By about 1500 we arrived at the system (no pun intended) that has remained nearly unchanged until today.



The spirit of experimentation with written music still exists. Modern composers like John Cage, William Maginnis or Stephen Reich use notation that is radically different from what you'll learn in this book, as you can see below. However, those composers *do* make use of most of the musical elements you're about to learn, like clefs, lines, and rhythms.



PORTION OF JOHN CAGE'S
PIANO CONCERTO



PORTION OF *EXTENSION NO. 1*
BY WILLIAM R. MAGINNIS

Music, like any language, evolves over time. Maybe in another thousand years we'll be reading music based on smells. Who knows? What do you think music will look like and sound like in another thousand years?

CHAPTER 2

LINES, LINES, EVERYWHERE THERE'S LINES

All music is folk music.
I ain't never heard a horse sing a song.

Everything You Don't Hear

All of the things in the next two chapters are things you don't hear in written music. These are the things that create the structure upon which the sounds (the notes) can be written. Think of this stuff as something like punctuation. You don't really hear it, but it's there, and it serves an important purpose.

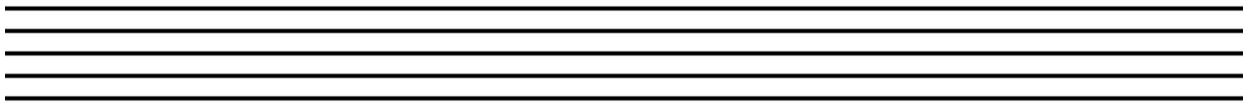
The Staff

The first type of staff you'll learn is the one line staff. Music that is written for one or two percussion instruments, like snare drum or bass drum, often uses only one line. Using a one line staff keeps things simple. It will allow you to concentrate on the rhythms you'll soon be learning. Think of this as progressing through the history of written music. As you probably remember, in the beginning all written Western music used just one line like the line below.

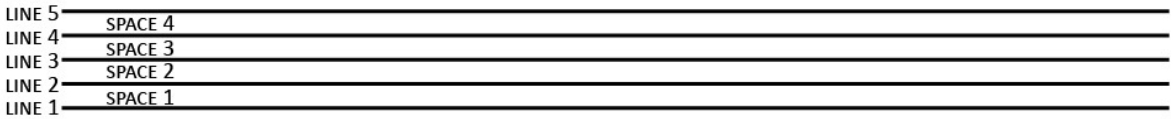
Here's the one line staff. Not too tough, is it?

Unless you play percussion or are learning to read rhythms as you'll be doing soon, you won't often see the one line staff. What you'll see is ***the regular staff which has five lines and four spaces***.

Instruments that have specific pitches (trumpet, flute, guitar, piano, etc.) use music that is written on a staff (plural staves) of five horizontal parallel lines. The five lines create four spaces between them, like so:



Each lines and space has a number, *always* counted from bottom to top.



Staff with lines and spaces numbered.

Theory Geek Alert

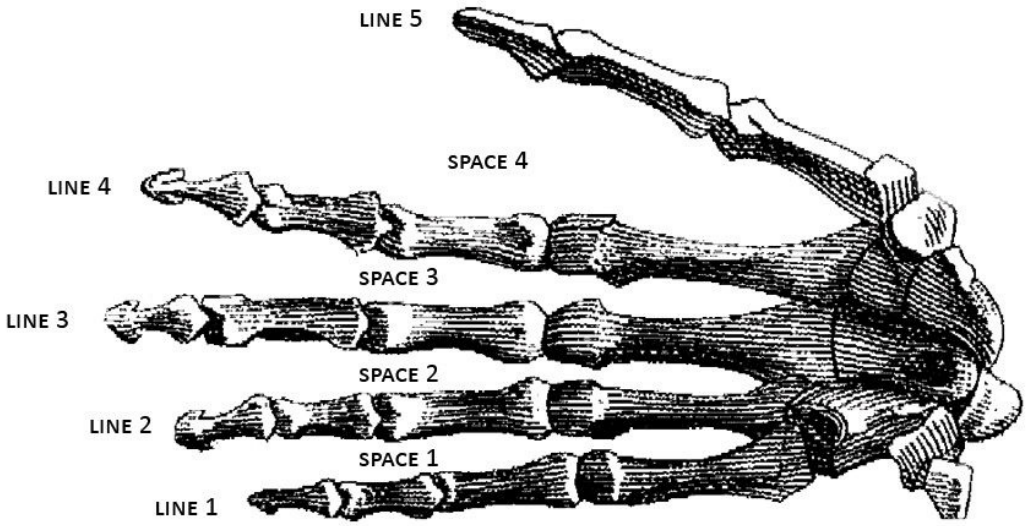
When you count things in music—staff lines, degrees of a scale, intervals, even the strings of a guitar (don’t worry, you’ll understand all these concepts soon) they’re always numbered from the bottom up.

Memory Tip

The following exercise works. It may feel a little silly,
but kinesthetic learning (learning with your body) works.

Take your hand—left or right—and put it in front of your face with the palm toward you. Pretend your fingers are the lines of the staff. The spaces between your fingers are the spaces of the staff. Pinky is line one, ring finger line two, middle finger line three, index finger line four, and thumb line five. Between your pinky and ring finger is space one, between your ring and middle finger is space two, between the index and middle finger is space three, and between the index finger and thumb is space four. Touch each finger and say the number of the line. Do the same with the spaces.

The example below shows a right hand. The only difference between this example and your hand is that you might use your left hand, and your hand will hopefully have more skin on it.



Moving On

So much for the staff. Pretty simple so far, right? Stick with it, because most of music theory is easy to understand as long as you've mastered previous chapters. Don't forget to check the free supplements at http://is.gd/guhuga.

Coming up next is Chapter 3, in which you'll learn about more lines that are used in written music: bar lines and double bar lines. It's all simple stuff, but you probably guessed that.

But before you move on, here's the first end-of-chapter quiz to test your memory. It's a good idea to try the quiz both after you read a chapter and, if you've been away from the topic for a while, to take the quiz before reading further to make sure you understand and remember the concepts and terms you've been learning.

Chapter 2 Study Guide

1. Why use a one line staff?

Easier to read

2. How many lines make up regular musical staff?

5

3. How many spaces in the regular musical staff?

4

4. Using a separate sheet of paper and a pencil, draw a five line musical staff.

Should look something like this:

5. What is the number of the bottom line?

1

6. What is the number of the top line?

5

7. What is the number of the bottom space?

1

8. What is the number of the top space?

4

9. What types of instruments use the one line staff?

percussion Practical Use Exercises

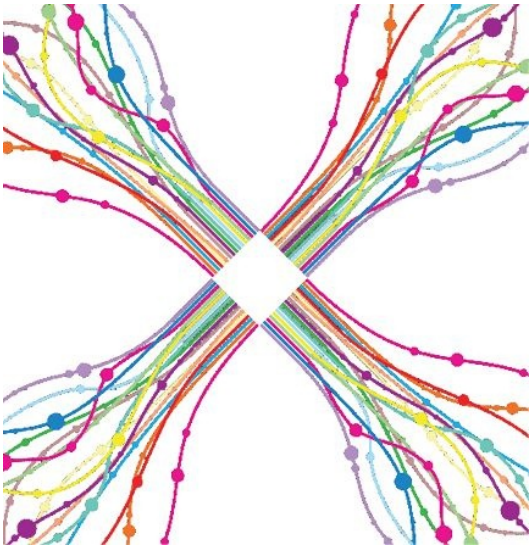
1. Hold your right hand up in front of your face. Use the other hand to count the lines (your fingertips) starting with the finger closest to the floor as “1.” Count the spaces between your fingers the same way.

2. Draw three five-line staves, each one a different size. Draw in your own type of notes and be as creative as you want to be. Try to discover what size staff works best for you.

3. Go to this book’s page on the Web (http://is.gd/guhuga) and print up some free blank staves to practice with. Hole-punch the copied blank staves and make a folder for yourself. You can use it as you work through this book. For less effort, get blank manuscript and guitar tablature notebooks at

your local music store. For even less effort, just use the blank staves spread throughout this book.

CHAPTER 3



More Lines

They teach you there's a boundary line to music.
But, man, there's no boundary line to art.

Bar Lines and Double Bar Lines

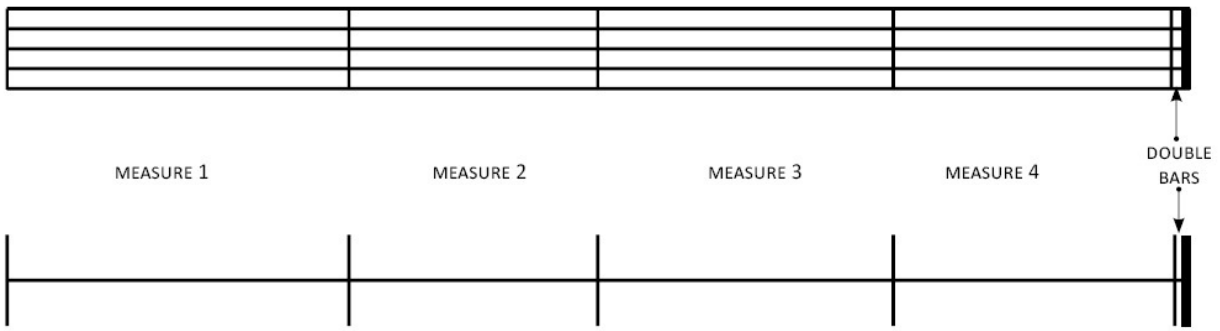
To make music easier to read, the staff is divided into sections by vertical lines called bar lines. There are two types of bar lines. The single bar line is a thin line perpendicular to the lines of the staff and goes from the top line to the bottom line. Bar lines simply divide up the staff into small sections that are easier to read.

The double bar line marks the end of a section, or the end of a song. It has a regular-sized line in addition to a thicker line close by to the right.

MEASURE

T***he area between two bar lines is called a measure, or a bar***. To avoid confusion, from here on, I'll call them measures. Bar lines divide the staff below into four measures. Because some measures may have more notes in them than others, the space between bar lines doesn't have to be equal (notice the first measure is a bit longer).

Bar lines aren't put in arbitrarily. There is a rhyme and a reason to their placement. You'll find out all about that soon. For now, just remember that bar lines divide up a staff into smaller parts.



Moving On

So, bar lines are pretty simple, right? Coming up next you'll learn some of the basic notes used in written music: whole notes, half notes, and quarter notes. Don't forget to check the free supplements at http://is.gd/guhuga.

Chapter 3 Study Guide

1. What is a bar line used for?

Divides the staff into measures.
Makes music easier to read

2. Where is a double bar used?

End of a section and/or end of a song

3. On another sheet of paper draw a single line and five-line staff. Make them long.

Did you do this?

4. Divide each staff into several measures. Bar lines should touch the upper and lower lines in the 5-line staff.

It's simple, but doing this will reinforce the information. Don't skip it.

Practical Use Exercises

1. Divide each of the staves below into 4 equal measures and put a double-bar line at the very end of the last measure.

2. You've seen written music before. Write in the measures what you think written music looks like. Be creative if you have no idea at all. Draw what you think it *should* look like.

3. Even more fun is to forget the staff altogether and make a listening map. As you listen to a piece of music, draw shapes, colors, forms, anything that you hear in the music. This is a fun process that has many benefits. Check out this book's "extras" page at http://is.gd/guhuga for more information.

CHAPTER 4

WHERE'S THE BEAT?

Days full of wanting.
Let them go by without worrying that they do.
Stay where you are inside such a pure, hollow note.

RUMI

TIME, RHYTHM, & THE BEAT

Time is the glue that binds music together, because music is the intentional propagation of sound over time. Within that unfolding of music over time, you'll often hear and feel a steady pulse, or *The Beat*. You'll probably hear longer rhythms, like sustained notes, that encompass several beats, and you'll probably hear faster rhythms in between the beats, too. Beats are easiest to perceive, because most of us can feel the beat without thinking much about it. The Beat is what sets your toe tapping, it's what makes you want to move, or to dance. ***The beat is a regular pulse***, and like your heartbeat, it lasts throughout a piece of music, even if you can't hear it. In most written music, the beat is represented by the quarter note, one of the notes you're about to learn.

Speaking of pulse, did you know that music with a fast beat makes your heart beat faster and speeds up your breathing? And music with a slow beat makes your heart and breathing slow down? Very effective if you're writing a movie score, or watching a horror flick.

There are lots of other ways music is being used to affect the mind and body. Musical therapy is showing remarkable results with people of all ages, and you can major in music therapy at college. Check out the great book, *Creativity Matters: The Arts and Aging Toolkit,* for some fine examples.

The Notes

There are only three different note lengths you have to know at first. You'll notice that the half notes and quarter notes have two examples. Keep reading to find out why. From longest to shortest the notes are: *whole note* ***(4 beats); half note (2 beats); quarter note (1 beat)***. Here's what they look like.

Whole Note:	Half Notes:	Quarter Notes:
4 beats each	**2 beats each**	**1 beat each**

Anoteomy 101

Let's dissect a note so you understand its parts. You'll need to know the parts so that later in the book, when I say, "Make sure the note head is in the space and flip the stem," you'll know exactly what I'm talking about. No notes were harmed for this dissection.

The Note Head

Just like with people, ***the head is the round part*** where almost everything is

happening. It's the position of the note head that gives us the important information about a note.

Notice how the shapes of the note heads are similar? Good. Some might have holes in the middle, and some might be filled in, but they're all the same basic shape.

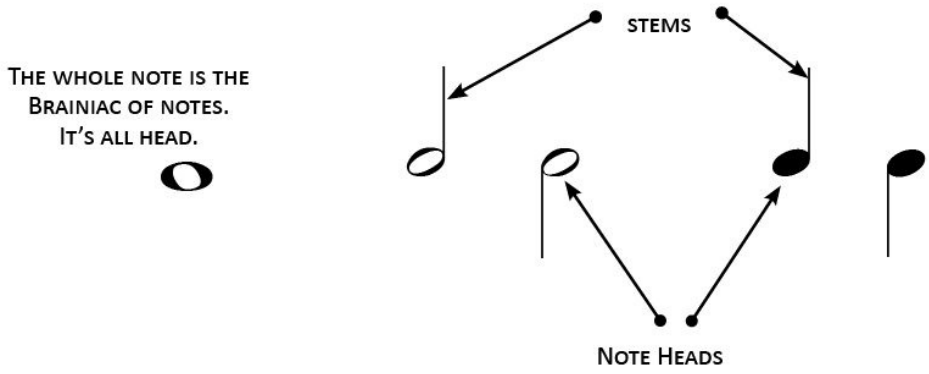
Size Doesn't Matter

A whole note the size of your house and a whole note the size of a house fly each get the same number of beats.

The Stem

Whole notes don't have stems. Half notes and quarter notes do have stems. The stem is the part that sticks up or down from the note head, like a stem.

Stems can go either up or down. Notes with the stem down go on the third line and above. Notes with the stem up go on the third line and below. Right now this detail isn't too terribly important. We'll be using the one-line staff mostly. If you use a one line staff for two instruments, like band music for bass and snare drum, one part's note heads will go up, the other part's note heads will go down.

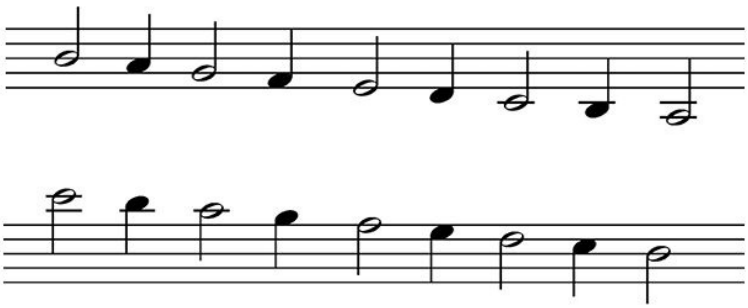


Put Your Stems Up, Put Your Stems Down

The stem can go either up or down. When a note is on the third line of the staff or below, the stems grow up from the right side of the note head.

Putting the stem on the wrong side of the note head is one of the most common mistakes beginners make, so be sure your notes look like the following examples.

Here are some half notes and quarter notes on the staff. Notice the stem direction. Notes above the staff use leger lines, which you'll learn about soon.



If the notes are on the third line or above, the stems go down on the left side, as in these examples. Notice the first three notes above the staff in this example. You'll learn about the small lines when you get to "Learning Leger Lines" on page 85.

Here's an easy way to remember which way the stems should go:

Notes UP high on the staff:

Notes DOWN low on the staff:

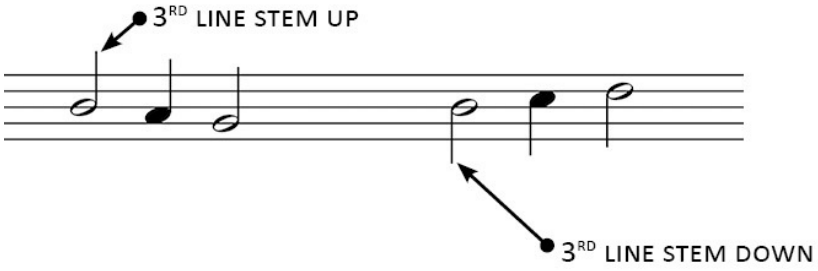
Third Line Notes Are Conformists

For all third line notes, the stem will be up if it's with other notes whose stems

are up. The stem will be down for a third line note if it's with other notes whose stems are down.

On a one-line staff the note stems can be either up or down but they are nearly always shown with the stem up. If there are 2 parts on a one-line staff, one goes up, the other goes down.

Here are two examples of third line note stems conforming to those around them:



Moving On

This was a very important chapter because if you don't recognize and know the lengths of notes, reading music will be impossible. Stay with this chapter until you've understood it, and read it over again if you think it'll help. Don't forget to check the free supplements at http://is.gd/guhuga.

Now you're ready for rests, which show silence in music. Study the review until you know all the answers, then read on!

Chapter 4 Study Guide

1. What is the beat in music?

A steady pulse; what makes your toe tap

2. Name the notes you learned from shortest to longest.

quarter, half, whole

3. Which notes have stems?

quarter and half notes

4. How many beats does a whole note get?

four

5. How many beats does a half note get?

two

6. How many beats does a quarter note get?

one Practical Use Exercises

1. Fill up the single-and five-line staves with quarter, half and whole notes on different spaces and lines. Be sure to check the direction of the stem (up or down) when using the five line staff. Double-check that you got the stem on the correct side of the note head.

CHAPTER 5

THE SOUND OF SILENCE THE REST IS SILENCE.

SHAKESPEARE, IN HAMLET (V.II)

TAKE A REST OVID SAID THAT SILENCE IS STRENGTH. IF THAT'S TRUE, YOU'LL BE MUCH STRONGER AFTER THIS CHAPTER BECAUSE IT'S ALL ABOUT SILENCE. SILENCE IN MUSIC IS AS IMPORTANT AS SOUND, AND OF COURSE WE CRAFTY HUMANS HAVE INVENTED A WAY TO SHOW THIS SILENCE IN MUSIC: RESTS.

Rest lengths and rest names are the same as the note lengths you learned in the last chapter. The three you'll learn in this chapter are whole rests, half rests, and quarter rests.

The Rests of the Story Whole rests are 4 beats long, and look like this: 𝄻

Half rests are 2 beats long, and look like this: 𝄼

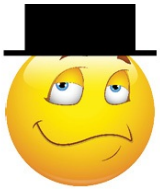
Quarter rests are one beat long and look nothing like either of those. Quarter rests look like this: 𝄽

Whole or Half, Hole or Hat

Whole rests and half rests look very much the same, and can be easily confused with each other. Here's a way to remember which is which.

The whole rest looks like a hole in the ground, like so:

Remember which is the half rest by seeing that the half rest looks like a hat. I know, *half* and *hat* aren't perfect homophones, like whole and hole are, but work with me here.



Drawing a Quarter Rest This is probably one of the trickiest symbols to make in written music, but it certainly isn't tough. Make a letter 'Z', then put a letter 'C' right below it. It won't look exactly like the "real" quarter rests you'll see in this chapter, but anyone who reads music will know what it is (as long as you aren't too sloppy with it).

This will be easier to do by hand than with the Parisian font I've used in the example to the right. There are several fonts on most computers that allow you to create musical notation, like Maestro, Opus, and the musical font I've chosen for this book, Helsinki.

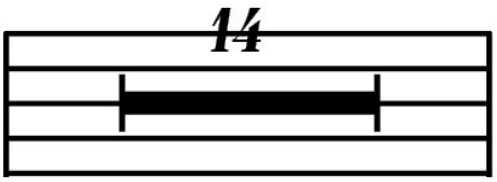
RESTS ON THE STAFF ***WHOLE RESTS HANG FROM THE 4TH LINE OF THE STAFF, HALF RESTS SIT ON THE THIRD LINE, AND QUARTER RESTS ARE PLASTERED OVER THE MIDDLE 3 LINES.*** NOTICE THE BRIM OF THE "HAT" AND THE EDGES OF THE "HOLE" ARE GONE WHEN THE HALF AND WHOLE RESTS ARE WRITTEN ON THEIR PROPER LINE.

RESTS ON THE SINGLE LINE STAFF

When using the single line staff, whole rests will hang from the staff, half rests will sit on the staff, and quarter rests are centered on the staff line. Like so:

Long Rests

Rests can be stretched out over several measures and instead of writing a whole bunch of whole rests, the measures of rest are combined and the music is marked with how many measures of rest are to be counted. In the following example,



you'd rest for 14 measures:

Moving On

Without silence there can be no sound; without sound there can be no silence. Now you know how to show silence in music using whole, half and quarter rests. Make sure you can answer all of the study guide questions for this chapter before you move on. Don't forget to check the free supplements at http://is.gd/guhuga.

Coming up next is the Review for all of Part I. This is very important information, so be sure you've got it all before you move on. It's pretty common to review this information many times until it sticks. Keep at it!

Chapter 5 Study Guide

1. What does a rest show?

silence

2. What three rests did you learn?

whole rest, half rest, quarter rest

3. How many beats does a quarter rest get?

one

4. How many beats does a half rest get?

two

5. How many beats does a whole rest get?

four

6. What line does the whole rest hang from?

fourth line

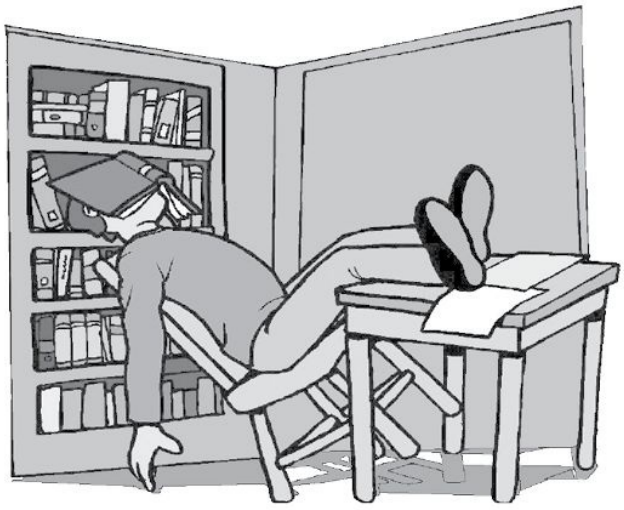
7. What line does the half rest sit on?

third line Practical Use Exercises

1. Fill up a single staff line with alternating whole, half, and quarter rests. Spend some time practicing the quarter rests. Put an *h* below the half rests and a *w* under the whole rests. Do the same thing but on a 5-line staff.

2. On a single staff line write in as many notes and rests as you can comfortably fit. Include all notes and rests you've learned. Do the same thing on a 5-line staff. Remember that though the rests must go in specific places, the notes can go in a space or have a line through them.

Part One Review



Twice and thrice over, as they say,
good is it to repeat and review what is good.

PLATO

WHEW! YOU MADE IT THESE PAGES CAN BE USED TO TEST YOUR MEMORY ON WHAT YOU'VE LEARNED IN PART ONE, AND IF SOME OF THE INFORMATION HASN'T STUCK, YOU CAN GO BACK AND CHECK IT OUT ON THE PAGE INDICATED BELOW THE QUESTION.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. How many lines make up the musical staff?

page 19

2. How many spaces in the musical staff?

page 19

4

3. Using a separate sheet of paper and a pencil, draw a musical staff like the one below.

4. What is the number of the bottom line? Write it on the staff you just created.

page 19

1

5. What is the number of the top line? Label it, too.

page 19

5

6. What's the number of the bottom space? Label it.

page 19

1

7. What is the number of the top space?

page 19

4

8. What is a bar line used for?

page 23

Divides the staff into measures.

9. Where is a double bar used?

page 23

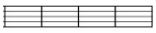
The end of a section or song.

10. On your separate piece of paper draw another staff. Make it a fairly long one.

you know this...

11. Divide the staff into four measures.

page 23



12. What is the beat, in music?

page 26

A steady pulse; what makes your toe tap.

13. Name the notes you learned from shortest to longest.

page 27

quarter note, half note, whole note

14. Which notes have stems?

page 27

quarter and half notes

15. How many beats does a whole note get?
page 27

4

16. How many beats does a half note get?
page 27

2

17. How many beats does a quarter note get?
page 27

1

18. What does a rest show?
page 31

silence

19. Which three rests did you learn?
page 31

whole rest, half rest, quarter rest

20. How many beats does a quarter rest get?
page 31

1

21. How many beats does a half rest get?
page 31

2

22. How many beats does a whole rest get?
page 31

4

23. Which line does the whole rest hang from?
page 33

fourth line

24. Which line does the half rest sit on?
page 33

third line

25. On a 5-line staff, draw 2 whole rests, 2 half rests, and 2 quarter rests.
page 33

Moving On Okay. That was short and painless, I hope. Once you have this information stored in your little gray

CELLS, MOVE ON TO PART TWO, *YOU GOT RHYTHM*.

Now that you understand note length we're almost ready to start putting them together to make (and play) rhythms. There are a few other things that help us organize and figure out written rhythms and in the next Part you'll learn what they are.

You're doing great! Feel free to take a break before you tackle the next Part. In Part Two you'll learn about meter, a counting system, dotted notes, and more notes with shorter durations.

Part Two

You Got Rhythm

In This Section You Learn

Time Signatures

Counting System

Eighth Notes

Sixteenth Notes

More Rests

Dotted Notes

Triplets

CHAPTER 6

METER & TIME SIGNATURE

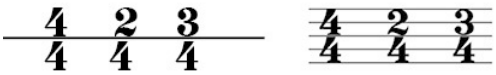
All times are not alike.

NOT THE METRIC SYSTEM

At the beginning of every piece of well-written music is the time signature or meter, numbers that give you information about the piece of music you're about to play. There are two numbers, and although they're written like a fraction, the relationship is different.

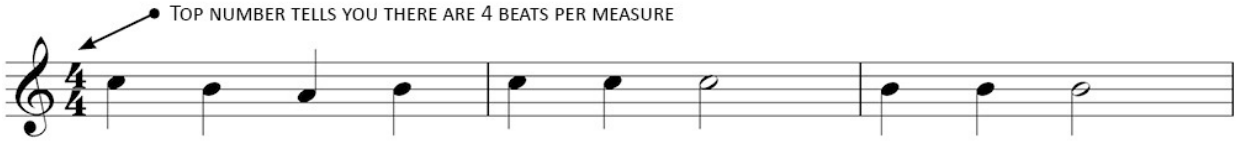
The time signature or meter tells you how many beats are in each measure. To review measures, see "Measure" on page 23. The time signature also tells you what kind of note gets one beat. To review the notes, see "The Notes" on page 27.

Here are examples of the most common meters. They're pronounced, *four-four* (4/4), *three-four* (3/4), and *two-four*. (2/4). Here's what the time signature or meter looks like on both the one-line and five-line staff.



THE TOP NUMBER

The top number tells you how many beats will be in each measure. So, in the examples above, in 4/4 time, there will be 4 beats in each measure; in 3/4 time there will be three beats in each measure, and in 2/4 time there will be two beats in each measure.

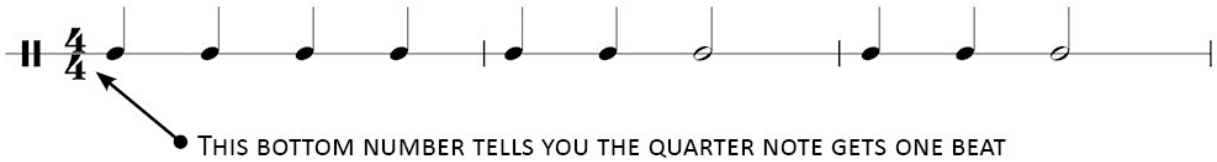


The top number in the meter can be almost anything, but the most common ones are 4, 3, 2, and 6, pretty much in that order.

THE BOTTOM NUMBER

The bottom number tells you what type of note (whole, half, quarter) gets one beat. The most common time signature has a 4 as its bottom number. Remember

fractions? Another way of saying 1/4 is one quarter, right? And so, with a 4 in the bottom of the time signature, you know that the quarter note receives one beat.



There are only a few possible numbers for the bottom of the time signature because there are several types of notes (whole, half, quarter, *etc.* The most common numbers on the bottom of the time signature are 4 (quarter note), 2 (half note), and 8 (eighth note), with 4 being by far the most common. And because it's the most common (and the easiest to understand), we'll stick with 4 as the bottom number until Chapter 35, "More Meters." Then you'll learn about time signatures in which a note other than the quarter note receives one beat.

Why One Meter, Not Another?

Why have different meters? When you look at the following familiar musical examples you'll see how the words and the music fall in certain patterns. The pattern might be shaped by both the words and the music. If there is a 4-beat pattern, it'll be in 4/4 time. A 2-beat pattern is in 2/4 time, and a 3-beat pattern is in 3/4 time.

4/4 Time

This meter is much more common than all of the other meters. If you're a beginner, you'll most likely be working in this time signature for a while before moving on to others.

The examples below use nursery rhymes and folk or popular songs to show why different meters are used. The tunes are first written on the five line staff, then simplified to just the rhythm part.

Don't worry if you don't understand the up and down movement of the notes or some of the symbols on the five-line staff. We'll get to all that soon. For now focus on the rhythm only.

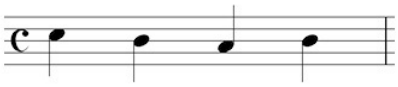
You can see from the examples how these songs fall easily into their metric

pattern. Notice where the bar lines are drawn because you'll have to do this yourself in the Practical Use section at the end of the chapter. Notice how each measure contains 4 beats. Also take note of the fact that half notes are sustained for two beats. Whole notes would be sustained for four beats.

Here's *Mary Had a Little Lamb* in 4/4 time, rhythm and pitch. Below is just rhythm on the 1-line staff. Tap it out.

Common Time

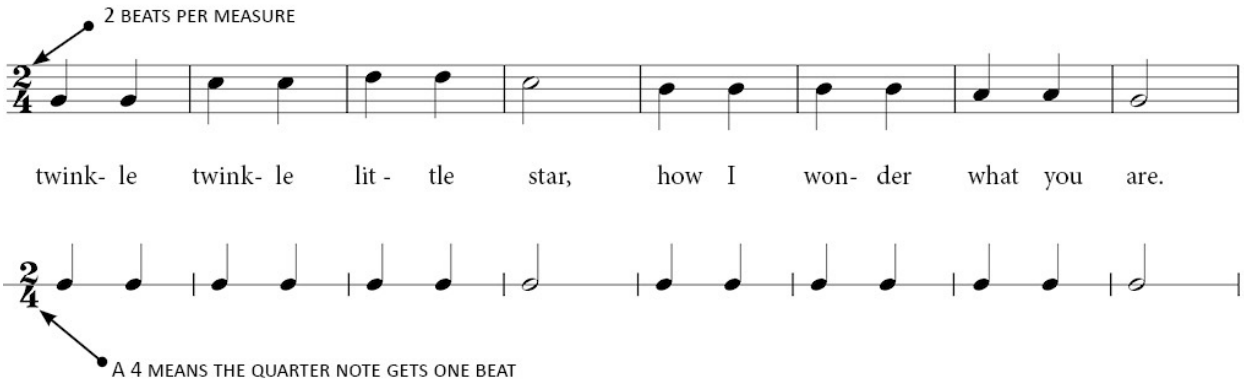
Because 4/4 time is so common, you'll often see a letter "C" in the place of the time signature. The "C" stands for "common," and on a staff, it looks like this:



$\frac{2}{4}$ Time

This is another fairly common time signature, though not as common as 4/4. Again, notice how easily the musical example falls into the pattern of 2 beats per measure. On the full staff, pay no attention to the up and down motion of the notes right now. Focus on the rhythm only as you tap, sing and read through the single-line example showing just the rhythm.

Here are a few measures of *Twinkle, Twinkle Little Star* in 2/4 time.

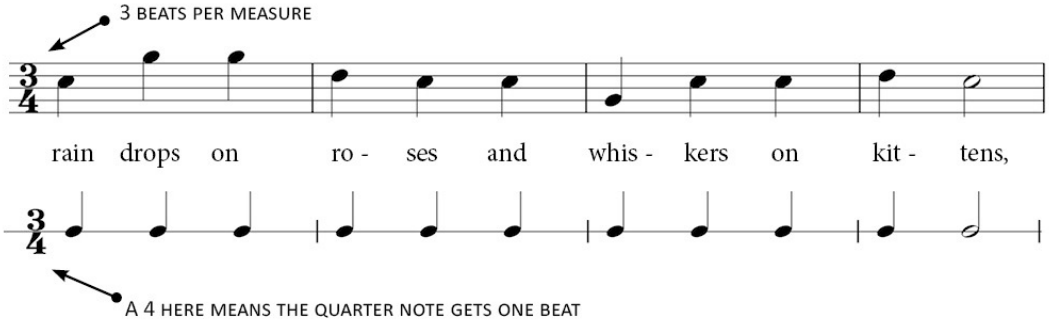


$\frac{3}{4}$ Time

Three-four is a fun time signature. It has a lilting, circular feel to it, especially if you take it fast. Keep it slow at first until you get the hang of this meter.

If you've ever heard a waltz, or danced a waltz, you've heard the 3/4 pattern. It usually has a strong pulse on the first beat of each measure. ONE, two, three, ONE, two, three, ONE, two, three, *etc.* In a jazz waltz, the emphasis is on beat three: one, two, THREE, one, two, THREE.

Study the use of quarter and half notes used to show the rhythm below, a few measures of the song, *My Favorite Things* (from "The Sound of Music" by Rogers and Hammerstein) in 3/4 time. Check out the stellar jazz version by John Coltrane (http://is.gd/pawuze). Here it is written out:



Moving On

Now that you've learned what meters and/or time signatures are, and what the numbers mean, you're ready to learn a counting system to help you figure out how a written rhythm should sound. You'll get all that in the next chapter, *Down With the Count*.

Chapter 6 Study Guide

1. What is another name for meter?

time signature

2. Where does the time signature appear?

At the beginning of a piece of music.

3. What information does the time signature give?

How many beats in each measure,
and which note gets one beat

4. Which are the three most common time signatures?

4/4, 2/4, 3/4

5. What does the top number tell us?

How many beats in one measure

6. What does the bottom number tell us?

What type of note gets one beat

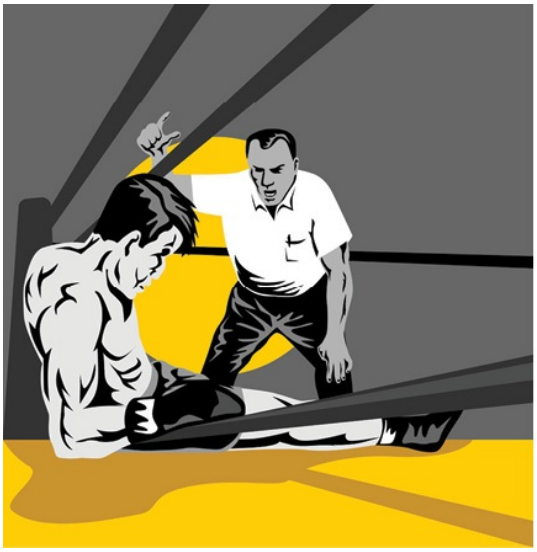
7. Why are different meters used?

Each song has a rhythmic pattern.
The meter depends on the rhythmic pattern of the song.

Practical Use Exercises

1. Write one of the meters you've learned at the beginning of this five-line staff. Fill up each line and staff with notes and rests. Place bar lines correctly based on the meter. Use a pencil.

CHAPTER 7



Down for the Count

I like to see when you move with the rhythm.

Bob Marley

If You Can Count to 4, You're All Set

Now that you know the note lengths and time signatures, we can move on to the counting system. The counting system is very helpful, especially for difficult rhythms. Every time I have a student count a challenging unfamiliar passage out loud, it becomes much easier for them. Counting aloud is one form of mental practice. When you count, do it rhythmically, and tap your foot with a steady beat at the same time.

The rhythms we'll be using at first won't be tough, so you can get a good idea of how the system works. Gradually I'll introduce more and more difficult rhythms on which to practice this counting system. The good news is that you only have to know how to count to 4, the length of a measure of 4/4 time. And because we don't need a specific pitch for this exercise, we'll use the one-line staff for the examples.

Counting will help you learn to read music, but to write out the count, and to speak it rhythmically, is something that is usually only done when facing a tough rhythm. As you gain music reading abilities, you won't need to write out and decipher rhythms. Remember sounding out words when you were learning to read? It's like that.

Tap Your Foot

It's one thing that both beginning musicians and masters have in common. It's what keeps your rhythms the right length, and it keeps you synchronized with others you may be playing with. It's the foot tap.

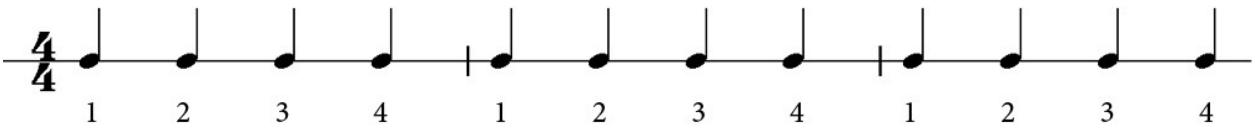
A 1970 study by Boyle found that beginning musicians who tapped their foot or moved rhythmically while learning to read music performed significantly better (as measured statistically), than those who did not. Tap your foot!

If you're in a large group in which 20 or more people tapping their feet sounds like a marching army, tap your toe inside your shoe, or tap your heel softly instead. If you're playing solo guitar, maybe a blues tune, you can stomp your foot on beats 2 and 4 to add a little percussion to your song. Chris Smither does this masterfully. Either way, if you tap your foot or move rhythmically in another way, your performance will be better for it.

If you don't tap, or keep some rhythmic movement going to help you feel the beat, you're pretty much guessing where the beat is. What you're after is precision. To make this precision your own, move to the beat. Practice by tapping your foot to the beat of any music you hear. On to the counting system.

Quarter Note Count

This count is directly related to the beat. In 4/4 time (or any meter with a 4 as the bottom number) the beat is the same as the quarter note. When you tap your foot with the music, those are quarter notes. Here's what a few measures of quarter notes in 4/4 time looks like with the proper counting:



Simple and straightforward. As you can see, at the beginning of the measure, the count begins again at "1". In a meter with a different number on top (like 3/4 or 2/4) you only need as many numbers as there are beats in a measure. So a measure of quarter notes in 3/4 time is counted 1 2 3, 1 2 3, *etc.*

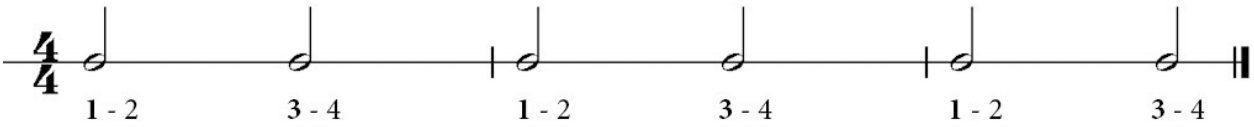
Don't forget to tap your foot. As you say the numbers out loud, say them

rhythmically, so you can feel the beat. If you're doing it correctly, each number is said as the foot hits the floor.

This will come in handy later. Trust me.

Half Note Count

Half notes, because they're two beats, are treated a little differently. It's easier to show than to explain. Remember: ***the sound of a half note in 4/4 time is sustained for two beats each***. Here you go:



You probably guessed the count would look something like that, right? The dash shows that the sound is continuous. When you say this rhythm, say it rhythmically, and say the 1 and 3 louder than the 2 and 4.

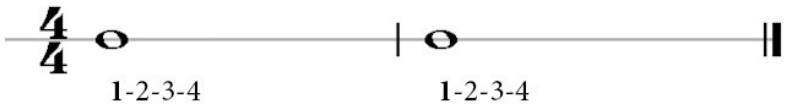
Each half note gets two foot taps. The foot taps go with the beat (1, 2, 3, 4), not with the note. The tap remains continuous throughout. For these two measures, you would say (rhythmically), "ONE-two, THREE-four, ONE-two, THREE-four." To show the half note sound is continuous, connect the sound of 1-2 and 3-4 when you speak the rhythm.

Whole Note Count

I'm sure you could figure out the whole note counts for yourself, but I'll give them to you anyway.

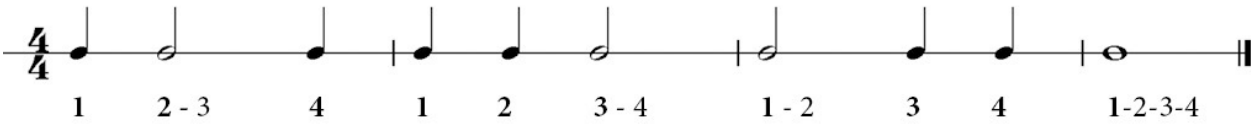
For these two measures, you'd say, "ONE-two-three-four, ONE-two-three-four." Remember, the tap goes with the numbers, not with the note, so for a whole note, you'd tap your foot four times while holding out the sound.

When you play whole notes on your instrument, the sound is continuous, so when you count, to make your voice and continuous within the four beats of the whole note.



Mix ‘Em Up

Any combination of notes will be counted similarly.



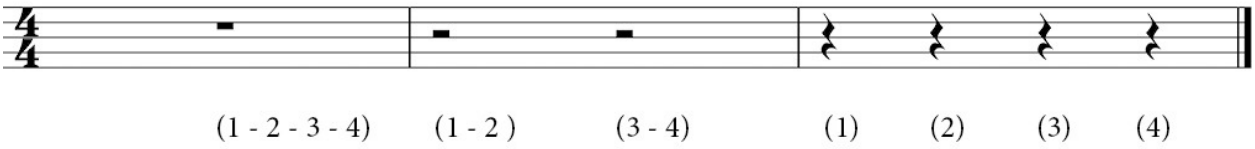
Other Meters

Other meters, like 2/4 and 3/4 would be treated the same, the only difference being there would be less counts in each measure. An added bonus is that in those meters, whole notes aren't used.

Count the Rest

Counting rests is very similar to counting notes. Because rests are silent, parentheses ( ) are used to indicate the silence. Here are three measures with whole, half, and quarter rests. And just for kicks, we'll use the 5-line staff. You'd probably never see a real-world example like this; it's just to show you what the count looks like for various rests.

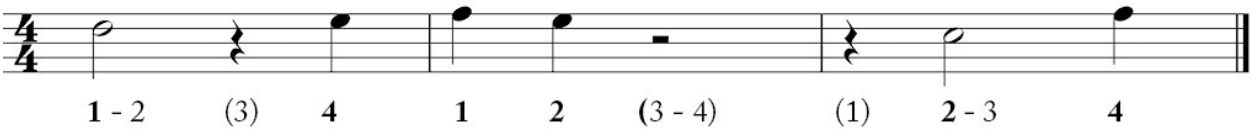
An added help when you count rests out loud is to count them softly, with a whisper. Here you go:



All Together Now

I’d rather be guilty of overkill than guilty of not being thorough, so here’s an example with notes and rests of several different values. Knock yourself out.

Don’t focus on the up and down motion of the notes yet. This will be explained in the next Part. Focus on the note and rest lengths. Count out loud rhythmically and don’t forget to tap your foot.



Moving On

Being able to read rhythms is one of the most valuable skills you can have as a musician, and this counting system (combined with a foot tap) will help you figure out how a rhythm sounds. Use the counting system only for rhythms you have to figure out. Coming up next you'll learn a few more notes that are faster than these: eighth notes and sixteenth notes.

Chapter 7 Study Guide

1. The count of any measure, in any time signature/meter, begins with what number?

1

2. How is a measure of quarter notes in 3/4 time counted?

1 2 3

3. How is a measure of half notes in 4/4 time counted?

1-2, 3-4

4. How is a whole note counted in 4/4 time?

1-2-3-4

5. When writing out the counting, what is used to indicate a rest?

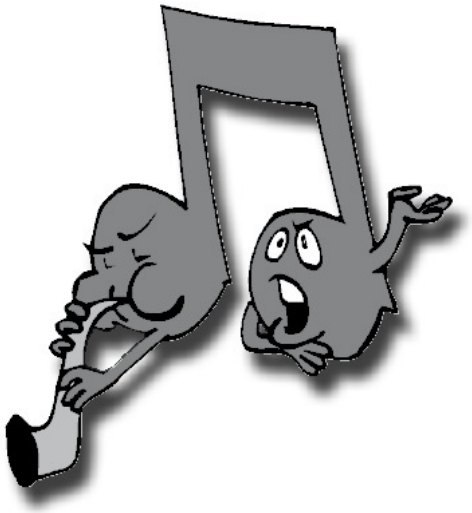
parentheses ( )

6. When counting out loud, how should you say the count for a rest?

softly or silently in your head Practical Use Exercises

1. Choose a meter, create 4 measures below, and fill them with notes and rests. Say the count out loud.
Tap your foot.

CHAPTER 8



New Notes

Indeed, what is there that does not
appear marvellous when it comes
to our knowledge for the first time?

Eighth Notes and Rests

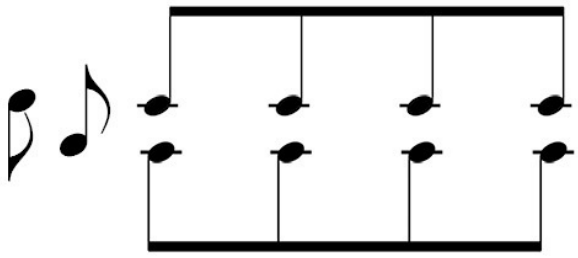
Remember when I said all note names are derived from the note's relationship to the whole note? Eighth notes are no different. You can tell by their name that they're ⅛ as long as a whole note (which I'm sure you remember gets 4 beats). What is ⅛ of 4 beats? The answer is ½ of one beat.

An eighth note gets half of a beat in 4/4 time. It might be easier to say that there are 8 eighth notes in one whole note. Or that there are 4 eighth notes in one half note. Or that there are 2 eighth notes in one quarter note. Or, my preferred explanation: there are 2 eighth notes per beat.

"I get it," you say. "Just show me the notes!" Well, before I do, you should know about flags, and we're not talking about the stars and stripes. A flag is a doohickey that hangs from the end of the stem of an eighth note, and it has two forms: flags and beams. Flags can be seen dangling from the single eighth notes on the left below.

When there are two or more eighth notes, the flags turn into beams that connect the stems, grouping the notes in 2s and 4s so they're easier to read.

As with all other notes except the whole note, the stems go up when eighth notes are on the third line or below, and the stems go down when the eighth notes are on the third line and above.



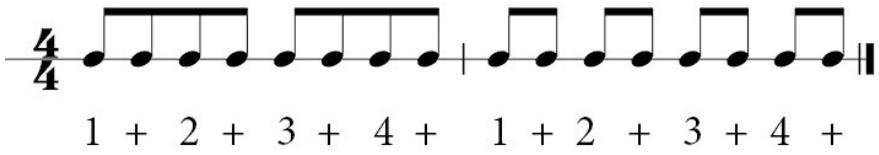
Counting Eighths

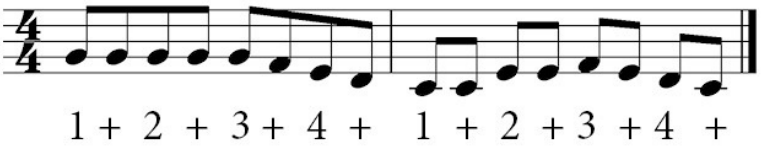
Because there are two eighth notes for every beat, the count is a little different than what you've learned already. With eighth notes, the beat is subdivided, which means chopped up (but evenly chopped up).

Here are two measures of eighth notes in 2/4 time. When said out loud, the "+" sign is pronounced "and." Be sure when you count these, that your foot comes down firmly on each number. Your foot will be in the "up" position for the "+."

When a note falls on an "+," it's called an *upbeat.* Coincidence? I don't think so. A *downbeat* is a note or rest that falls on a number, when your foot is hits the floor. Here's how eighth notes are counted:

Notice the bar groups eighth notes in twos or fours. The grouping has no effect on the rhythm. In 2/4 time the count for two measures would be "One And Two And, One And Two And (said rhythmically with your foot tapping away like a machine).



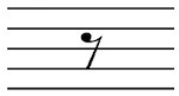


There are several different counting systems that can be used with notes (Froseth, Orff, Dalcroze, Kodàly, Gordon, etc.). For example, the Kodàly counting system uses syllables instead of numbers, so when you speak a rhythm, it sounds like a chant. Quarter notes are "ta" and eighth notes are "ti" (pronounced tee). So, two quarters and four eighths would sound like, "ta, ta, ti-

ti, ti-ti.” Nearly any counting system is useful, but I prefer using the numbers because they help you understand what beat you’re dealing with.

Eighth Rests

The eighth rest also gets only 1/2 of a beat, but is silent. The eighth rest looks like a seven with a strange growth at its tip and it lies in the middle of the staff, like so:

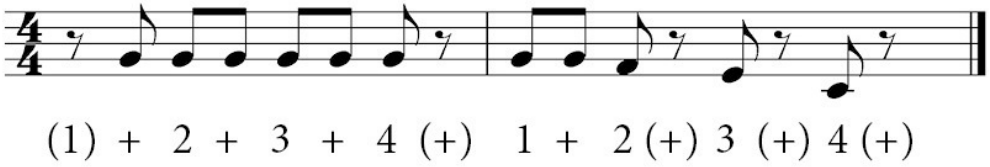


Counting Eighth Rests

The count for eighth rests is the same as the count for eighth notes, only there is a parentheses ( ) around either the number or the +. When counting the eighth rest, be sure you know that part of the beat the rest falls on, the upbeat (when your foot is up), or the downbeat (when your foot hits the floor).

Here are a few measures of eighth notes and eighth rests with the counting. Again, don't be distracted by the things you haven't learned yet. Focus on the eighth notes and the counting. Be sure to count it rhythmically, and say the rests more quietly than the notes. Clap it. A lot of solid research shows that professional classical musicians frequently use this kind of mental practice.

Here's a whole mess of eighth rests and eighth notes, with counting. To make music easier to read, there is a rule that eighth notes are not barred across beats two and three, as shown in the first measure in this example.



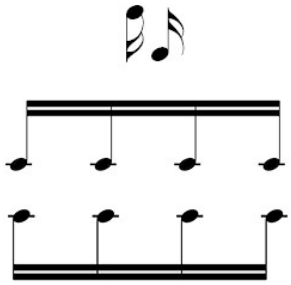
Sweet Sixteenth Notes

Why sweet? Because sixteenth notes are the last type of note you'll learn until Chapter 32. Woot!

You've probably already figured out that, because of the name, there are 16 of these babies in each whole note. Okay, time for a little math. If you divide up 4 beats (the whole note) sixteen equal ways, how long is each sixteenth note? The answer is...¼ of a beat. ***A sixteenth note gets ¼ of one beat in 4/4 time.***

So there are 16 sixteenth notes in one whole note, or 8 sixteenth notes in one half note, or 4 sixteenth notes in one quarter note, which is the same as ***4 sixteenth notes in one beat of 4/4 time***, or 2 sixteenth notes in one eighth note.

So what do they look like? Sixteenth notes also have flags, two of them. As with the eighth notes, single sixteenth notes have flags, and groups of two or more are connected with a beam. Notice which side the flag is on when the stem is up or down.

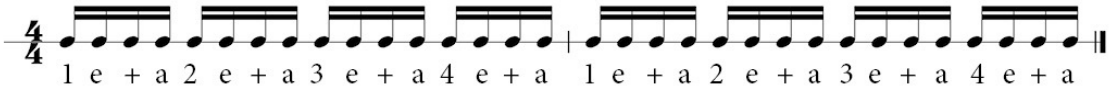


When a flag is added to a note, it cuts the note length in half. For example, add a flag to a quarter note and you get an eighth note. Add another flag to an eighth note and you get a sixteenth note. Add yet another flag and you get a thirty-second note, which you'll learn about toward the end of the book. You won't see thirty-second notes very often.

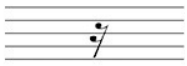
Counting Sixteenths

I love counting sixteenth notes. Just like with eighth notes, the beat is subdivided. Sixteenth notes subdivide the beat in 4 equal parts, and each part has a name. Practice this count with your foot VERY SLOWLY until you've got it down enough to do it more quickly.

Again, when you're counting, make sure your foot is tapping down on each number (each beat), and up with each "+" symbol, just like with eighth notes. The "e" occurs halfway up and the "a" occurs halfway down. Strive to say these fluidly. Practice saying them while listening to your favorite music. Keep your ears open for hearing sixteenth notes in the music.

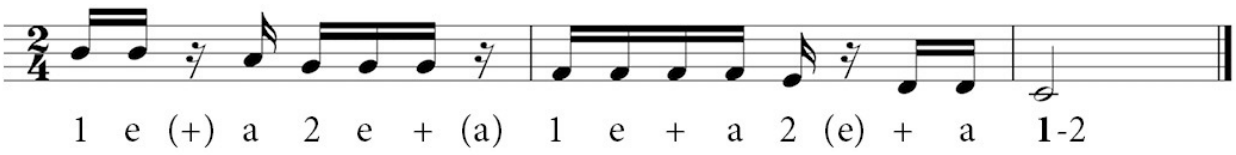


Sixteenth Rests

Sixteenth rests look like eighth rests but have an extra little flag, like the sixteenth note: 

Counting Sixteenth Rests

The same count is used (1 e + a) but as before, there are parentheses around the rests. Below are some measures with the sixteenth rest in different positions in the measure (notice the time signature). Ignore the up and down motion of the notes and concentrate on the count. This one is challenging, so take it slowly, and try to clap out the rhythm. Nothing is difficult, just unfamiliar. Take the time you need to make it familiar.



How to Figure out a Tough Rhythm

If you can, try not to identify anything as “difficult.” This sets up an expectation in your mind that will keep you from progressing more quickly. Instead, label things as “unfamiliar.” Here’s how you’d tackle an unfamiliar rhythm:

1. Write out the counting under the notes. Triple check to make sure you’ve written it out correctly.
2. Practice saying it rhythmically VERY SLOWLY, and be sure to tap your foot down on each number, and up on each “+.”
3. If there are rests, say them more quietly than the notes.
4. Repeat from step two, and as your brain becomes used to the rhythm, gradually increase speed. If it’s frustrating or you’re making mistakes, slow it down and try again.
5. Keep at it! Persistence and repetition are the parents of success.
6. If all else fails, find someone who reads music better than you and ask them for help.

Moving On

I’m sure you’re discovering that the notes and counting system don’t stick in your brain with just one reading. Not to worry, this is normal. It takes a while living with these new concepts before they seem familiar and easy. You may have to refer back to these chapters often, and that’s okay too. Stick with it.

You’ve now been introduced to all the types of notes and rests that you’ll probably ever need for reading music. However, there are ways to change the length of the notes you just learned. One way to change note length is to place a small dot following a note. In the next chapter you’ll learn all about these dots and what they do to the length of a note.

Chapter 8 Study Guide

1. How long is an eighth note in 2/4 time?

½ beat

2. How long is an eighth rest in 3/4 time?

½ beat

3. How many eighth notes in one quarter note or one beat of 4/4 time?

2

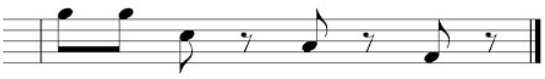
4. How are eighth notes counted in 4/4 time?

1 + 2 + 3 + 4 +

5. How are eighth rests counted in 2/4 time?

(1) (+) (2) (+)

6. What is the count for this example?



1 + 2 (+) 3 (+) 4 (+)

7. How long are sixteenth notes in 4/4 time?

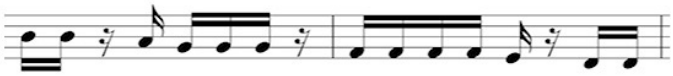
¼ beat

8. How many sixteenth notes are in one quarter note, or one beat of 4/4 time?

9. How do you count sixteenth notes in 3/4 time?

1 e + a
2 e + a
3 e + a

10. What is the count for this example?



1 e (+) a
2 e + (a)
1 e + a
2 (e) + a

11. What is an upbeat?

The part of the beat when your foot is in the "up" position, or the "+" of a beat.

Practical Use Exercises For these exercises, place notes all over the staff, on lines or in spaces, just like all the examples you've been reading so far.

1. On a blank staff, write out eight single eighth notes, four with the stem up and four stem down. Write out another eight eighth notes barred in groups of two with stems up and down, and a final eight barred in fours.

2. Write in the counting under the notes you've written. Use a 4/4 time signature and place the bar lines correctly.

3. On a blank staff write out sixteen single sixteenth notes, eight stem up and eight stem down. Another eight barred in groups of two, and finally eight barred in groups of four.

4. Write the count under the sixteenth notes you've written. Use a 3/4 time signature and place the bar lines correctly.

CHAPTER 9

Seeing Dots

We see things not as they are, but as we are.

H. M. Tomlinson

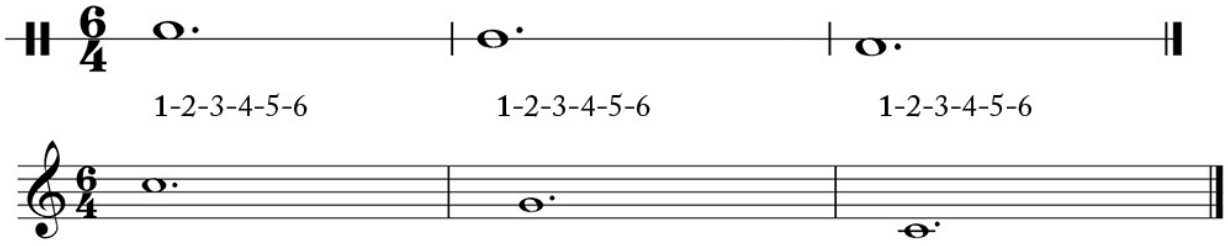
You Are Not Seeing Things

Those dots you sometimes see behind notes are supposed to be there. A dot just behind a note to the right makes the note longer. How much longer? Well it depends on what note the dot follows. ***A dot adds half the amount of the note it follows***. Another way of saying it is that a dotted note is 1.5 times the length of the same kind of note without a dot. Sounds weird doesn't it? An example might throw more light on this peculiar practice. Let's use a whole note as our first example.

The Dotted Whole Note

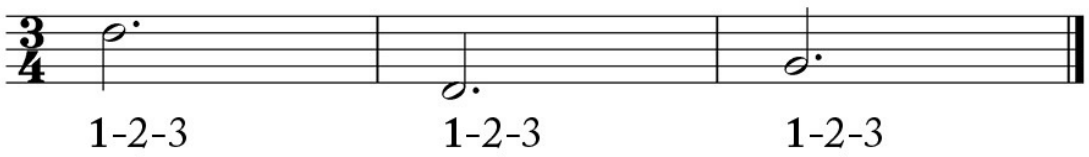
The dotted whole note is not very common, but it's a simple way to understand the concept of dotted notes. As you know, a regular whole note gets 4 beats. A dot represents an additional half of the length of the note it follows. Half of four is two, so the total number of beats for a dotted whole note is six beats. Or, 4 x 1½ = 6; or 4 + 2 = 6. However you do the math, ***a dotted whole note gets six beats***.

But wait a minute, you might be saying, there are only 4 beats in a measure. Well, for 4/4 time, you're right. But for dotted whole notes we need a new meter, 6/4 time. Remember the top number tells us there are six beats per measure; the bottom number tells us that the quarter note gets one beat. Here are a few measures of 6/4 time. Notice that with the 1 line staff, you have the option for three different pitches or parts. Percussionists often see the one line staff used in this way.



The Dotted Half Note

A much more common type of dotted note is the dotted half note. How long is a dotted half note? Use the formula. The half note gets two beats, and half of that is one. Two plus one is three. Or, 2 x 1½ = 3.

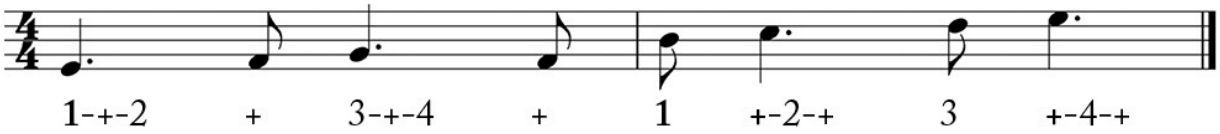


The dotted half note gets three beats. Though a dotted half note could happen in any time signature that has more than three beats to the measure, I've used 3/4 time in the example above.

The Dotted Quarter Note

Here's where things get a little tricky, but it's still not too tough. A quarter note gets one beat. Half of that is half of a beat. Add that to one and you get 1½. So ***a dotted quarter note gets 1½ beats in 4/4*** *time*.

To make the counting easier, think of the dotted quarter note in terms of how many eighth notes are in it. Because it's 1½ beats, that comes out to be 3 eighth notes.

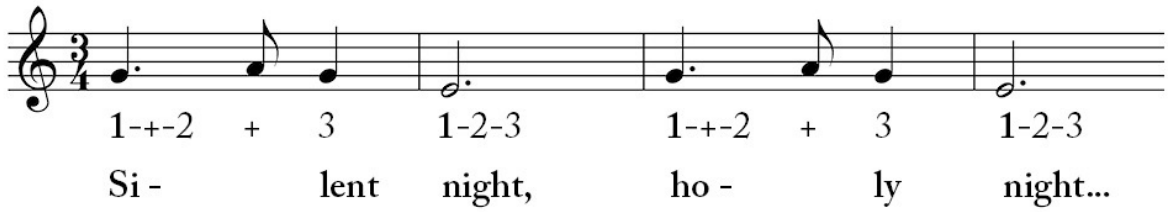


Notice that when counting dotted quarters, you use a count similar to eighth notes. This is so you can keep track of exactly how long each dotted quarter note is. Say the bold items in a normal voice, and the rest in a softer voice, as always

with a steady foot-tap.

You’ll usually see the eighth note *after* the dotted quarter. When the eighth note is first, the rhythm is a bit trickier, but sound it out and you’ll have it..

MUSICAL EXAMPLE Because this rhythm is a little trickier, here's a musical example you should recognize that uses the dotted quarter note. It's the first two measures of *Silent Night*, known by our German friends as *Stille Nacht*. Tap your foot while you sing it.

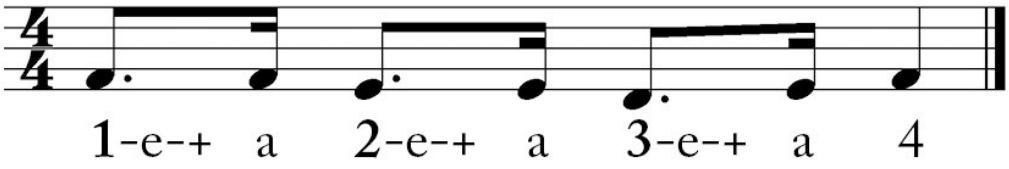


DOTTED EIGHTH NOTES THIS IS THE LAST TYPE OF DOTTED NOTE WE'LL DISCUSS. FIND THE LENGTH WITH THE SAME PROCESS AS THE OTHER DOTTED NOTES. AN EIGHTH NOTE IS HALF OF A BEAT, SO HALF OF AN EIGHTH NOTE IS ¼ OF A BEAT, OR 1 SIXTEENTH NOTE (THERE ARE 2 SIXTEENTH NOTES IN AN EIGHTH NOTE). WHEN WE ADD ¼ OF A BEAT TO THE EIGHTH NOTE, WE GET ¾ OF A BEAT. OR, 1½ X ½ = ¾. ***A DOTTED EIGHTH NOTE GETS ¾ OF A BEAT.***

You'll rarely see a dotted eighth note without a sixteenth note following it to round out the beat. In fact, it's so common, that the figure has a name. Dotted eighth-sixteenth. Go figure.

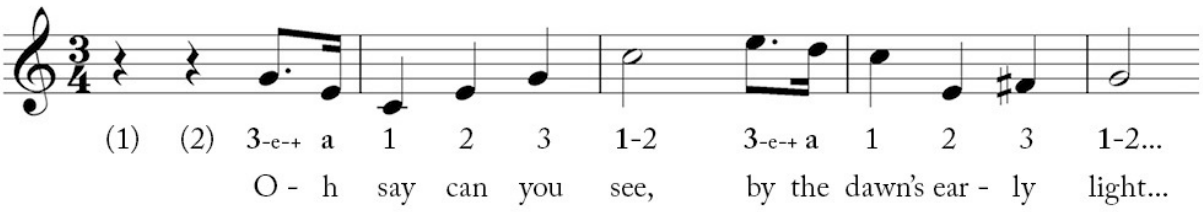
Here is a measure of dotted 8th-16ths. Notice that a sixteenth note count is used so that you can keep track of exactly how long the dotted eighth is. Be sure your foot hits the floor on the numbers. Because they tend to go by quickly, it helps if

you say the “e-+” silently in your head.



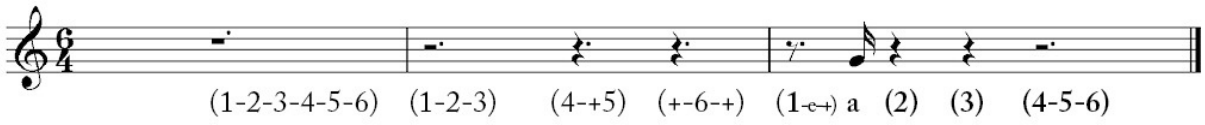
Musical Example

If you're from the United States, or if you watch the Olympics, here's a musical example you'll probably recognize that uses the dotted 8th-16th figure. It's the first few notes of *The Star Spangled Banner*, the national anthem for the United States. If you know it, sing it, and clap out the rhythm.



Dotted Rests Dots applied to rests also add half the length, the only difference being that the count will be in parentheses. Below are the dotted rests and their counting. Notice that a sixteenth note has been included in the third measure. Sixteenth notes often follow the dotted eighth rest.

You'd never see an example like in a real piece; it's just a way for you to see what these dotted rests look like and how they're counted.



Moving On The concepts you're learning are becoming more complex, and you'll probably find it will take some time living with these ideas before they really stick, so come back and review as much as you need.

Now that you understand that a dot increases the length of a note by half its original value, you can decipher the length of any dotted note. Coming up next is another treatment of the notes you already know, called triplets, which is a grouping of three notes. Find out what it all means in the next chapter.

Chapter 9 Study Guide

1. What does a dot following a note do?

makes the note 1½ times as long

2. How long is a dotted half note in 4/4 time?

three beats

3. How long is a dotted quarter note in 4/4 time?

1½ beats

4. How long is a dotted eighth note in 4/4 time?

¾ of a beat

5. Which type of note usually follows a dotted eighth note?

sixteenth note

6. Why?

to round out the beat

Practical Use Exercises

1. On the staves below, experiment with dotted notes. Include every dotted note you've learned. Use several different meters (with bar lines) and don't forget the rests, too. When you've finished, write in the counting. Check your work with a friend.

CHAPTER 10

Triplets

People are flowers. Music is water.
Musicians are the hose.

Carlos Santana

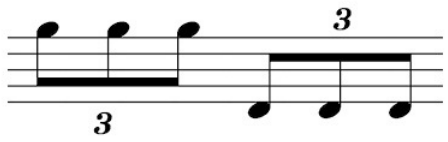
General Tuplet Information

The notes you're about to learn are called triplets, and they belong to a group of notes known as tuplets. Some examples would be duplets (2 notes, like the eighth notes you've learned), triplets (three notes), quintuplets (5 notes), and sextuplets (6 notes). Of course there are also septuplets, octuplets and on and on, but you get the idea, right? In this chapter you'll learn triplets because they're the most common.

The rule you'll want to remember for triplets, is that ***a triplet (three notes) takes place in the amount of time it would normally take to play two of the triplet notes at their regular length***. Sound confusing? A concrete example will help explain.

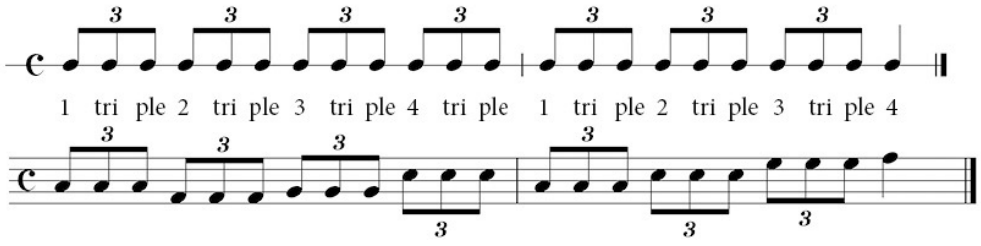
Eighth Note Triplet

Eighth note triplets are the most common triplet and the easiest to count and to feel. The three notes of the triplet are beamed together, and there is a small three over the beam telling you the figure is a triplet. They look like this:



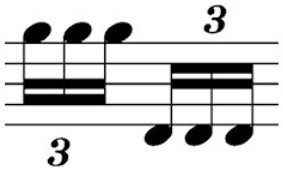
The eighth note triplet is played in the amount of time it normally takes to play two eighth notes, which is one beat. The rule is the same for all triplets: They're played in the amount time it takes to play two of the notes used for the triplet. For example, a quarter note triplet is played over two beats.

An eighth note triplet is one beat long. In the next example you can see how eighth note triplets are counted. Be sure to tap your foot as you count so that your foot hits the floor on all the numbers.



Sixteenth Note Triplets

To find the length of a sixteenth note triplet, we use the same rule: a triplet's length is the same length as two notes of equal value. That means a sixteenth note triplet happens in the time it takes to play two sixteenth notes, or half of a beat. ***A sixteenth note triplet is half a beat long***. They look like this:

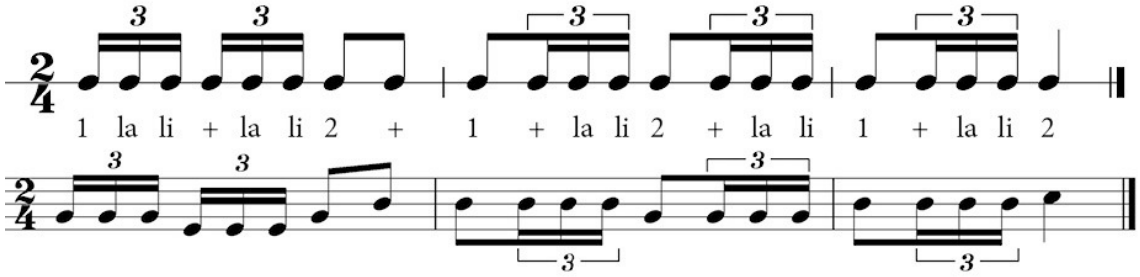


The counting for sixteenth note triplets is a little trickier than most other rhythms, but with a couple tries and some foot coordination, you shouldn't have any trouble.

The count for two beats of sixteenth note triplets is 1 la li + la li, 2 la li + la li. The "1" and "2" occur when your foot hits the floor, the "+" is the upbeat, or the second half of the beat when the foot is in the "up" position. The "la" and "li" should fit between the number and the "+", while your foot is either going up or coming down.

Sixteenth note triplets happen quickly even at a slow tempo, so you have to spit out that "la-li" quickly. It'll probably take a few tries to get it right, so keep at it until you've got it.

In the example here, notice that in measure two and three the sixteenth note triplet is connected to an eighth note. Sixteenth note triplets are often paired with eighth notes to round out the beat.



From here on out you won't get the simplified version of the rhythm on the one line staff. Coming soon you'll be learning what all the other symbols mean and

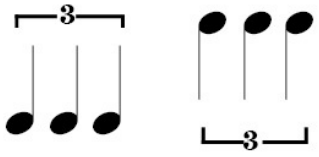
do, so consider this your time to get used to seeing the notes on the five line staff. Focus on the rhythm only for now.

Quarter Note Triplets

Quarter note triplets are a challenge to count accurately at first, so I've saved them for last.

Applying the triplet rule to quarter note triplets means the quarter note triplet takes place over the length of two quarter notes, or two beats. So, ***quarter note triplets are two beats long***.

Quarter note triplets usually have a bracket over them. This bracket line simply groups the notes together so you can tell which three notes are in the triplet. Here's what they look like.



The reason quarter note triplets are difficult to count is that you have to divide two beats three ways, and we don't easily think in thirds. If we divide 2 by three, we get ⅔, so each note of the quarter note triplet is ⅔ of a beat long. This makes regulating the length of a quarter note triplet with the foot tap challenging, but far from impossible. I've found it easier to *feel* quarter note triplets than intellectualize them, but let's break it down, because it will help a little.

The first note of the triplet is easy because it starts right on the beat, or when the foot hits the floor. The second note of the triplet happens ⅔ of a beat after the first, so your foot will have gone up and will just be coming down when the second note starts. The third note of the triplet happens 4/3 of a beat after the first (or 1⅓ beats), so the third note starts just after the foot taps down on the second beat of the triplet.

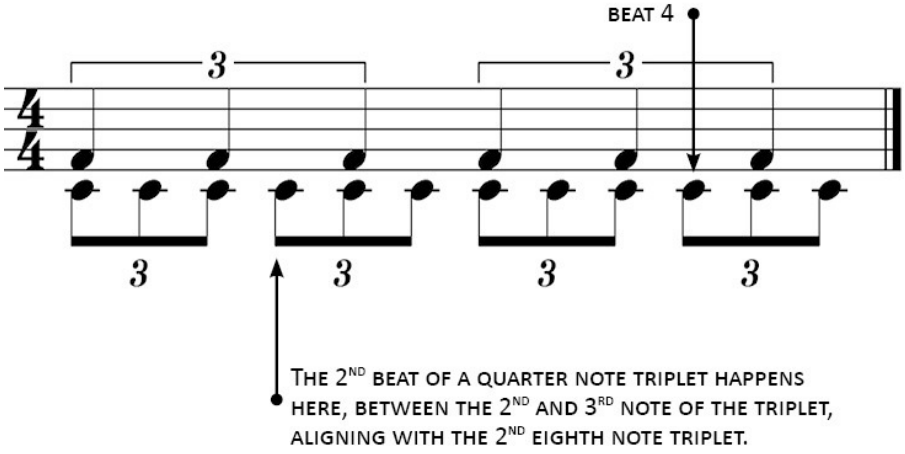
This is a confusing concept, and I would highly suggest you get someone familiar with quarter note triplets play some for you so you can *hear* how they're supposed to go. It will be worth your time.

So, in a quarter note triplet, each note gets ⅔ of a beat, or 2 eighth note triplets.

Here’s an example showing how eighth note triplets can help you understand quarter note triplet lengths. If you play eighth note triplets and accent every 2 notes, you’ll hear the correct rhythm for quarter note triplets. Partner up with somebody: one person claps eighth note triplets (as slow as necessary) and the other person claps quarter note triplets.

Try this, it’ll help.

Yes, it’s tricky, which is why I saved these for last.
Go to http://is.gd/guhuga for examples of quarter note triplets on the drum set.



Moving On

In a week or two you may find your memory of triplets becoming fuzzy. This is normal. Just like with learning a language, learning to read music takes time and a lot of exposure and practice. If the information about triplets is tough to remember, keep coming back to it until you've got it. Find some excellent examples of triplets on this book's "Extras" page at http://is.gd/guhuga.

Well, this was a long section, the longest in the book, but now it's over! After the review for this chapter is the big review for the entire section.

Coming up in the next section, you'll learn about flats, sharps and naturals, the piano keyboard, the Major scale, and key signatures. Progress!

Chapter 10 Study Guide

1. How long is an eighth note triplet in 4/4 time?

one beat

2. How do you count a measure of eighth note triplets in 4/4 time?

1 tri ple
2 tri ple
3 tri ple
4 tri ple

3. How long is a sixteenth note triplet?

½ beat

4. What is the count for a measure of sixteenth note triplets in 2/4 time?

1 la li + la li
2 la li + la li

5. Where is your foot positioned on the “+” part of the beat?

up

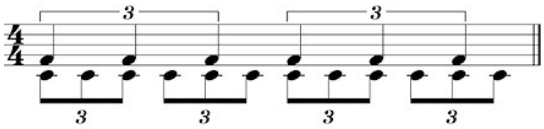
6. How long is a quarter note triplet?

two beats

7. How long is each note in the quarter note triplet?

⅔ beat

8. Draw a measure of eight note triplets in 4/4 time. EXACTLY above that, align a measure of quarter note triplets.



9. Ask a teacher or other musician to demonstrate quarter note triplets to you, or go to the extras page for this book on the Web at http://is.gd/guhuga.

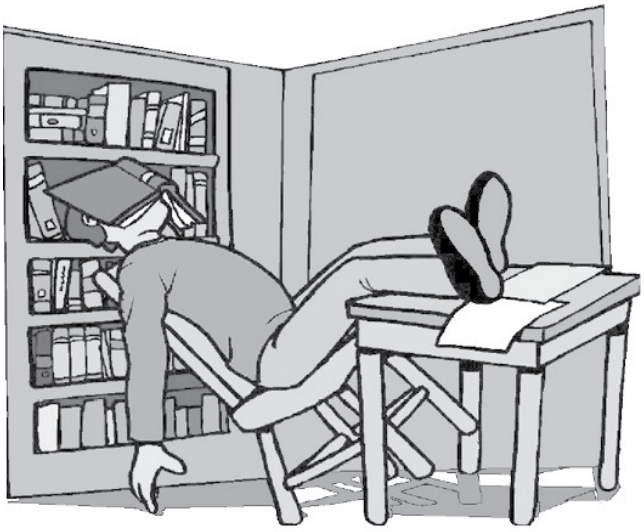
Practical Use Exercises

1. Write out three measures of 4/4 time using all the triplet figures you've learned. Don't forget the bar lines. Write in the count underneath the triplets you've written.

2. Tap or say what you've written. If it's too difficult, simplify it until you can tap or say it.

3. Have someone demonstrate quarter note triplets for you. Imitate what you hear.

Part Two Review



Tell me and I forget.
Teach me and I remember.
Involve me and I learn.

BENJAMIN FRANKLIN WHEW! YOU MADE IT THESE PAGES CAN BE USED TO TEST YOUR MEMORY ON WHAT YOU'VE LEARNED IN PART TWO, AND IF SOME OF THE INFORMATION HASN'T STUCK, YOU SHOULD GO BACK AND CHECK IT OUT.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. What is another name for meter?

page 39

time signature

2. Where does the time signature appear?

page 39

at the beginning of a piece of music,
directly after the clef

3. What information does the time signature give?

page 39

how many beats in each measure, and
what type of note gets one beat

4. What are the three most common time signatures?

page 39

4/4, 2/4, 3/4

5. What does the top number tell you?

page 40

how many beats in one measure

6. What does the bottom number tell you?

page 40

what type of note gets one beat

7. Why are different meters used?

page 40

The meter depends on the rhythmic pattern of the song.

8. The count of any measure, in any time signature/meter, begins with what number?

page 45

1

9. How is a measure of quarter notes in 3/4 time counted?

page 45

1, 2, 3

10. How is a measure of half notes in 4/4 time counted?

page 46

1-2, 3-4

11. How is a whole note counted in 4/4 time?

page 46

1-2-3-4

12. When writing out the counting, what is used to show you're dealing with a rest?

page 47

Parentheses ( )

13. When counting out loud, how should you count a rest?

page 47

Softly

14. When counting out loud in 4/4 time, how would you say a measure of half notes?

page 46

ONE-two, THREE-four

15. How long is an eighth note in common time (4/4)?

page 49

½ beat

16. How long is an eighth rest in 2/4 time?

page 49

½ beat

17. How many eighth notes in one quarter note or one beat of 3/4 time?

page 49

2

18. How are eighth notes counted in 4/4 time?

page 51

1 + 2 + 3 + 4 +

19. How is a measure of eighth rests counted in 2/4 time?

page 51

(1) (+) (2) (+)

20. How long is one sixteenth note in 4/4 time?

page 51

¼ beat

21. How many sixteenth notes are in one quarter note or one beat of 4/4 time?

page 51

4

22. How do you count sixteenth notes in 4/4 time?

page 52

1 e + a
2 e + a
3 e + a
4 e + a

23. What does a dot do to a note?

page 56

Makes it longer by half its original value

24. How long is a dotted whole note?

page 56

6 beats

25. How long is a dotted half note?

page 57

3 beats

26. How long is a dotted quarter note?

page 57

1½ beats

27. How long is a dotted eighth note?

page 58

¾ of a beat

28. Which type of note usually follows a dotted eighth note?

page 58

Sixteenth note

29. How long is an eighth note triplet in 4/4 time?

page 61

1 beat

30. How is a measure of eighth note triplets counted in 4/4 time?

page 61

1 tri ple
2 tri ple
3 tri ple
4 tri ple

31. How long is a sixteenth note triplet?

page 62

½ beat

32. What is the count for a measure of sixteenth note triplets in 2/4 time?

page 62

1 la li + la li
2 la li + la li

33. Where is your foot positioned on the "+" part of the beat?

page 62

up

34. How long is a quarter note triplet?

page 63

2 beats

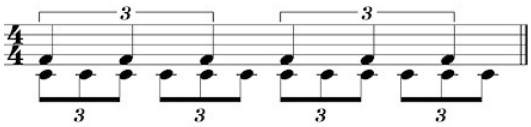
35. How long is each note in the quarter note triplet?

page 63

⅔ beat

36. Draw a measure of eight note triplets in 4/4 time. EXACTLY above that, align a measure of quarter note triplets.

page 64

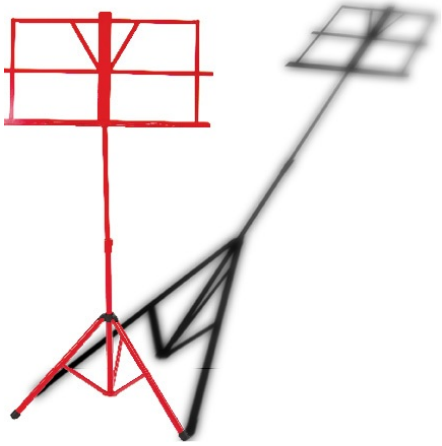


MOVING ON RHYTHM IS ONE OF THE FUNDAMENTAL BUILDING BLOCKS OF MUSIC. YOU SHOULD NOW HAVE A BETTER UNDERSTANDING OF HOW MANY RHYTHMIC SOUNDS ARE WRITTEN. I HIGHLY ENCOURAGE

YOU TO REVIEW THIS SECTION AS YOU CONTINUE THROUGH THE BOOK.

Another fundamental musical building block is pitch, or how high or low a note is. In the next section, you'll learn all about how pitch is shown in written music. Essential stuff.

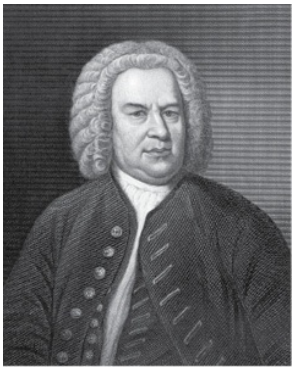
CHAPTER 11: INTERLUDE



THE PRACTICE OF PRACTICE

I never practice. I always play.

PRACTICE IS NOT WHAT YOU THINK. NOR IS IT OTHERWISE.



Johann Sebastian Bach, one of the all-time musical masters said, “There’s nothing remarkable about it. All one has to do is hit the right keys at the right time and the instrument plays itself.” I hope Bach said this with some serious sarcasm. It’s true, of course, but the process of acquiring the ability to hit the right keys at the right time is no small thing.

If playing an instrument well or singing well could happen only by wanting it badly enough, there would be many more great musicians in the world than there are. But that’s not how it works. To learn an instrument you’ve got to practice. According to lots of quality research, “natural” talent (if such a thing even exists—it’s a hotly debated topic among researchers) has very little to do with becoming an excellent musician. Quality practice is absolutely crucial.

But what is practice, exactly? It turns out that how you think about practice matters. It matters a lot.

The Practice Pinwheel Breakdown

I almost cut this chapter entirely from this edition of *Basic Music Theory*. When I first wrote this chapter, I had 12 years less experience of practice on trumpet, guitar, and at least a dozen other instruments; I had yet to complete both a Master's and a PhD in music education; I had yet to read over 300 peer-reviewed published research studies on practice, and I had yet to do original research of my own on music practice. But now I've done all those things, and the idea of condensing all of that into a few pages is intimidating. Still, it's important to try, so here we go.

After beginning to read the bewildering array of published research on practice, I saw that organization was important, and for me, applying metaphors to complex information is helpful. Music practice began to seem like a pinwheel in motion. When a pinwheel spins, the blades and colors blur together and you can't tell where the boundaries are, you can't tell how many blades there are, and the colors are hard to make out. But that's the whole point of a pinwheel: it spins and it's cool to look at and play with. So, think of music practice as a pinwheel in motion.

If we stop the practice pinwheel, we get to see how it works: we can see the different blades, what color they are, how they're attached and other details.

But stopping the pinwheel is a lot like dissecting a frog. You learn a lot about how a frog works, but the true froggyness—the living, hopping, croaking being—is sacrificed in the process. It's this way with dissecting music practice, too. Taking practice apart for analysis kills something that is a dynamic, variable, and highly complex personal endeavor. Keep that in mind as you read what that follows, especially if anything doesn't agree with your own experience of practice.

Before we dive in, I'd like to relate one of the most profound pieces of knowledge given to me in my investigation. It came from Tuba virtuoso Rex Martin, who said he got it from Bud Herseth, the legendary Chicago Symphony principal trumpeter of 55 years. He said, "You have to be careful about practicing, because we start to practice practicing. We need to practice performing." This is exactly what Wanda Landowska was referring to in the epigraph for this chapter. It's a sentiment repeated in various ways by nearly every professional musician I've spoken with about practice.

The Blades of the Practice Pinwheel

You can see that the pinwheel above has 6 blades, and each blade corresponds to one aspect of practice. If you're reading the print edition of this book, or reading on a black-and-white Kindle, you can't see that each blade has a color, too. When I was reading all the research on practice, I color-coded all the studies to reflect the colors of this pinwheel metaphor. Here are the 6 aspects of practice:

What

When you know what something is, you have power over it. Definitions matter. Singer-songwriters, folk musicians, and pop musicians in general have a different idea of practice than Western classical musicians, or so it seems on the surface. This short section explores what practice is.

WHY

Without motivation, there would be no reason to practice. This abbreviated section covers motivation and explores how your beliefs affect your motivation to learn.

WHO

Many people will have an impact on your practice, most especially, your own Self. Your attitudes and behaviors and beliefs profoundly affect your practice. There are others who can help or hinder, too, like parents, teachers, and peers. In this section I'll touch on one or two things to think about.

When

How much should you practice? When during the day is best? What's the minimum you can get away with? How little is too little? Can you practice too much? How does music practice develop from beginner to expert? We won't get to all these issues in this short chapter, but it's helpful to think about all these things.

WHERE

A short section covering the practice space itself, including what makes a practice space good or bad.

How

How do you practice? What works best? This is the aspect of practice everyone wants to know about, and it's the longest section. "How" is broken up into three sub-sections: pre-cursor conditions, practice activities and strategies, and how to assess your practice.

More Detailed Practice Info

In about six months, my latest book, *The Practice of Practice* will be published. If the information in this chapter intrigues you, and you'd like to learn more, check out the book, or visit my blog on the Web at http://www.ThePracticeOfPractice.com

What is Practice and Why Does it Matter?

Chicago singer-songwriter Nicholas Barron was one of the first professional musicians I interviewed about music practice. The first thing he said was, "I *never* practice." Barron's direct, unequivocal statement puzzled me. Because he sings and plays guitar with such superb skill and panache, to my mind, his ability simply *had* to be a result of many years of practice. Barron's statement that he never practiced didn't seem align with what research and popular writing on practice had been telling me. I remember thinking, "What the heck is going on here?"

It turns out, Barron isn't the only one who eschews the word "practice." The fantastic singer-songwriter Erin McKeown told me that the night before I was to interview her about practice, she had a conversation with a musician friend about how a lot of folk and popular musicians think that to practice is to ruin some organic sensitivity to the music. During her interview, McKeown would use other words for practice, like "spend time with my instrument."

This makes sense. Like I mentioned on the first page of this chapter, the word "practice" conjures up notions of boring repetition, and enforced unpleasantness. Who *wouldn't* want to avoid that? Nicholas Barron, after he acquired enough skill to play guitar and sing, decided to perform his own brand of soul tunes all day every day in the subway stations of Chicago. For a few years he often spent *8 hours a day* playing music for commuters on Chicago's south side, a place where folks *know* their soul singers. Erin McKeown, starting in her early teens, spent countless hours in her bedroom composing songs using her 4-track recording system to lay down vocal and guitar parts, crafting some excellent songs and working on her skills at the same time.

Neither Erin nor Nicholas considered what they were doing to be practice, but doing what they were doing, both became good enough to be successful

professional musicians. To me this *is* practice, even if they didn't think of it that way. We have to expand our definition of practice to include stuff that is more enjoyable.

There is a certain amount of time you have to spend with your instrument in order to become able to create a decent sound, but you don't have to call it *practice*. In fact, if getting better on your instrument of choice doesn't feel like the drudgery that is often associated with practice, you're probably doing something right.

Practice is simply the way you get better at your instrument. It can be in a room alone, working through techniques and exercises, it can be writing songs, and it can be playing on the streets for money. There are as many ways to go about getting better at music as there are musicians. Everybody wants to get better, but don't let someone else's definition of "practice" hinder your progress. Motivation to get better is one crucial aspect of practice. It's like the gasoline in your practice engine.

Why: Motivation and Practice

The single most valuable thing you can have is your desire to make music. Foster it. Imagine yourself playing somewhere. Anywhere. You could be on stage in front of 10,000 screaming fans, you could be at Carnegie Hall, you could be at the local coffee shop, you could be playing a song for a loved one (or a potential loved one), or even in a room alone playing for yourself. There are many excellent players in the world who play only for personal enjoyment.

Desire will keep you motivated through exercises and repetitions and slumps in mood. The only problem with desire is that it's not like a metronome. You can't bop down to the local music store and pick some up, so you've got to foster it, be aware of it, let it grow. You can't buy it, but there are ways to increase it.

Live Music is Best

The single most beneficial thing to your development as a musician is to go see music performed live. It will increase your desire to play more than any other thing, *especially* if you dig the musicians and their music. There are many places to hear live music: coffee shops, concerts, even just sitting around in a friend's living room and listening to her play. Somehow, seeing music being done right in front of you makes it more real, more within reach. Recordings are great, but live is better. In fact, there is mounting evidence showing that when you watch someone play your instrument, the mirror neuron system in the brain causes about 20% of the same neurons to fire in your own brain. You'll have to read *The Practice of Practice* to get more details about the mirror neuron system. Cool stuff!

Your Stereo is Next Best

Listening to good music is crucial and can be very inspiring, especially if you realize the musicians you listen to were once as clueless as you may be right now. So listen as much as you can. Listening to music and trying to play along is a lot like how you learned to speak. You didn't tackle the theory of language, or learn to write while you were learning to speak, right?

That's one of the great things about recorded music: you can loop it over and over as you're trying to get the hang of a song, and you can do this without annoying a live person who probably doesn't want to play through one section of a song 20 times while you figure it out.

Start with music you know and love, and find the best examples you can. The best is simply what you like best. Don't give up. Be persistent and the secrets will be revealed to you. Each hard-won increment in learning will keep the fire of your motivation lit.

If you're a beginner, it's essential to take things slowly. As a beginner you're trying to get the hang of a very complex task that involves many different and difficult skills, and it takes time. Stick with it. You'll get it. I have never run into someone who has said, "Gee, I'm sure glad I quit playing my guitar/clarinet/trumpet/piano." It's *always* the opposite. Nobody I've met is ever glad they stopped. Keep at it!

Who? You: Your Notions of Talent Affect Motivation

Tack up encouraging notes to yourself. On my desk I have a fortune cookie message that says, "Be persistent and you will win." In my 30+ years playing and teaching music, I've learned that intelligent persistence is more valuable than "talent" or natural ability. There is some very interesting research regarding our notions of talent.

Dr. Carol Dweck is a Harvard psychologist whose research has revealed that our motivation to learn is profoundly affected by how we think about intelligence. Music education researcher Bret P. Smith extended Dweck's findings to include how our notions of musical talent impact our motivation to learn in the same way. In a very small nutshell, here's what they found.

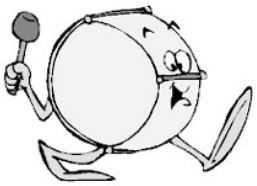
Those who identified either talent or intelligence as a "natural" ability—

something some people are born with and others are not—are less likely to be persistently motivated to learn at a deep, ongoing level. People who believe musical ability is inborn or not seek to perform only musical tasks that are easily achieved, thereby "proving" that they "have it."

On the other hand, those who believe talent or intelligence is a trait that can be increased through effort were motivated to practice, to try harder, to seek out challenges, and to persist in the face of failure. These folks were motivated to learn more deeply, and instead of being dejected by failure as "proof" that they had no talent, failures were motivation to learn where things went wrong and to turn that clam into clam chowder (FYI: a "clam" is a musician's slang for a wrong note).

There is *way* more to be covered on this topic than this space allows. Check out this video of Dr. Dweck explaining her findings. When you listen, you can replace "intelligence" with "talent" to get the gist of how these ideas impact your approach to music learning.
On the Web at http://is.gd/uhusuw

Don't Beat Yourself Up



Remember that it takes a long time to sound really good, and the progress is gradual. Anyone who plays an instrument has been a beginner at one point. And let's be honest. Beginners make some really funny noises: squeaks, blats, bellows and bleats. We've all done it. It's part of the process of becoming better. Have the patience to wait out your frustrations and the funny sounds you might make. Things will get better. I promise, but only if you stick with it.

When: Time and Practice

The less you play, the longer it will take to get better. Yeah, it *seems* like common sense, but I see it all the time with new students—playing is difficult and unfamiliar at first so they don't play much or not at all and playing remains unfamiliar and frustrating. Playing every day is best, even if it's just a small sliver of time.

The less you play, the longer it will take to get better. There is no getting around this. Once a week will simply not cut it. Of course it's better than nothing, but it's too easy to forget all that information over a week's time and when you get back to your instrument, very little will have changed. This will be very frustrating. Avoid frustration by playing more often.

Play as long as you can, but don't push it too hard. Remember that the best indication of when it's time to stop is your frustration/boredom level. You have your whole life to work on this. Don't be lazy, but don't overdo it either.

How Much is Enough?

The very best answer is: play as much as you feel like. That may seem like a cop-out answer, but let me explain. Playing is supposed to be enjoyable, first and foremost. When you learn something new, there is bound to be frustration, especially if you're pushing yourself. Avoid this if you can. If you begin to feel frustrated, *slow down*, but keep at it another couple minutes to see if the frustration goes away, and if it doesn't, stop. It's that easy. Pick it up again later in the day or tomorrow.

That being said, there is a lot of evidence that 2 to 3 hours a day is the golden number. More than this is usually not helpful. Still, there is just as much evidence that many professional musicians, when they're "deep in the 'shed," engaged in periods of intense study, often spend six or more hours per day practicing. Charlie Parker said in an interview that as a teen he often practiced 10-11 hours a day! It may be that such long practice hours enable you to become much more efficient later on.

What Time?

Evidence from many different fields, from sports, to chess, to music, show that intense bursts of concentrated effort throughout the day are most beneficial for learning something not only quickly, but deeply. Most professional classical musicians have their longest, most intense practice session earlier in the day, somewhere from 10 AM to 1 PM. We're most fresh and mentally alert earlier in the day. The virtuoso trumpeter Maurice Andre would practice from 5-8 AM! I can't imagine that this endeared him to his neighbors, but he had to practice then because of his rigorous performance schedule. Professional musicians often practice again later in the afternoon, after a nap, and they may do a short session in the evening, too. The earlier intense sessions tend to be one to two hours, and the later practice sessions much shorter.

In addition, if you’re taking lessons, it’s a great idea to have a practice session after the lesson and before you go to sleep for the night. More on sleep and practice in a couple pages.

Television

My first piece of advice is to throw the time-bandit out. No? You're unwilling to do that? Okay then, use it to your advantage. During one hour of prime time television there are over twenty minutes of advertisements. That's twenty minutes you could use to play. And besides, you don't need to buy all that stuff people are trying to sell you. Save your money and buy a nicer instrument instead. Press the mute button and play! (This technique works best when nobody else is in the house.)

Where: Place and Practice

When I was a kid and had to practice trumpet, my parents finally ended up sending me to the garage. It sounds cruel, but it was an excellent thing. My family didn't have to hear my squawks and blats, and I didn't have to feel self-conscious about making so much noise.

When you start to play an instrument as a beginner, your self-image as a musician is very fragile. You'll feel self-conscious, maybe a little silly, and you'll be very aware of how bad you sound.

Yes, it's true. You *will* sound bad at first. So what? That's part of it. Practice is all about tackling and taming that badness: it's the whole point. For some, practicing what is unfamiliar can feel embarrassing, and for others simply uncomfortable. Only a rare few don't care who hears them. If you're one of these people, consider yourself lucky. If you do feel uncomfortable playing with others around, the solution is to play when you have lots of privacy, either when nobody else is home, or in a separate building. Even a closed door is better than

nothing. In my experience, people usually mind much less than you think.

Still, music practice is a lot like jet skis—plenty of fun for the person doing it but not fun at all for anyone who has to listen to it. Even if you're Yo Yo Ma or Carlos Santana, the same phrase or scale or exercise played over and over and over again will drive even the most patient person bug-nuts. Get a private place to play if you can. Those you live with will love you for it and will enjoy your music more when you're ready to perform it for them.

When in Doubt, Leave it Out

One last piece of advice on how to organize your practice space for maximum benefit. I leave all my instruments out and ready to play. I have to be careful when I pick one up because sometimes it's at least an hour before I can put it down again. But usually, I'll play for a bit, and five or ten minutes later I'm back to what I was doing before. By leaving your instrument out you can pick it up at a random moment and toss off an exercise or a song.

How to Get Better

Pre-Practice

Just launching into a practice session isn't as helpful as having a plan. No matter what you're doing, from school work, to job, to life, setting goals is one way to keep yourself on track. Take the time to consider your long-term, mid-term, and short-term goals. Write them out. Revisit them often, because they'll change, especially the short-term goals. Just before a session, consider what you want to accomplish, how you're going to go about it, and how you'll know you reached the goals you set. That way you're not wasting time in the practice room futzing around without a plan. Time is precious. Don't waste it.

Also, go into your practice sessions with an attitude of performance. Lots of great players imagine someone is in the room with them as they practice, and not just anyone, but someone they *really* look up to and admire. Ethan Bensdorf, a trumpeter for the New York Philharmonic, said he often imagines legendary orchestral trumpeter Bud Herseth in the room listening to him during his practice.

There are as many ways to practice as there are people who play, but all of them share some similar characteristics. In fact, practice sessions look alike across many disciplines, form music to sport and beyond. Good practice sessions are roughly broken down like so:

The Structure of a Good Practice Session

Warm-up

This is a short part. Use it to make sure your instrument works properly, is tuned, and you have all you need for the coming session (valve oil, music, extra strings, reeds, pencil, etc.).

Depending on your instrument, there are several things you want to keep in mind. Generally speaking, keep things in the low register of your instrument and do exercises to get you fingers, your wind, and your brain warmed up. You're reminding yourself physically and mentally what it is to play the instrument. Trumpeter Urban Agnas posted a great video detailing his warm up approach and the things he's thinking about when he warms up. It's valuable for any wind player. On the Web at http://is.gd/yugaha

Exercises

If a playing session is a meal, this section is the broccoli. It may not taste very good (unless you like lots of cheese), but it's good for you. Do the exercises for your instrument religiously—it will pay off.

This is when you do your scales, finger-stretching exercises, long tones, interval studies, chord progressions, transcriptions, sight-reading, and whatever exercises your teacher assigns you. The list is nearly endless, but your time is limited. Keep time spent on exercises down to roughly ⅓ of your practice session.

If you're a beginner and none of the above makes sense to you, don't worry, it will soon.

PLAYING MUSIC SPEND ABOUT 2/3 OF YOUR TIME WORKING ON MUSIC YOU'RE ACTUALLY GOING TO PERFORM. AND WHEN YOU DO, GO SLOWLY ENOUGH THAT YOU PLAY EVERYTHING WITH *NO MISTAKES*. THERE ISN'T ENOUGH SPACE TO GET INTO THE DETAILS, BUT AS YOU PRACTICE, OR DO *ANYTHING*, YOUR BRAIN ENCODES THIS IN VARIOUS WAYS. IF YOU'RE MAKING MISTAKES AND DON'T SLOW DOWN TO CORRECT THEM (OR BETTER YET, DON'T MAKE ANY IN THE FIRST PLACE), YOUR BRAIN WILL SIMPLY ENCODE WHAT YOU'RE DOING, MISTAKES AND ALL.

In a great book called *The Talent Code*, author Daniel Coyle visits an elite music academy where the rule is that if someone is listening to you practice in the hallway, they shouldn't be able to tell what you're playing because you're playing it slowly. And perfectly! It's the old adage: garbage in, garbage out. Or said more positively: good in, good out.

Let's move on to some specific strategies to use during your practice.

Selected Practice Strategies

Long Tones

When I was a beginner in middle school, my mom made me practice for half an hour every day, five days a week. Some of the time I hated it, but I'm very grateful now. On the days I *really* didn't want to be at it, I would choose one note and play it for the entire half hour. Well, I did stop to breathe now and then, I wasn't *that* stubborn. I didn't know it, but I had stumbled on an essential ingredient to creating a good sound on any instrument: long tones.

When you play long tones, take a huge breath (if you're a wind player) and play a note that is comfortable for you. Don't let your mind wander, though. Listen closely to the sound. Make it as perfectly clear and clean as you are able. You'll be surprised at the wavering and crackles and hitches in your sound.

Experiment with different qualities of sound (bright, dark, open, pinched, soft, loud, etc.)

I take the time to mention long tones because they're often neglected and are important to achieve a good sound. And they're so easy to do! Especially for beginners. Three or four minutes is long enough. Do them every day and you'll soon have a great sound on your instrument.

Harness Drone Power to Get in Tune

Long tones are great, but they can be kind of boring. You can get some double-duty out of long tones by playing them with a drone. Drones and the instruments that create them appear in many types of music, like the didgeridoo of Australian music, the bagpipe in Scottish music, and the tanpura in Indian classical music. The drone is a tone that plays continuously underneath melodic lines and rhythms in the music.

Attempting to merge your sound with the drone is a valuable exercise. Having listened to countless student performances in various music festivals around the country, I can reliably tell you that *the most common* problem players have is the inability to match pitch. I'm talking about playing in tune.

It seems simple: listen to the tones surrounding you and play in tune with them. Teachers remind students to constantly "play in tune," and students are often required to use a tuner in order to "set" their instrument in the right pitch. Unless you play piano or guitar, setting the pitch in this way helps very little. Using a tuner might get your instrument in the ball park, but you *must* listen and adjust on the fly to fine-tune your instrument if you want to actually play ball. Intonation changes depending on where the note you're playing fits with the

surrounding harmony (e.g. thirds are often need to be a bit lower), and certain notes on your instrument are naturally out of tune (like low C# on trumpet).

Using a tuner—a device that requires you to use *vision* to adjust your sound—is not helpful to a person who needs to use their *hearing.* Playing with drones will help you with ear-instrument coordination. When playing with a drone, you can fairly easily hear when the pitches do not match and learn how to adjust your instrument to match the pitch.

The very best drones to practice with, in my opinion, come from an Indian instrument called the tanpura. And as you might guess, there is an app that re-creates the sound. It's one of the best practice apps I've ever come across and I use it almost every practice session. It's called iTabla Pro (there is also iTanpura which is less expensive), and allows you to play with drones in any key. Highly recommended. See a demonstration on the Web at http://is.gd/secabe

A Technique for Getting Up to Speed

This technique for getting something up to speed is one of the most effective tricks I learned during my study of music practice, from research done by Paul T. Henley. I'd suggest using a metronome with this technique if you haven't used one before. A metronome is a device used to keep perfect, mechanical time. You can use one to help you get a passage up to speed, but not in the way you might think. Here's the technique in a nutshell:

For many years, when I had a piece that I had to play up to speed, I'd use a metronome and click by incremental click I'd gradually get the piece faster and faster. This is common sense. In his study published in the *Journal of Research in Music Education*, Dr. Henley decided to test this method of using the metronome incrementally with another technique: playing super-duper slowly and perfectly, and then at performance tempo. No incremental advancing, just big jumps from slow and perfect to performance speed. He found that those who used this method got better, faster than those who just slowly clicked their way to a faster temp.

I was skeptical, and then I tried it and now it's the *only* way I use the metronome, unless the passage is so ridiculously fast I can't possibly play it at performance tempo at first. In that case, I still switch back and forth between *very* slow and perfect, to as fast as I am able. A bandmate of mine believes that it's even better if you set the metronome for exactly half speed and alternate between that and performance speed. I haven't tried it yet, but I'd love to do a

research study on that approach. Try it. It works!

Going Mental

You aren't limited to playing only during your daily session. There are opportunities throughout the day to hone your skills, and you don't even need your instrument. I'm talking about mental practice. One study by Stewart Ross found that players who incorporated mental practice did *significantly* better (statistically significant, no less) than those who didn't use mental practice. Other studies have found that most professional classical musicians incorporate some kind of mental practice in their routines. Mental practice techniques are ideal when you need to give your body a rest from playing during a practice session. Mental practice includes singing, clapping unfamiliar rhythms, physical movement (Ross studied trombonists practicing mentally by moving their slide without sound), fingering silently, and other techniques.

For brass players, there's always buzzing (if you don't know what this is, ask a brass player to demonstrate for you, but stand back). Buzzing can be done either with or without a mouthpiece. For fingerings, wind players can practice fingerings on a pencil or on the instrument without playing. Valve players can get an old valve casing from an instrument at the pawn shop and carry that around instead of the whole instrument; or simply do fingerings on your thumb or palm. String players can find an old instrument, saw off a five-fret section of the fretboard and use that to practice fingering.

The Tape Recorder Tells No Lies

I bought my first stereo when I was eleven. It had a tape deck with a microphone attachment. During my enforced practice sessions, I came up with a plan to get away with not practicing. I'd record something on the tape deck, then turn up the volume and play it back, sometimes twice. That way everyone in the house would think I was still playing. *Ha! That'll show them*, I must have thought. *I'm not actually practicing*.

But I *was*. Listening to yourself play an instrument on a recording is a lot like listening to your voice on a recording. It doesn't sound anything like what you thought it sounded like. Every little wobble and flub and mistake is painfully obvious. Again, we learn the most from making mistakes, because those mistakes show us where we need to improve the most. Try recording yourself. You'll be surprised, and you might like doing it. You will definitely improve! You've got many options for recording, and some of them, like the program Audacity, are free! On this book's page at http://is.gd/guhuga.

Assessment is one of the very most important aspects of practice, because it's how you tell you're getting better, and it's how you tell what needs more improvement. Assessment doesn't have to come from a mechanical device like a recording, of course. Ideally, you should seek feedback from a live person, not only teachers and musicians better than you (the best sources of feedback), but also from others who may not know much about music. You don't have to know the nitty gritty details about technique or music theory to know what you like. Ask for friendly feedback from your friends and family. The challenge with asking these people is that they'll be more interested in making you feel good than giving you solid, honest feedback. And that's okay. Ask them to try.

Scratching the Surface

Well, I gave it a shot, and I'm glad I did (I hope you are, too!), and I think this chapter is a pretty good primer on practice, especially if you've never thought about these issues before. But keep an eye out for my next book if you want more of the good stuff. There are a bunch of other great books out there on practice that will help you get the most out of your practice time. I already mentioned Dan Coyle's *Talent Code* (he's also got one out called, *The Little Book of Talent* that is great and small enough to fit in a case). Here are a few more of the best books on practice. Each has something different and valuable to offer:

The Practice of Practice, by Yours Truly, Jon Harnum

This book is the result of over 8 years of research and study I did on learning and teaching music. In addition to interviews with world-class musicians in multiple genres (Classical, West African, Singer-songwriters, rock, jazz, Indian classical), I combed through many hundreds of studies of practice and this book contains the best of what I found. It's also drawn from my own 35+ years of playing music. Check it out online at ThePracticeOfPractice.com, or at Sol Ut Press.

Get Better Faster, also by Jon Harnum

If you'd rather skip lots of text and get just the nuggets of knowledge, this is the book for you. *Get Better Faster* crystallizes and distills all the great practice advice and gives it to you straight and to the point. All killer, no filler. Find it at Amazon or from the publisher, Sol Ut Press.

The Musician's Way, by Gerald Klickstein

One of the best practice book out there right now, in my opinion. It's written by a classical guitarist, so keep that in mind if you're a punk rocker. You'll still find good advice in there. On the Web at http://is.gd/itisev

Effortless Mastery, by Kenny Werner

This book radically changed my approach to playing music, helping me let go of most of the fear I felt about performing. On the Web: http://is.gd/jekufe

The Inner Game of Music, by Barry Green

Green is an upright bass player who created another classic in the music practice

canon. Lots of good stuff in this book. http://is.gd/lutaxa

Reading books is great, but if you can read music, learning your instrument will be easier, and speaking of reading music, let’s get back to it!

Part Three
Clef Notes

In This Section You Learn

Pitch

Note Names

Clefs in General

Treble Clef

Bass Clef

Rhythm Clef

C Clef

CHAPTER 12

The Wind-up & the Pitch

Making music should not be left to the professionals.

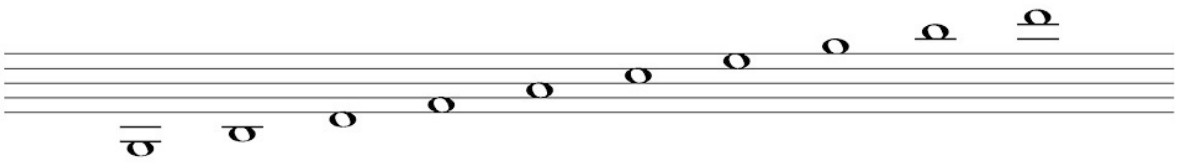
Michelle Shocked

Spaced Out and Lined Up

Notes on the staff will be either space notes or line notes. ***A space note is any note that rests within a space of the staff without crossing over a line. A line note is any note split through the middle by a line***. Notice in the examples that I've included leger line notes above and below the staff. You'll learn the specifics of leger lines in this chapter, too.

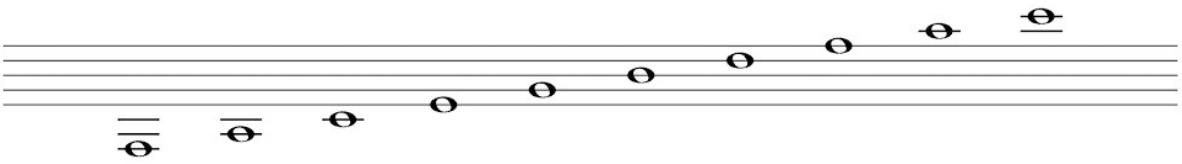
Space Notes

A space note fits within a space on the staff (or between leger lines). At first, it might be tough to draw a note exactly in the space, but keep at it. If you go over the line, your space note may look more like a line note. Use a pencil with a good eraser. Mechanical pencils work great because you can make fine lines and you don’t need a pencil sharpener. Here are some space notes, low to high. Notes exist both higher and lower than the limited number shown here.



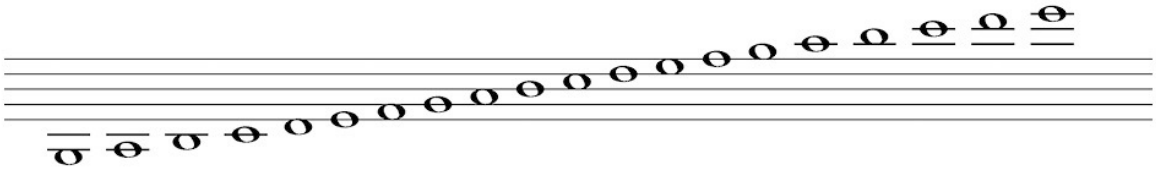
Line Notes

Line notes have a line going through their middle. When you draw a line note be sure the line goes through the middle of the note, otherwise it might look more like a space note, and that can be confusing, so when you write them, try to skewer the note right through the middle. Here are some line notes, low to high. Notes can be written higher or lower than these.



Ah, Togetherness

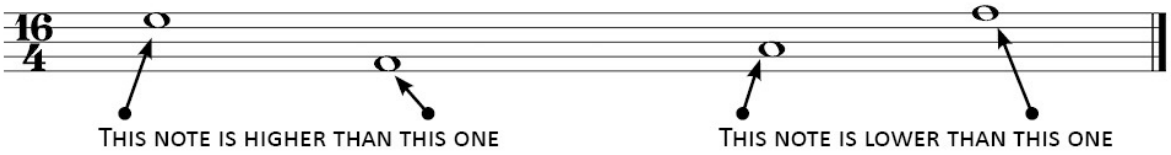
Line and space notes alternate one after the other. After a line note comes a space note, and after a space note comes a line note. This message brought, delivered, and conveyed to you by our Department of Redundancy Department. Here's what it looks like:



The High and the Lowly

Pitch is not only something you find in a tree and at a baseball or cricket game. As it relates to sound, Webster's definition of pitch is: the property of a sound and especially a musical tone that is determined by the frequency of the waves producing it. Wait, what? Frequency? Waves? Don't you sometimes just hate dictionaries? Shorter, faster sound waves produce higher pitched tones. What pitch means in music is the relative "highness" or "lowness" of a sound or tone.

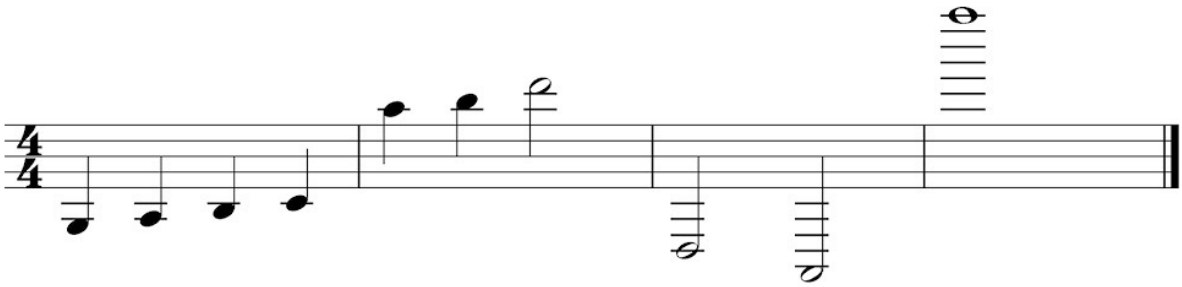
If the pitch of one note is higher than another, it will be written higher up on the staff. And if one note's pitch is lower than another's, it will be written lower down on the staff. Here's what I mean:



What? More Lines?

Most notes are written on the staff, but some notes are higher or lower than the staff can show. Take a look at the staves at the beginning of the chapter. See the notes above and below the staff? When a note goes beyond the range of the staff (higher or lower), small horizontal lines are used to show where the staff would be if it had more than five lines and four spaces. These are called leger lines (sometimes spelled "ledger lines").

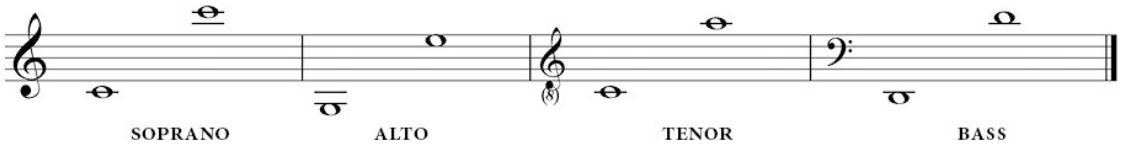
The words "leger line" appeared around 1700, though the practice of writing leger lines is older. To keep music from looking cluttered, leger lines are never used unless they're with a note. How about some examples? Here are four measures of leger line examples, with the last two being rather extreme.



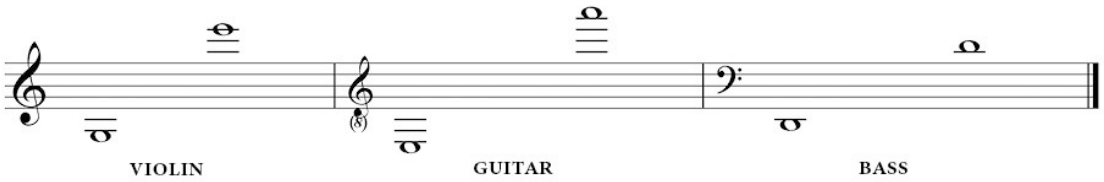
At Home on the Ranges

Range refers to the range of notes an instrument is able to play. Each example below shows the range of an instrument from its lowest note to its highest note. You'll learn the symbols at the beginning of the staff (clefs) two chapters from now.

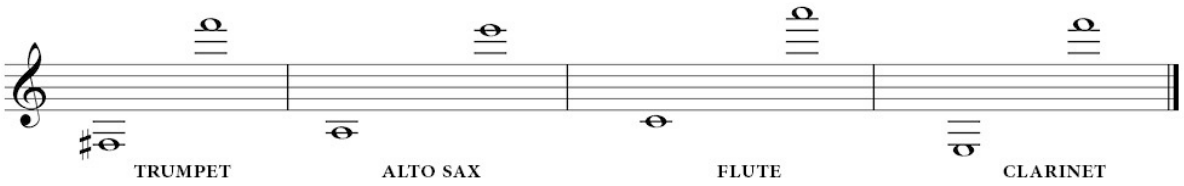
VOICE



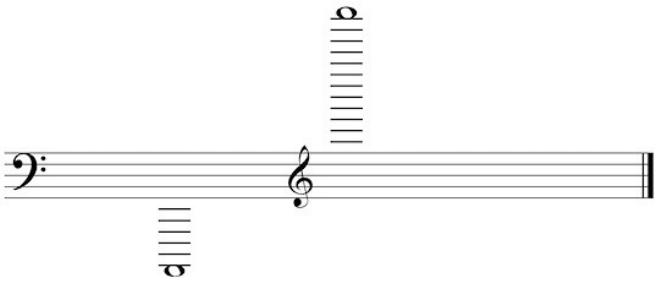
STRINGS



WINDS



Grand Piano



Moving On

Okay. You should now have a good handle on line and space notes and how pitch is shown in written music. Is it all clear? Be sure you've got it before you move on.

Coming up in Chapter 5 you'll learn the musical alphabet and how these letter names are applied to the lines and spaces and leger lines of the staff.

Chapter 12 Study Guide

1. What is a line note?

Any note with a line through it

2. What is a space note?

Any note lying in a space

3. What does pitch mean in music?

The highness or lowness of a note

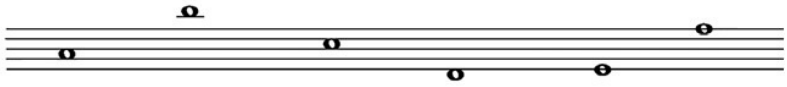
4. If one note's pitch is higher than another, it will be written _____ on the staff.

higher

5. If one note’s pitch is lower than another,
it will be written _____ on the staff.

lower

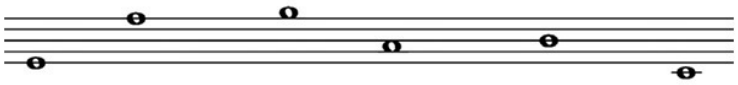
6. In the example below, from left to right:



Note 1 is _____ than note 2.
Note 3 is _____ than note 4.
Note 5 is _____ than note 6.

lower, higher, lower

7. In the example below:



Note 1 is _____ than note 2.
Note 3 is _____ than note 4.
Note 5 is _____ than note 6.

lower, higher, higher

Practical Use Exercises

1. Find a blank staff in this book to use for these exercises. In 4/4 time, draw in several quarter, half, and/or eighth notes per measure. Vary the highness and lowness. Don’t forget to put the stems on the correct side of the note (review page 22). Use leger lines. Go through your example and identify lower and higher from note to note. Write in the counting.

2. On the blank staff below, draw in all the line and space notes from one leger line below the staff all the way up to one leger line above the staff. Use any type of note. Go further than that if you are bold and adventurous.

CHAPTER 13

A Note by Any Other Name Would Sound as Sweet

Sweetest melodies are those that are
by distance made more sweet.

WHAT'S IN A NAME?

You'll be happy to find you only need the first seven letters of the alphabet for written music. ***The music alphabet uses A, B, C, D, E, F, and G***. You'll never find an "H" in music, or a "Q", or anything other than A through G. This is one of those few rules that has no exceptions!

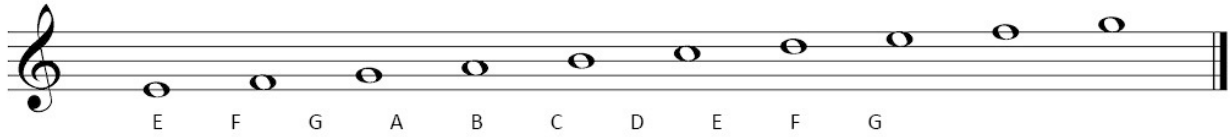
Remember when we talked about line and space notes coming one after the other? If not, see "Ah, Togetherness" on page 68. The notes are named alphabetically when the notes are written one after the other (line-space-line-space, etc.).

Round and Round

But wait a minute, you're saying, I know there are more than seven notes in music. There are 88 keys on a piano, right? What are *their* names?

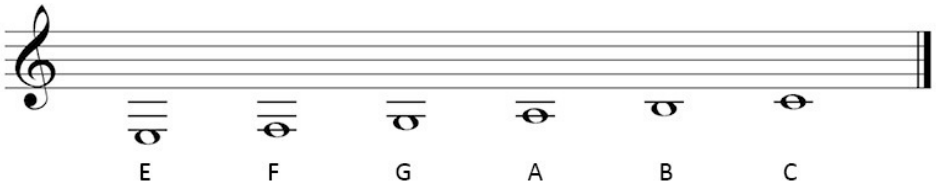
Good question. After G, the pattern begins again with A. Below is an example showing this.

Again, don't worry about the things you see that you don't know yet, like the funny-looking symbol at the beginning of the staff; they're called clefs and tell you where to start the lettering. You'll learn the details about clefs in the next chapter. For now, don't worry about that, just focus on the letter names and how they work. Do notice the letter change from the 3rd note to the 4th note.

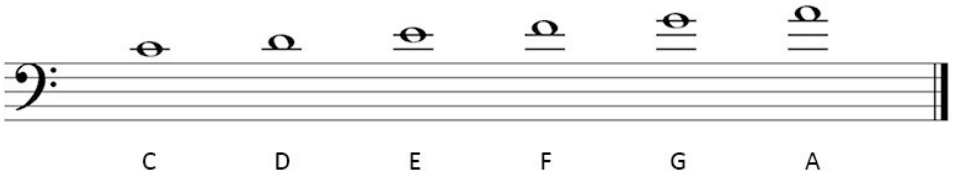


Remember Leger Lines?

Notes on leger lines or spaces are named the same way. Following is an example with leger lines below the staff. These are the first 8 notes for both guitar and clarinet. Again, don't worry about the things we haven't gone over yet. Focus on the note names only. Here are leger line note names below the treble clef staff.



And here are some examples of leger line note names above the staff. Notice there is a different loopy symbol at the beginning of this music. Not to fear, you'll learn what that is soon. For now you can ignore it. These are notes you might find in trombone music, electric bass music, or bassoon music. These are leger line note names above the bass clef staff.


C
D
E
F
G
A

Moving On

Not much to note names, is there? Just remember that A-G repeats over and over and that's all you need. Make sure you know the information in the Chapter Review on the next page before you go on. Shouldn't be too hard.

Chapter 13 Study Guide

1. What letters are used to name notes in music?

A B C D E F G

2. What letter comes after G in the musical alphabet?

A

3. What kind of note comes right before or after a space note?

A line note.

4. What kind of note comes right before or after a line note?

A space note

5. Do leger line notes above and below the staff use a different naming system?

No

6. What letter comes before A in the musical alphabet?

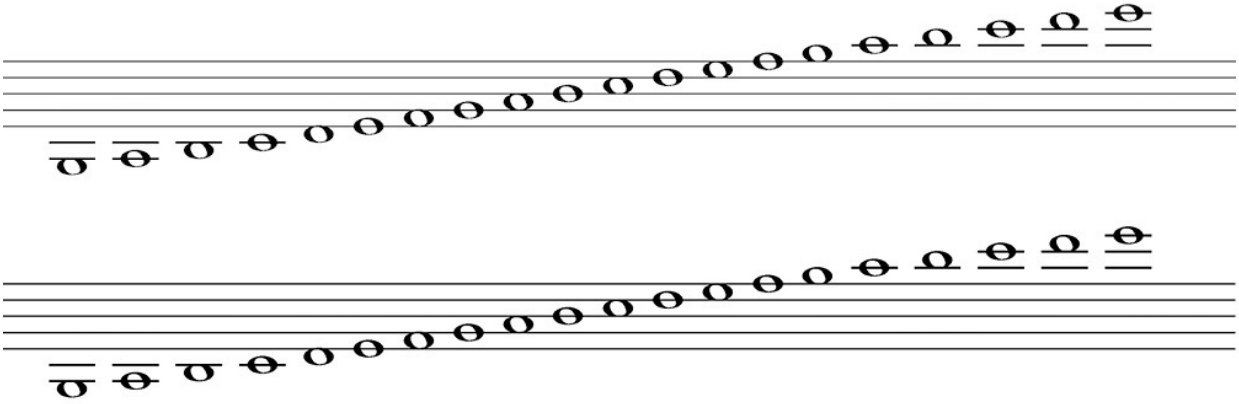
G

Practical Use Exercises

1. Say the letters A-G in a repeated loop as fast as you can. Do the same thing backwards. Say every other letter: A, C, E, G, B *etc*. Say every other letter, but start with B. Say every third letter until you've said them all. Every fourth. Every fifth.

2. Write out the letter names under the notes on the staves below. Start the first one on the left with a low G and work to the right. Start from the right on the second example, with a high G and work backwards toward the left. In what specific way are the two systems of lettering different?

3. Choose a meter, then write out whole, half, quarter, eighth and sixteenth notes on the blank staves below, with bar lines placed correctly. Use one (or both) of these two systems of naming notes to name the notes you've written.



CHAPTER 14

Going Over the Clef

Sometimes it takes a long time to play like yourself.

What's a Clef?

A clef is a symbol used at the beginning of a musical staff to tell the reader which letter name goes with which line or space. The word clef didn't show up until around the middle 1500s. Clef is a French word that means key, as in, "Hey man, what key are we in?"

In early music, a letter was written at the beginning of the text of a plainchant (remember monophonic music from the history chapter?). The letter told the singer what note to start on.

Around 1000 AD some bright soul thought to draw a line from the letter all the way across the page, so that you could tell if another note was above or below that guide note indicated by the letter. Then Guido di Arezzo added more lines and we had our staff. Over time, composers made that beginning letter more and more fancy until it no longer looked like a letter at all. That was probably when somebody in France in the middle of the 1500s decided to call them clefs.

There are several different kinds of clefs: C clefs, treble clef, bass clef, and rhythm clef (also called the neutral or percussion clef). We'll only be learning the three most common ones: treble clef, bass clef, and the rhythm clef.

Each clef has something that shows the letter name of one line. Because you now know how letter names are used in music ("A" through "G", right?), you can figure out what all the other letters are for that staff once you know the name of one line.

For now, just remember a clef points to and names one line of the staff. I'll show you all the gory details when we go over each clef in its own chapter. Some clefs are used more frequently than others. We'll get the odd ones out of the way first so you can forget them more quickly.

C Clefs

The C clef isn't used much any more, except by viola players, conductors, and occasionally trombone and bassoon players.

It's pretty easy to imagine the symbol looks like the letter C, which is what it used to be. It's also obvious which line is being indicated. That big arrow pointer in the middle is what tells you which line or space is middle C, also known as C_1. It's called middle C because it's in the middle of the piano, and in the middle of the bass and treble clef staves, but we'll get to those details later.

The C clef can be confusing at first because it's a *moveable* clef. Depending on which line the clef indicates, the name of the clef is different. Confused? Don't worry about it. You don't really need to know much about these clefs, but it might be helpful to be able to identify them and know what they do.

Technically, all clefs are moveable, but over time only the C clef retained its mobility. Here are the names of the different C clefs. Feel free to forget them immediately, except maybe you should remember that the alto clef is used by viola players. For the soprano clef, middle C is on the first line, the tenor clef puts middle C on the 4th line, and the alto clef puts middle C on the third line.

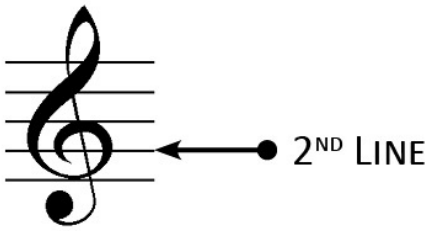
SOPRANO CLEF

TENOR CLEF

ALTO CLEF

Treble Clef

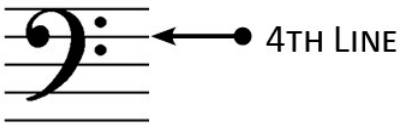
This is the most common clef. Remember up above when I said each clef has something about it that tells the letter name of a line? Well, with treble clef, it's the inner loop that circles the second line and gives it a name. What name, you ask? What letter does the treble clef look like? Take a guess now and see if you're right. You'll find out all these fascinating details in the next chapter.



The treble clef used to be a moveable clef like the c clef, but has taken up permanent residence on that second line. Treble clef is used for instruments with a high pitch. Some of them are: piccolo, flute, clarinet, oboe, guitar, violin, French horn, saxophone, trumpet, and piano.

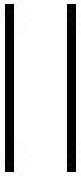
Bass Clef

Here's the second most common clef. The head (that bulbous part) and the dots show which line the bass clef names, the 4th line. The bass clef was also once a letter. Which letter do you think it was? We'll go over of the details of the bass clef two chapters from now. Bass clef is used for instruments with a low sound. Some of them are: tuba, cello, double bass, trombone, bassoon, electric bass, and piano.



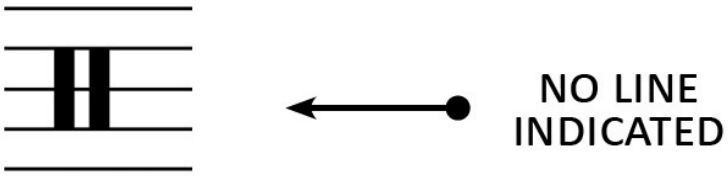
Because of their large range between high and low, keyboard instruments like piano, organ, and synthesizer use both the treble and bass clefs. You'll get all the bass clef's details in Chapter 16.

Rhythm Clef



This is a clef that shows rhythms, not pitches like the other clefs.

The academic name for this clef is the *neutral* clef. It's also called the percussion clef because it's used by percussionists, drummers and for any instrument that doesn't produce a clear pitch, like gongs, or cymbals, or other non-pitched instruments. Notice how this clef carefully avoids indicating any one line.



For clarity's sake, from here on I'll call this a *rhythm* clef. The rhythm clef was never a letter and doesn't indicate any specific line because pitch is unnecessary for non-pitched instruments, and because of this, letter names aren't used with this clef. Sounds simple, right? Well, it is and it isn't. We'll go over the details of this clef in Chapter 17.

Some instruments that use rhythm clef are: drum set, small percussion (tambourine, maracas, claves, triangle, vibra-slap, guiro, etc.—the list is nearly endless), snare drum, bass drum, and anything you can hit to make a sound. A percussionist's instruments are everywhere!

Moving On

Okay, once you've got the general details of clefs down, you'll be ready to chew more deeply into the juicy specifics of each clef. We'll start with treble clef in the next chapter.

Chapter 14 Study Guide

1. What did clefs used to be?

   A letter at the beginning of a piece of music showing where a specific note is to be placed.

2. About when and where was the word clef first used?

   Mid-1500s, France

3. What does a clef do?

   Names a line of the staff which also names the rest of the staff.

4. What are the three most common clefs?

   Treble clef, bass clef, rhythm clef.

5. Which line does the treble clef name?

   2nd line

6. Which line does the bass clef name?

   4th line

7. Which instruments use the rhythm clef?

   drums and other non-pitched instruments

8. Which line does the rhythm clef name?

none

9. On any scrap of paper, draw five treble clefs.

Draw neat and slow, then try one fast and messy. How fast can you draw one?

10. On the same piece of paper, draw five bass clefs.

Same as #9

11. On the same piece of paper, draw five rhythm clefs.

Same as #9

12. Name two instruments that use treble clef.

Some possibilities: flute, piano, guitar, rumpet, sax, piccolo, violin, F horn, oboe, clarinet, accordion ...

13. Name two instruments that use bass clef.

Some possibilities: trombone, tuba, piano, bass guitar, acoustic bass, electric bass, bassoon, baritone,euphonium, timpani/kettle drum, double tenor steel drum...

14. You've been working hard. Go make yourself a snack.

Practical Use Exercises

1. On a sheet of staff paper (download free printable staff paper at http://is.gd/guhuga), draw a line of treble clefs, a line of bass clefs and a line of rhythm clefs. Experiment. See how fast you can make each one and still have it look like a clef.

2. Invent your own clef.

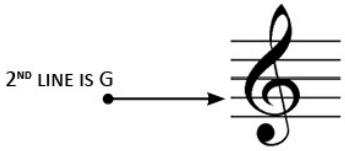
CHAPTER 15

No Trouble with Treble I do not consider my self as having mastered the flute, but I get a real kick out of trying.

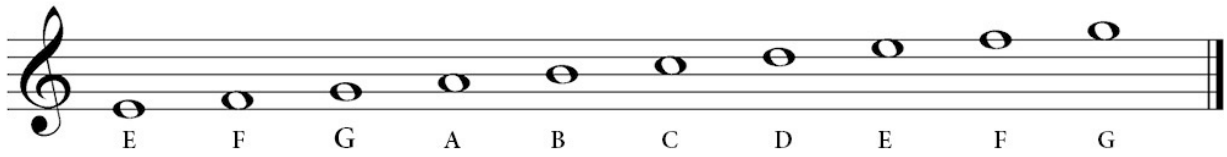
Sir James Galway

Gee Whiz

Okay, I'm sure you're dying of suspense. The treble clef used to be the letter G. You can kind of see its "g-ness" if you squint your eyes and use some imagination. The treble clef is also called the G clef because it shows where the note G is on the staff. The inner loop of the treble clef circles the second line, thus naming it G.



Once you know where “G” is, you can use the musical alphabet (A-G) to fill in the rest of the notes, naming each line and space alphabetically and consecutively. Like so:

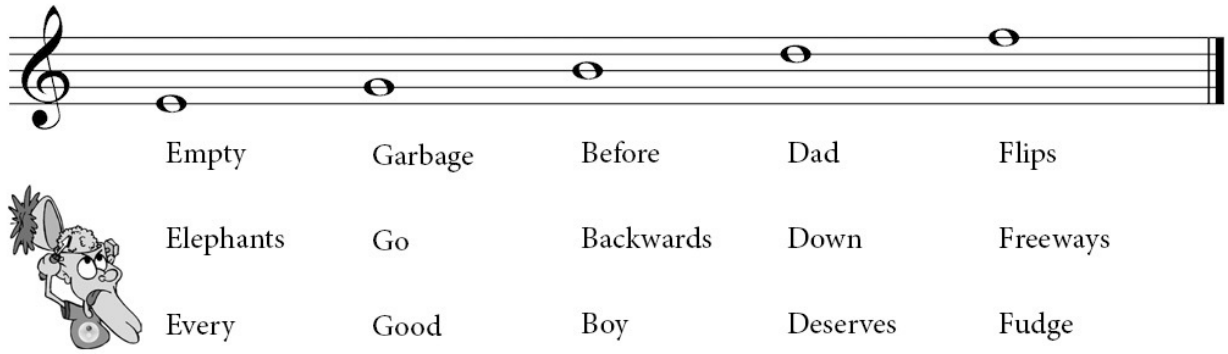


What? You Want it Easier? Okay

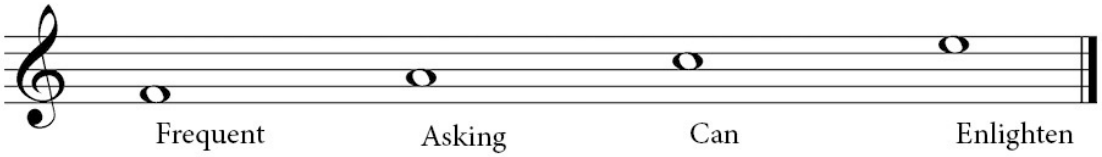
Instead of memorizing that long string of letters above, or running the alphabet up or down from G, you can memorize two short strings of letters. Five letters for the lines, and four letters for the spaces.A mnemonic device will make it even easier.

A What Device?

Mnemonic (the first m is silent) came from a Greek word meaning to remember. A mnemonic device is a trick you can use to remember a long series of things—grocery lists, test answers or, in this case, note names. Use a mnemonic device to learn the names of the lines and spaces. Usually the sillier, crazier or weirder the sentence you make up, the easier it is to remember. Here are some mnemonic sentences for treble clef lines. Read them from left to right, horizontally, not vertically:



And here are more mnemonics for treble clef spaces. There’s an easier one for the treble clef spaces, though. It rhymes with *space*. The four treble clef spaces spell the word *FACE*. Check it out:



Farting Always Causes Enemies

Fat Alligators Chew Everything

Take a couple minutes to come up with your own mnemonic device. If you make up your own, you're more likely to remember it. But, if nothing comes to you, memorize one from above that you like.

Moving On

Because so many instruments use treble clef, it's important to learn this clef even if your instrument uses another type of clef. Once you understand this clef and how it names the second line, you'll be ready for Chapter 16, which shows you all the fascinating details of the bass clef.

Chapter 15 Study Guide

1. What letter did the treble clef used to be?

G

2. The inner loop of the treble clef circles which line?

2nd

3. What is a mnemonic device?

A trick to improve memory

4. What letter name does the treble clef give to the 2nd line?

G

5. On the blank staff paper below, draw a dozen treble clefs. Try them in different sizes. Try to loop the second line of the staff.

Take your time. Use an example to guide you.

6. What is another name for the treble clef?

G clef

7. What are the names of the treble clef lines?

E G B D F

8. What are the names of the treble clef spaces?

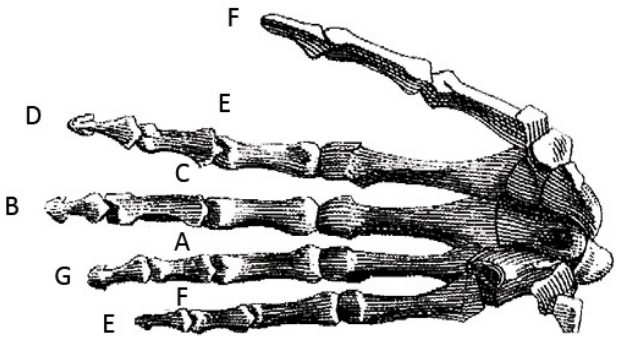
F A C E

9. What are your mnemonic devices for remembering the lines and spaces of the treble clef staff?

Teach it to someone.

Practical Use Exercises

1. Put your right hand up in front of your face, palm facing you (you're using your right hand because that's the treble clef hand when you play piano). Use your left hand to point to the fingertips and "valleys" of the right hand fingers. Say each line/space name as you touch it. Look at the illustration below if you need a little help. Be sure to say the names out loud and to touch your hand. It'll help you remember.



CHAPTER 16

At the Bass of the Clef Never look at the trombones. You'll only encourage them.

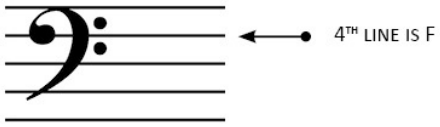
Richard Strauss

This Clef is not a Fish

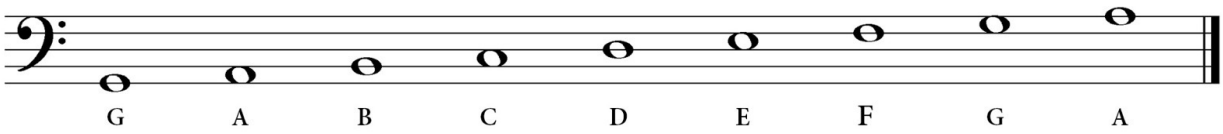
This bass is not the fish that is spelled the same way. This kind of bass is pronounced *base*, and is used for low-pitched instruments.

The bass clef used to be the letter F until monks and composers kept messing with it, making it fancier and fancier until we got what we have today, something that looks very little like an F. But it's still called the *F clef* because it shows us where the note F is on the staff. The bass clef tells us the fourth line is an F in two ways. The first way is the head of the clef, the round part at the top left of the clef. It's smack-dab on the fourth line. In case that isn't enough, there are also two little dots—formerly the "arms" of the F—that straddle the fourth line

as if they're saying, "Hey! Hey You! This is an F!" Here's the bulbous bass clef as it sits on the staff. Notice the 4th line?



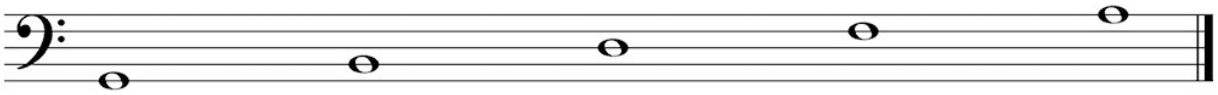
Okay, you know the drill. Now that you know the name of that one line, you can apply the musical alphabet to all the spaces above and below it. Like so:



More Mnemonics

Here are some more memory tricks to remember the bass clef line and space names.

Mnemonics for Bass Clef Lines



Great	Bassists	Draw	Full	Attention*
Goofy	Babies	Do	Funny	Acts
Great	Big	Dogs	Fight	Alligators**

*Created by Sadik Taşkin Taş of Denizli, Turkey.
**Created by Preston Epley of Wasilla, Alaska.

Mnemonics for Bass Clef Spaces

A	Cat's	Eyes	Glow*
All	Cows	Eat	Grass
All	Cars	Eat	Gas

*Created by Erin Downey of Big Lake, Alaska.

Make Up Your Own

Take a couple minutes to make up your own mnemonic device for the bass clef lines and spaces. If you make your own, and make it wacky, it'll be easier to remember.

Moving On

Even if your instrument uses a different clef, it's still good to know bass clef. Once you've got it memorized, you're ready for Chapter 9 in which you'll learn about the rhythm clef.

Chapter 16 Study Guide

1. What letter did the bass clef used to be?

F

2. Which staff line goes between the two dots of the bass clef?

4th line

3. Which line is the bass clef head on?

4th line

4. What letter name does the bass clef give to the fourth line?

F

5. On a scratch piece of paper, draw a dozen bass clefs.
Don’t forget the dots!

try it slow and perfect
and fast and messy.

6. What are the names of the bass clef lines?

G B D F

7. What are the names of the bass clef spaces?

A C E G

8. What is another name for the bass clef?

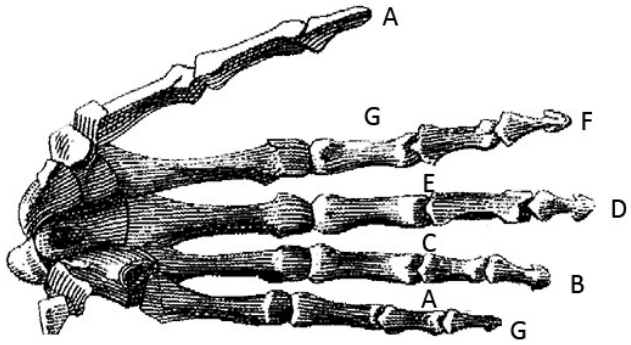
F clef

9. What are your mnemonic devices to remember the bass clef lines and spaces?

The wackier the better.

Practical Use Exercises

1. Again with the hand. Left hand this time, palm facing you (you're using the left hand because that's the bass hand when you play piano). Pretend your hand is the bass clef staff. Name the fingers and "valleys" between your fingers using the bass clef note names.



2. On the printable staff paper (at http://is.gd/guhuga), draw some bass clefs. Write in the letter names for the lines and spaces. Name two high leger lines, and two low ones (don't forget to name the spaces between the leger lines.

CHAPTER 17

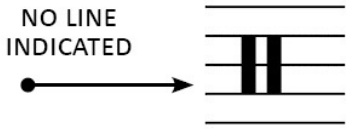
I Got Rhythm (Clef)

I got rhythm, I got music...who could ask for anything more?

Can You Count to 4?

Unlike the other clefs, the rhythm clef doesn't show pitch, so there is no need for letter names. The rhythm clef is mostly used for non-pitched instruments. The rhythm clef shows rhythms. Go figure.

This clef didn't start out as another letter, because no letters are used with the rhythm clef. Doesn't this sound like this should be easier than treble or bass clef? Well, yes and no, because although the rhythm clef is often used with a one-line staff, it's also used for a 5-line staff. We'll get to all the details, but first, here's the rhythm clef in all its neutral-ness.

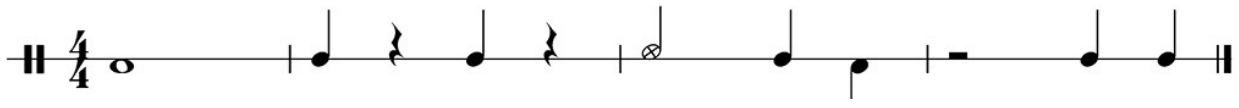


Why No Note Names?

Percussion instruments, most of them, don't have definite pitches like other instruments do. Compare the sound of a flute to the sound of a drum. Flute is an instrument with high notes and low notes and everything in between. A drum has only one pitch.

The One-Line Staff with Rhythm Clef

If only one pitch, why not only one line? Great question. Some single-instrument percussion music is written on one line. You can actually get 3 parts on that line: one above the line, one on the line, and one below the line. This is common in band music (cymbals, snare, bass drum). The single line with those three parts looks something like the staff below:



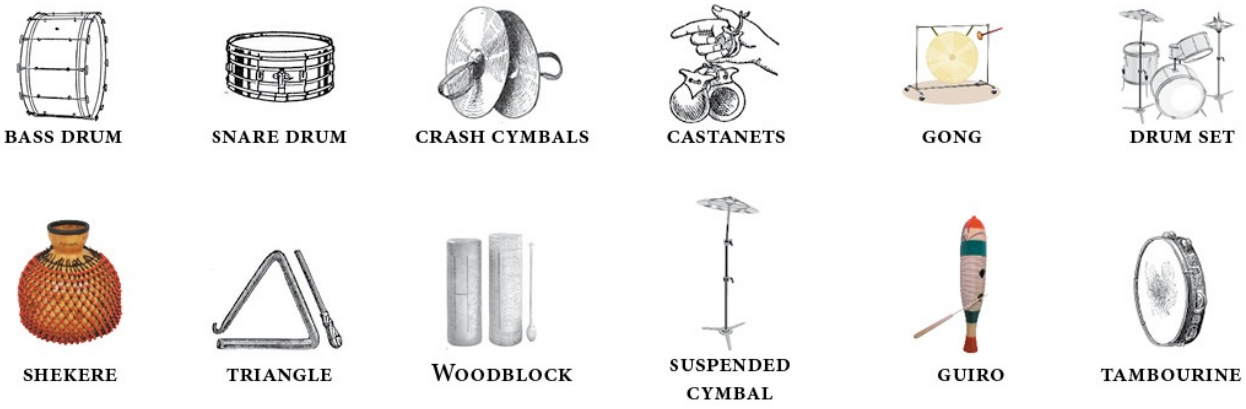
Instruments, not Pitches

You might be wondering, "Why not always use just one line?"

Beginners often use one line when playing snare drum, or bass drum or a small percussion instrument because it’s easier to read. But soon one line isn’t enough. Percussionists have dozens of instruments to learn, there are often many more than three percussion instruments used in a song, and they all need a place on the staff.

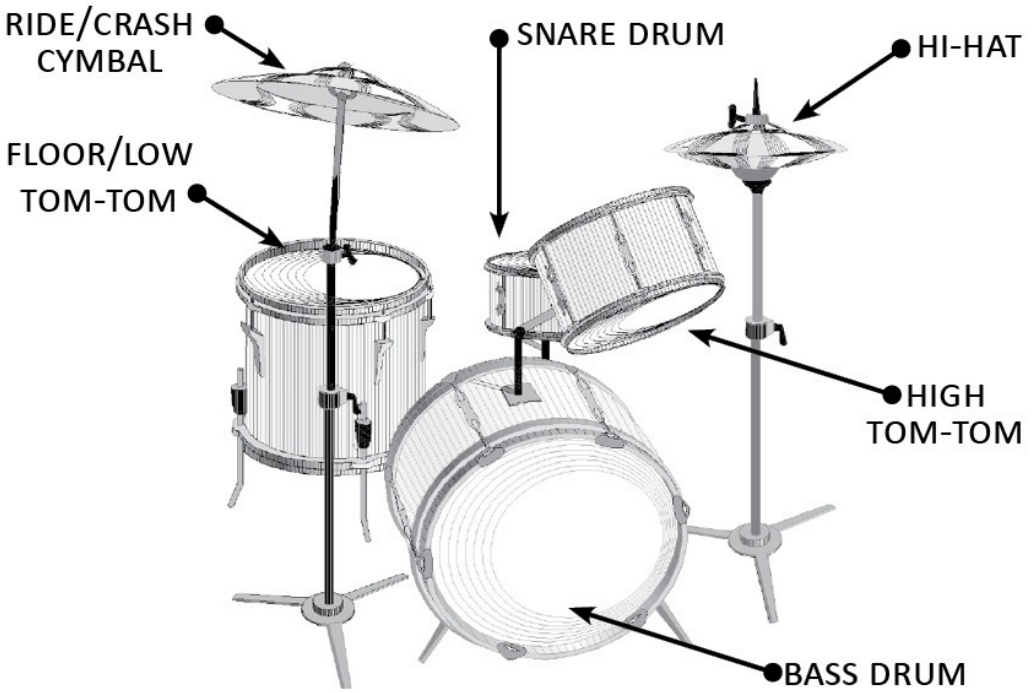
Some Percussion Instruments

Here are just a few percussion instruments that use the rhythm clef (not drawn to scale):

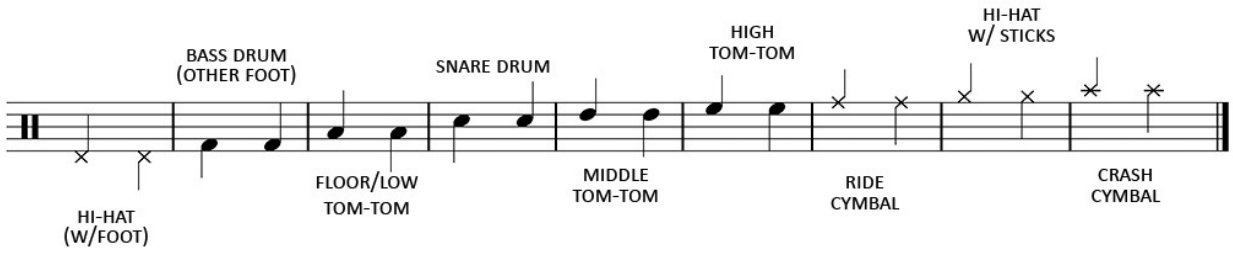


The 5-Line Staff with Rhythm Clef

The drum set has at least three instruments, and usually many more. We'll use the drum set to learn the 5-line staff with rhythm clef. The drum set is also called the "trap set", or simply "traps." In the first half of the 1900s when the drum set came together in jazz music, it was called a "contraption," then shortened to "trap," as in "trap set." I'll use "drum set" from here on out.



Though many people play with less, the typical drum set has 8 or 9 instruments. Here's a drum set with six pieces (extra points if you can name pieces missing in the drum set pictured above). Below is how written notes look for the drum set.



One of the odd things about the use of the five line staff with drum set is that there isn't really a standard version of the staff. The snare drum (or any part of the drum set) can be written on a different line or space from one piece of music to another. At the beginning of the music will be a key to clue you in. The example I gave you is generally how it looks. Double-check your own music to be sure.

X Marks the Cymbal Spot, Maybe

The x notes in a rhythm clef usually show the cymbal part, but they can also be used to show the triangle part, or the cowbell part, or any other small percussion

instrument.

Instruments and where they are on the staff are usually defined at the beginning of a piece of music, so a space or line used for by triangle in one piece may be used for cowbell in a different song. It’s always best to check the beginning directions to be sure.

Moving On

We won't be seeing much of the rhythm clef in this book, but it's important to know, especially if you're interested in drums and percussion instruments.

That's the end of this Part. It was a short one, but the information is essential to everything that follows, so if there's something you don't understand, go back and review until you've got it.

After the review for this chapter is the big fat review for the entire Part.

We'll take a break (sort of) from reading music with the next Interlude, called "Coming to Terms" which is all about the terms used in written music.

Chapter 17 Study Guide

1. What does the rhythm clef show?

Rhythm only. No pitches

2. Why doesn't the rhythm clef show pitch?

Instruments using rhythm clef are non-pitched.

3. Why use a one-line rhythm clef?

One line is all that's needed for a single percussion instrument.

4. If the 5-line rhythm clef staff doesn't show pitches, why is it used?

The 5-line clef can show rhythm for several instruments at once, like drum set.

5. If a note-head is an x, what instrument is used?

Options: cymbals, cowbell, triangle, guiro, any small percussion instrument

6. If you're reading say, a bass drum part, and it's on the first space, will it ever change to another line or space within that piece?

Nope, never.

Practical Use Exercises

1. On a sheet of staff paper (printable at http://is.gd/guhuga), write a percussion clef. Write out the correct name of the instrument in the appropriate line/space of your staff. If necessary, look at page 107 to get it right.

2. Get on the “throne” of a drum set. Play each instrument of the set while looking at the appropriate space in your music from example 1. Try two instruments/drums at once. Then three. Then all four.

3. Draw another rhythm clef on one of the staves below. Write in the meter. Fill in the measures with the notes you have learned: whole (4 beats), half (2 beats), and quarter (1 beat). Use each of the rests, too.

Part Three Review

A single conversation with a wise person
is worth a month's study of books.

CHINESE PROVERB

WHEW! YOU MADE IT THESE PAGES CAN BE USED TO TEST YOUR MEMORY ON WHAT YOU'VE LEARNED IN PART THREE, AND IF SOME OF THE INFORMATION HASN'T STUCK, YOU SHOULD GO BACK AND CHECK IT OUT.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. What did clefs used to be?

page 83

Letters at the beginning of the staff.

2. About when and where was the word clef first used?

page 83

Mid-1500s, France

3. What does a clef do?

page 83

Shows the letter name of a staff line

4. What are the three most common clefs?

page 83

Treble clef, bass clef, rhythm clef

5. What does the rhythm clef show?

page 85

Rhythm only. No pitches

6. Why doesn't the rhythm clef show pitch?

page 85

It's used for non-pitched instruments

7. Why use a one-line rhythm clef?

page 96

One line is all that's needed for a single percussion instrument

8. If the 5-line rhythm clef staff doesn't show pitch, why is it used?

page 96

To show the rhythm for several instruments at once

9. If a note-head is an x, what instrument is used?

page 97

Some 0ptions: cymbals, cowbell, tambourine, gong, triangle, guiro, any small percussion instrument

10. If you're reading a bass drum part and it's on the first space, will it ever change to another line or space within that piece?

page 96

Nope, never.

11. Which line does the treble clef name?

page 84, page 87

2nd

12. Which line does the bass clef name?

page 84, page 91

4th

13. What letter did the bass clef used to be?

page 91

F

14. What instruments use the rhythm clef?

page 85 page 96

Drums and other
non-pitched instruments

15. Which line is “A” in the rhythm clef?
page 95

Trick question. Perc. clef
doesn’t show letter names.
It shows instrumentation

16. On a scratch piece of paper, draw five treble clefs.
page 87

Slow and perfect or
fast and messy.

17. On the same piece of paper, draw five bass clefs.
page 84

ditto

18. On the same piece of paper, draw five rhythm clefs.
page 95

double-ditto

19. What letter did the treble clef used to be?
page 87

G

20. The inner loop of the treble clef circles what line?
page 87

2nd

21. What is a mnemonic device?
page 88

A linguistic trick to
improve memory

22. What letter name does the treble clef give to the second line?
page 87

G

23. What is another name for the treble clef?
page 87

G clef

24. What are the names of the treble clef lines?
page 88

E G B D F

25. What are the names of the treble clef spaces?
page 88

F A C E

26. What is your mnemonic device for
remembering the lines of the treble clef staff?

page 88

the wackier the better

27. What is your mnemonic device for remembering the spaces of the treble clef staff?

page 88

the goofier the better

28. Name two instruments that use treble clef.

page 84

Some options: flute, piano, guitar, trumpet, sax, piccolo, violin, F horn, oboe, clarinet, accordion...

29. Which staff line goes between the two dots of the bass clef?

page 84 page 91

4th

30. What line is the head of the bass clef on?

page 84 page 91

4th

31. What letter name does the bass clef give to the fourth line?

page 91

F

32. What are the names of the bass clef lines?

page 92

G B D F A

33. What are the names of the bass clef spaces?

page 92

A C E G

34. What is another name for the bass clef?

page 91

F clef

35. What is your mnemonic device for remembering the bass clef lines?

page 92

the loonier the better

36. What is your mnemonic device for remembering the bass clef spaces?

page 92

the sillier the better

37. Name two instruments that use bass clef.

page 84

Some options: trombone, tuba,

piano, acoustic bass, electric bass,
bassoon, euphonium, timpani...

38. What is a leger line?

page 20

A small line above or below the staff

39. What are ledger lines used for?

page 20

Notes that are higher or lower
than the staff shows

40. What is a line note?

page 73

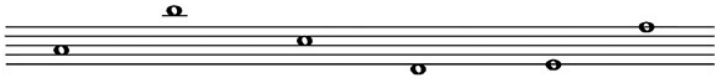
Any note with a line through it.

41. What is a space note?

page 73

Any note in a space.

42. In the example here, from left to right:



Note A is _____ than note B.
Note C is _____than note D.
Note E is _____ than note F.

page 74

lower, higher, lower

43. What letters are used to name notes in music?

page 79

A B C D E F G

44. In the musical alphabet, what comes after G?

page 79

A

45. What kind of note comes right before or after a space note?

page 74

A line note

46. What kind of note comes right before or after a line note?

page 74

A space note

47. Which way do stems go for notes above the 3rd line?

page 22

down

48. Which way do stems go for notes below the 3rd line?
page 22

up

49. Notes on the third line have stems that go _____.
page 22

Either up or down. The stem conforms to those to either side of 3rd line notes.

MOVING ON OKAY, YOU'RE DOING GREAT!. ONCE YOU HAVE THIS INFORMATION STORED IN YOUR LITTLE GRAY CELLS, TAKE A BREAK FROM GRAPHIC NOTATION AND LEARN ABOUT MUSICAL TERMS THAT YOU MIGHT SEE IN WRITTEN MUSIC. UP NEXT IS AN INTERLUDE CALLED *TERMINOLOGY* IN WHICH YOU'LL LEARN SOME ITALIAN AS WELL AS HOW TO SHOW REPEATS.

After that, move on to Part Four, *See Sharp or Be Flat* in which you'll learn the piano keyboard, the guitar fretboard, and things like sharps and flats, symbols that change the pitch of a note. Keep up the good work!

Chapter 18: Interlude

Coming to Terms
With Music The mind is a musical
instrument with a certain
range of tones, beyond which in both
directions
we have an infinite silence.

John Tyndall

Musical Terms Are Directions Music can be loud or soft; notes can be played short and choppy or smooth and flowing; a musical phrase can be played sweetly or crassly; and music can be played at many different speeds from sleepily slow to furiously fast. The performer needs to know this information, and in most music, especially in Western Classical music, the information is written in Italian.

Why Italian?

Way back when, beginning in the late 1500's, there was a lot of music-making going on in Italy, and at the time, some bright soul thought to write these detailed instructions on the music. Because the composers were Italian, the instructions were written in—you guessed it—Italian.

You'll occasionally see some terms in German and French and even English (especially if you play a piece by Percy Grainger), but the vast majority of musical terms are in Italian.

Following are many Italian terms that are applied to music. They're grouped by category: tempos (how fast to go), dynamics (how loud or soft to play, articulations (how short or long a note is), general terms, and terms for different types of repeats.

Dynamics Dynamics is another word for how loud or soft to play. The base words to remember for dynamics are *piano* (quiet) and *forte* (loud). All of the dynamic markings are variations of these two words. Often in music, you'll see an abbreviation of the dynamic, shown in parentheses in this table.

Dynamic Marking (symbol)

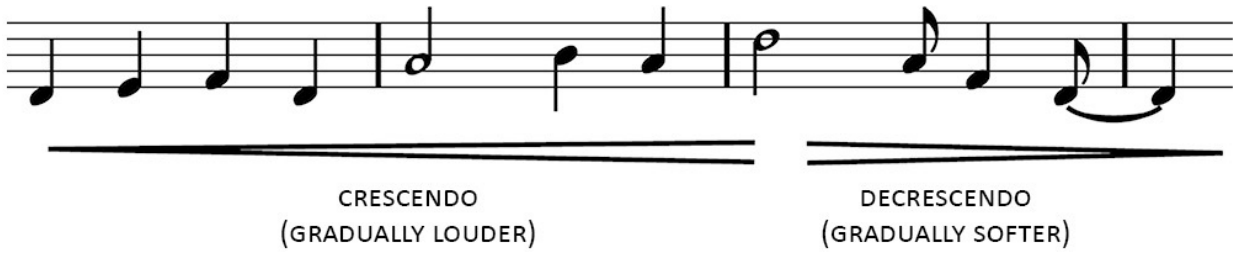
MEANING	
mezzo forte (mf)	moderately loud (speaking voice)
forte(f)	loud (louder than speaking)
fortissimo (ff)	very loud (speaking loudly)
fortissisimo (fff)	extremely loud (yelling)
pianissimo (pp)	very quiet (whisper)
piano (p)	quiet (almost a whisper)
mezzo piano (mp)	moderately quiet (softer than speaking)

Dynamic markings are relative, so you can't measure decibels to arrive at a "proper" *mezzo forte* (mf). You'll may see dynamic markings that indicate playing both louder and softer than these basic ones. In Tchaikovsky's 6th symphony in B minor, the *Pathétique Symphony*, he marks a bassoon solo as pppppp. In his *1812 Overture* (you know, the piece that calls for real cannons to be fired at the end?), you can find a dynamic marking of ffff. In pep band and marching band, playing your very loudest is jokingly called *blastissimo.*

Getting Louder and Softer

In the Romantic era—around 1800—Western classical composers began writing music containing sections that would grow gradually louder or softer. Up until this time, dynamic changes were usually abrupt. This new technique needed a name. What did they do? They used Italian of course.

To grow gradually louder is to crescendo (kra-SHEN-doe), and ***to grow gradually softer is to decrescendo*** (DEE-kra-SHEN-doe, or DAY-kra_SHEN-do). You may also see the abbreviations cresc. or decresc., or you could see diminuendo (dim.), another term for becoming gradually quieter. Here's what they look like:



When I created this example, I forgot to check what style I had chosen. You can see these note shapes are a bit different. It's a jazz font that has more of a hand-written look. I was going to change it back, then realized it would be a good opportunity to point out to you that, just like text, music has many different fonts. The one above is called "Inkpen."

Tempo

Tempo is an Italian word that comes from the Latin *tempus*, meaning time. In order to understand these tempos (*tempi* for you Latin purists), we'll refer to the metronome and how many beats per minute for each tempo marking. Most metronomes have these markings listed somewhere on them.

Here are the most common tempi, from slowest to fastest:

Tempo Name	Beats per Minute (bpm)

Largo

40-60
Larghetto

60-66
Adagio

66-76
Andante

76-108
Moderato

108-120
Allegro

120-168
Presto

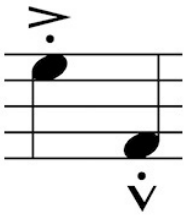
168-200
Prestissimo

200-208

ARTICULATIONS & ACCENTS ARTICULATION IS A FANCY WAY TO SAY NOTE LENGTH, ALTHOUGH IT CAN ALSO MEAN HOW YOU ATTACK AND RELEASE THE NOTE AS WELL. DEPENDING ON YOUR INSTRUMENT, THERE ARE MANY WAYS TO CHANGE THE LENGTH OF A NOTE. FOR EXAMPLE, WITH WIND INSTRUMENTS THE BREATH AND THE TONGUE ARE USED; FOR BOWED INSTRUMENTS LIKE VIOLIN, VIOLA, CELLO AND DOUBLE BASS, THE BOW IS USED; FOR PIANO (THE INSTRUMENT, NOT THE DYNAMIC) ARTICULATION IS CONTROLLED BY HOW LONG THE KEYS ARE HELD DOWN AND USE OF THE SUSTAIN PEDAL.

Articulations are indicated with a symbol that appears either above or below the note head. Articulations can also be shown by simply writing out the whole word under the notes to be affected.

Articulations can also be combined, like these below. In this example, the notes are given more emphasis (marcato), but are shorter (staccatto).



Don’t wait for the music to tell you what kind of accent you should be using. Be proactive and make your music expressive on its own. These notations originated from musicians being expressive, not the other way around.

Accents often mean different things in different styles of music. In jazz, a *martellato,* or teepee accent is played to sound like *daht!* If you’re paying attention and have listened to enough of a particular style of music, that will help immensely. In fact, listening like this is essential. Do it. Here’s a list of the most common articulations:

ARTICULATION & SYMBOL	LOOKS LIKE	MEANING
accent or marcato >		more emphasis
martellato ^		even more emphasis
forzando fz		sudden accent
sforzanto sf		forced
sforzando sfz		even more forced
legato —		play full value
staccato		short

•		
staccatissimo ▼		very short

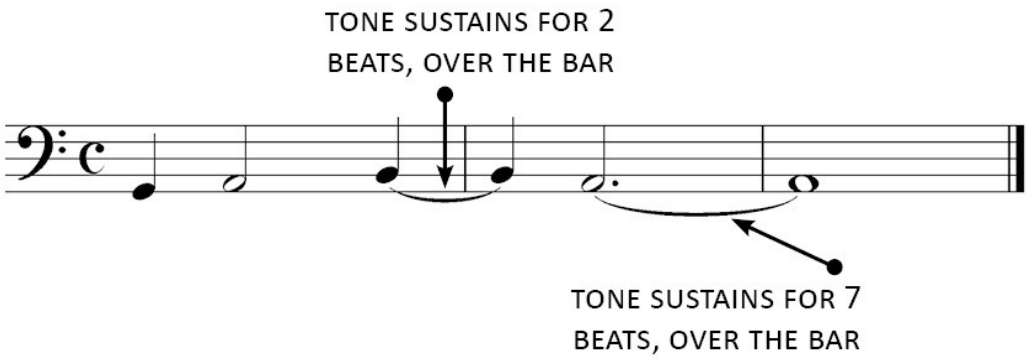
Phrases & Ties & Slurs, oh My Two more types of articulations seen quite frequently are ties and slurs. Phrase markings aren't an articulation, but I'll get to that after covering ties and slurs. Ties and slurs are very similar but have one very important difference.

A tie is a curved line connecting two or more notes of the *same* pitch.

A slur is a curved line connecting two or more notes of *different* pitches.

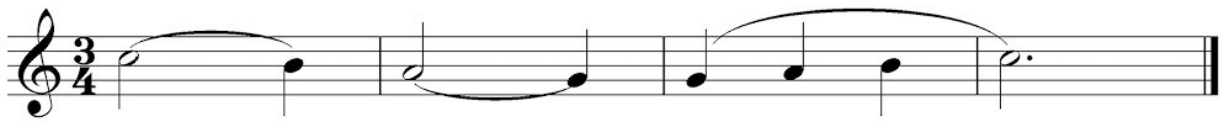
The Tie

Just like tying one piece of string to another gives you a longer piece of string, so tying two notes together makes a longer note. There is no break between tied notes. Ties are often used to join notes over the bar line. Here are some tied notes.



The Slur

The slur looks similar to the tie but with one important difference: slurs connect *different* notes. Notes of different pitches with the curvy line over or under them are articulated as smoothly as possible. Here are some slurred notes. Notice how the final slur goes over the bar line?



For wind players, a slur means no tonguing; for piano players it means you hold the keys down for each note down as long as possible and move smoothly from one note to the next; for guitar players it means hammer-ons and pull-offs; for bowed instruments, the notes happen in the same bow stroke. Whatever your instrument, the idea is to make a slur as smooth as possible.

Phrase Markings

Sometimes a composer wants to indicate a long musical idea—a phrase—so the musician knows more clearly how to play the passage. It's easy to confuse phrase markings with slurs because they use the same curvy line. Use your judgment if you're not sure which is which. Phrase markings are often quite long, covering four measures or more.

General Musical Terms

The terms you've been introduced to in the last few pages are often paired with other Italian words, giving you more specific directions. For example, *molto ritardando* means slow down a lot; *sempre staccatto* means notes are always short.

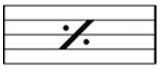
If you find a term you don't know, you can look it up in the glossary of terms you can download on this book's "extras" page at http://is.gd/guhuga. It's a good idea to have a pocket dictionary of terms in your instrument case. Hal Leonard Publishing makes a good small one. Putting one on your smart phone is a good idea, too.

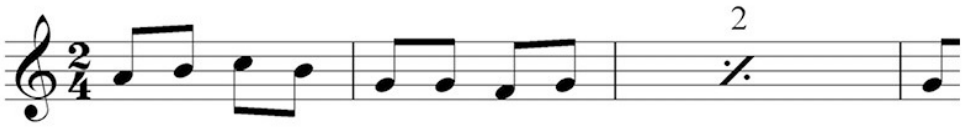
Term	Meaning
al	to the...
con	with
molto	very, much
poco	little
sempre	always
fine (FEE-nay)	the end

Pete and Repeat

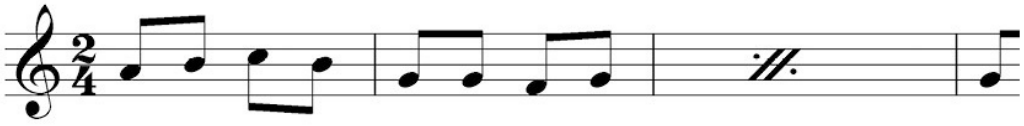
Almost all music has repetition. Repeats can be a single measure, a small section, or a large section. There are several ways to indicate these repeats in a piece of music.

Repeat a Single Measure

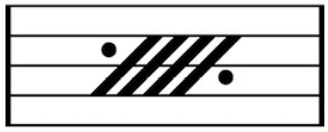

This sign, called a *bis*, is used to show that the previous measure is to be repeated. If there is a number with this sign, say a “2”, then the previous two measures are to be repeated, as shown below.



Instead of a number, you might see more slashes. Each slash means repeat a measure, so the example below means exactly the same as the one above.



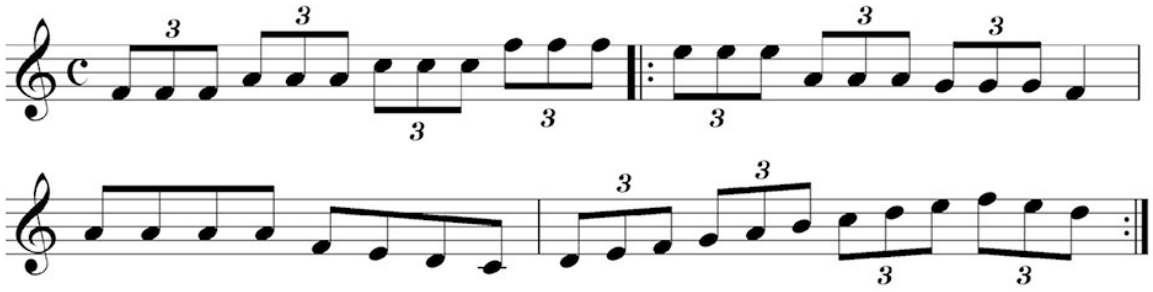
How many measures are to be repeated using the *bis* below?



Section Repeat

A section repeat is shown with two sets of dots at the beginning and end of the sequence of measures to be repeated. The second set of dots tell you to go back to the previous two dots. If there are no previous dots, the repeat goes back to the beginning of the piece. Above is a section repeat. After playing measure four, return to measure two and play it all over again.

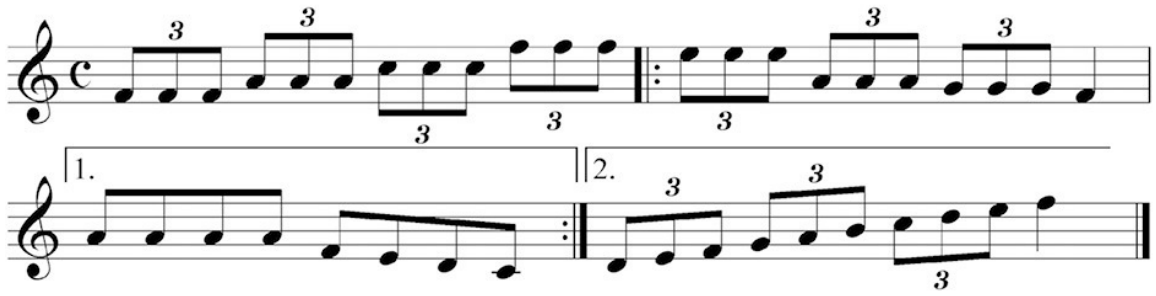
When you get to the dots the 2nd time, keep going forward in the piece. Sometimes a section will be repeated more than once. In this case, at the beginning of the repeat, you'll get directions (usually in English, thankfully!) telling you how often to repeat the section.



First and Second Endings

Sometimes a section is repeated, but has a different ending the second time around. The first time through the section, play to the repeat sign and return to the previous repeat sign (or the beginning, as in the example below). The second time through, you have to skip the first ending that begins under the bracket with the number "1", and play the second ending.

In the example below, play through the first ending, return to the second measure, and the second time through skip measure three (the first ending) and play measure 4 (the second ending). This example ends after the second endings. Many times, the piece continues onward.



More Complex Repeats

The following terms and symbols show more complicated types of repeats. As these repeats have to do with the way you navigate through an entire piece of music, it isn't feasible to show you an example here, but when you encounter these in a piece of music, you'll know what to do. Pay attention to a couple special symbols and one new term for these more complex repeats.

The *coda* is a closing section of a piece of music, written in its own section. The coda section is indicated by the sign on the left. It kind of looks like a target.

Sometimes a composer will end a piece by repeating a previous section. Ending sections begin where you see this sign, called, well, "the sign," or, in Italian, segno.

Here are the various ways these signs are used in a long piece of music:

Repeat Name	Meaning
Da Capo al Fine (D.C. al Fine)	Go back to the beginning and play through to the end of the measure marked *fine* (end).
Del Segno al Fine (D.S. al Fine)	Return to the sign (S) and play through to the end of the measure marked *fine* (end).

Da Capo al Coda (D.C. al Coda)	Go back to the beginning and jump to the coda section at the coda sign (R).
Del Segno al Coda (D.S. al Coda)	Return to the sign(S) and jump to the coda section at the coda sign (R).

Moving On

As you've just learned, there are many, many terms to know. Unless you have a photographic memory, it's a good idea to keep a pocket dictionary around in case you come across terms like, *grave*, *con moto*, *leggerio*, *senza sordino*, or other strange utterances.

Part Four

See Sharp or Be Flat

In This Section You Learn

Sharps, Flats, & Naturals

Note Names

The Piano Keyboard

The Guitar Fingerboard

Whole Steps & Half Steps

Major Scales & Key Signatures

CHAPTER 19

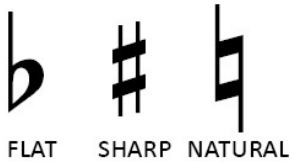
ACCIDENTALS ON PURPOSE

Roaming through the jungle of "oohs" and "ahs," searching for a more agreeable noise, I live a life of primitivity, with the mind of a child and an unquenchable thirst for sharps and flats.

Duke Ellington

Accidentals are no Accident

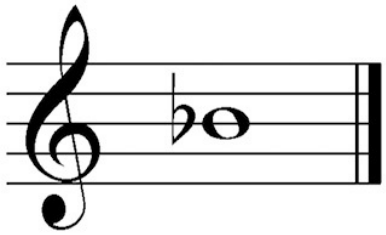
The pitch of a note can be altered in two ways—slightly lowered, or slightly raised. This is shown by symbols that appear in front of the note on the staff, and they're called ***accidentals***. Though I know the use of the word accidental began around 1651, I'm not really sure why, because these changes are made on purpose. They should be called onpurposes. ***There are three types of accidentals: flats, sharps, and naturals***. Each has its own sign, which you can see below.



General Accidental Information

Accidentals appear just *before* the note they alter. This is so you see the accidental *before* you get to the note. If the accidental was placed after the note, it would be too late. Putting the accidental after the note is a very common mistake made by beginners.

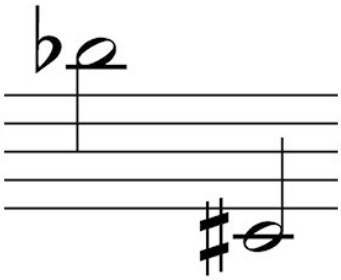
There is a good reason for this common mistake. When written, the accidental comes before the note, but when spoken, the accidental comes after the letter name of the note. For example, even though you say *B flat*, the actual note in the treble clef is on the third line with a flat sign in *front* of the note, like so:



Another common mistake is to write the accidental just anywhere in front of the note it is supposed to alter, but actually, the accidental should be written on the same line or space as the note it alters. Each accidental has an open spot in the center which is placed on the line or space. You'll see what I mean in the

examples to follow.

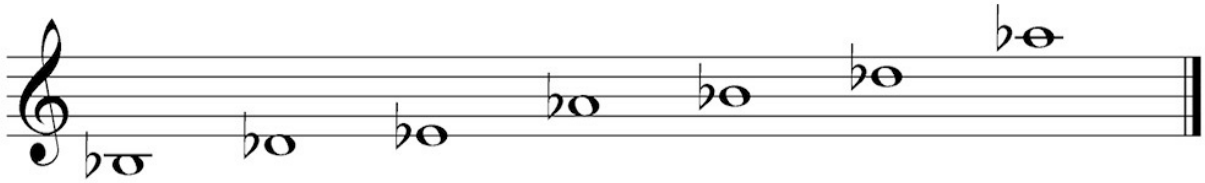
Remember that when notes are above or below the range of the staff they need leger lines. Accidentals don't need a leger line; they simply hang in front of the note that uses the leger line. Like this:



Flats

A flat lowers the pitch of a note by a small amount (a half step, a term you'll learn in the next chapter). One way to remember a flat lowers a note's pitch is that when something is flattened, it's lower than it was before it was flattened.

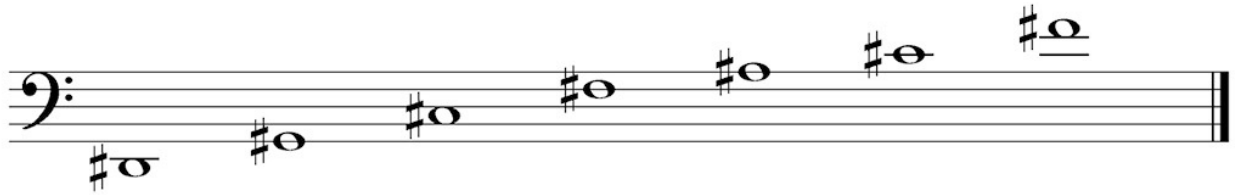
Flats look a little like a squashed letter b (or maybe I should say flattened letter b), and the open part in the center of the flat is the part that will be on the line or the space. Although I've only shown you six notes below, a flat can be used with any note. From left to right, these notes are: B flat, D flat, E flat, A flat, B flat, D flat, and A flat.



Sharps

A sharp raises the pitch of a note by a small amount (also a half step) and looks like a number symbol. The center of that little grid is where the sharp should be centered on the line or space. Just like with flats, a sharp can go in front of any note. From left to right: D sharp, G sharp, C sharp, F sharp, A sharp, C sharp, F

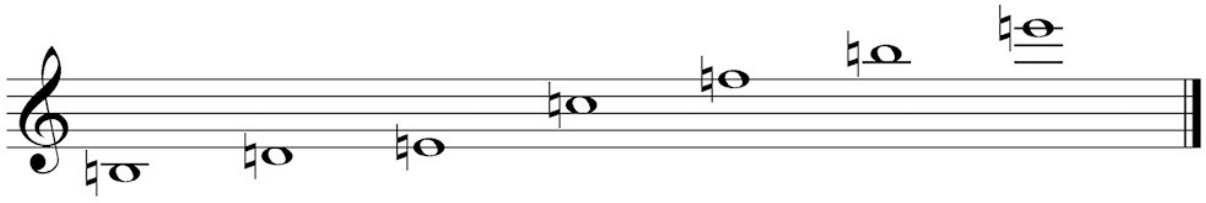
sharp.



Naturals

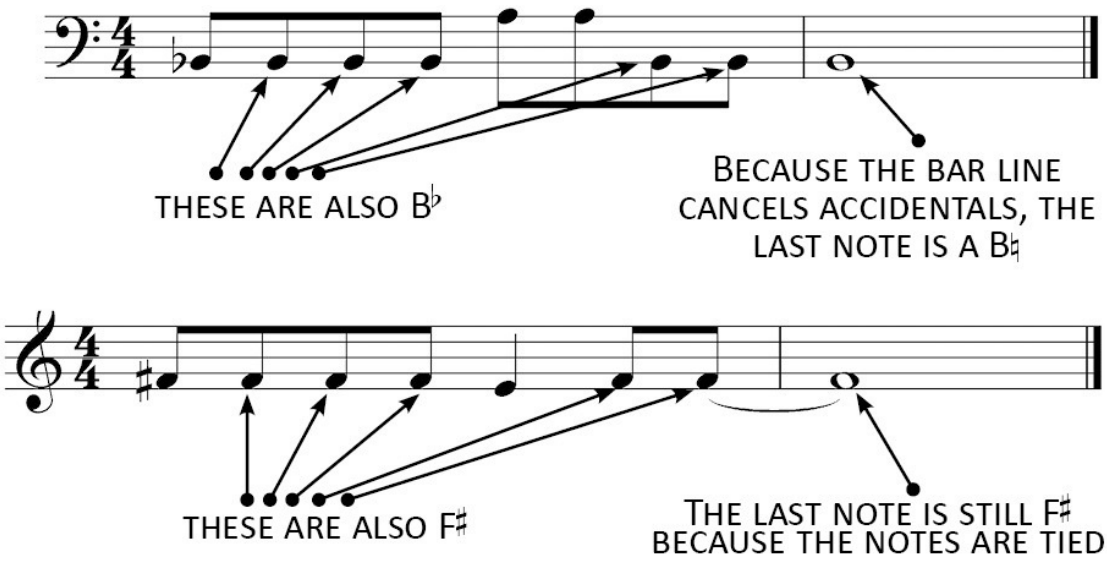
Naturals are a little different from sharps and flats. A natural sign cancels the effect of a sharp or flat, and is used for this purpose only. Any note that isn't affected by an accidental is already a natural note. In fact, all the notes you've seen before this chapter have been natural notes. When there aren't any sharped or flatted notes to be changed, the natural sign isn't used.

So a natural can either raise or lower the pitch of a note. If a natural cancels a flat, it raises the pitch of a note by a half step. If a natural cancels a sharp, it lowers the pitch of the note by a half step. And you've already guessed that a natural can be used with any note. From left to right: B natural, D natural, E natural, C natural, F natural, B natural, E natural.



More Accidental Rules

When an accidental is used at the beginning of a measure, it's effect lasts for the entire measure. For example, if at the beginning of a measure we have a B flat, and then at the end of the measure there is another B, it is also a B flat unless there is a natural sign in front of it. An accidental can't have an effect over a bar line, unless a note is tied over the bar line. In the first example below, the effect of the accidental lasts for the entire measure and is canceled by the bar line. The second example shows a tie.


THESE ARE ALSO B♭
BECAUSE THE BAR LINE CANCELS ACCIDENTALS, THE LAST NOTE IS A B♮
THESE ARE ALSO F♯
THE LAST NOTE IS STILL F♯ BECAUSE THE NOTES ARE TIED

Moving On That's it for accidentals: sharps raise, flats lower, and naturals cancel. Once you're able to answer the review questions about accidentals, you can move on to the concepts of whole steps and half steps.

But before we do that you'll get a quick lesson on the piano keyboard in the next chapter. Knowing the keyboard will make whole and half steps much easier to understand.

Chapter 19 Study Guide

1. What does an accidental do?

   Slightly alters the pitch of a note

2. What are the names of the accidentals?

   flat, sharp, natural

3. Where are accidentals written?

   In front of the note and on the same line or space as the note

4. What does a flat do to a note?

   lowers the pitch by one half step

5. Draw six flats.

   ♭♭♭♭♭♭

6. Draw six sharps.

   ♯♯♯♯♯♯

7. What does a sharp do to a note?

Raises the pitch by one half step

8. Draw six naturals.

♮♮♮♮♮♮

9. What does a natural do?

Cancels a sharp or a flat

10. How many notes can accidentals be used with?

All of them

11. How long does the effect of an accidental last?

For an entire measure

12. Can an accidental have an effect across a bar line?

No, unless a note is tied across the bar line.

Practical Use Exercises

1. Write out the following whole notes in either bass or treble clef: B-flat, E-flat, A-flat, B-flat. Find these notes on your instrument and play them. Sing them. Now write out these notes: D-flat, G-flat, C-flat, and D-flat. Find them on your instrument and play them. Sing them.

2. Do the same thing as you did in number one with these notes: F-sharp, A-sharp, C-sharp, F-sharp. Find them on your instrument and play them. Sing them. Now write out C-sharp, E-sharp, G-sharp, C-sharp. Find and play these notes. Sing them.

CHAPTER 20

The Piano Keyboard

Music is perpetual, and
only the hearing is intermittent.

WHY LEARN THE PIANO KEYBOARD?

Notes are laid out on the keyboard in a very simple way that is easy to comprehend, and this linear, color-coded visual aid is a great help when trying to understand nearly all of the concepts you'll find in this and other sections of *Basic Music Theory*. If you haven't already, I strongly advise you to go to this book's Extras page and print the Piano Keyboard at http://is.gd/guhuga. It's free. It'll help a lot.

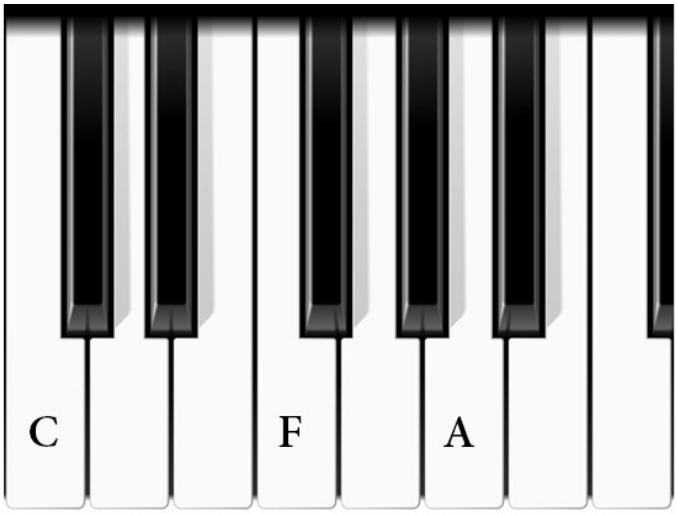
One of the definitions of a half step is two adjacent keys on the piano, so there you go.

If you've been using your keyboard template on the Reviews, you've already become familiar with what the keyboard looks like, and maybe even some notes on it. When you use it, be sure to orient your keyboard like the ones shown below, with the black keys toward the top.

I don't want to insult your intelligence, but I've got to say it. Lower notes are toward the left of the keyboard and higher notes are to the right.

Note Names on the Keyboard

All of the white keys are natural notes, (A-G). All of the black keys are notes with accidentals (sharps or flats). Notice in the keyboard below how the black keys are grouped: two black, then three black, then two black, etcetera, etcetera, all the way up and down the keyboard.

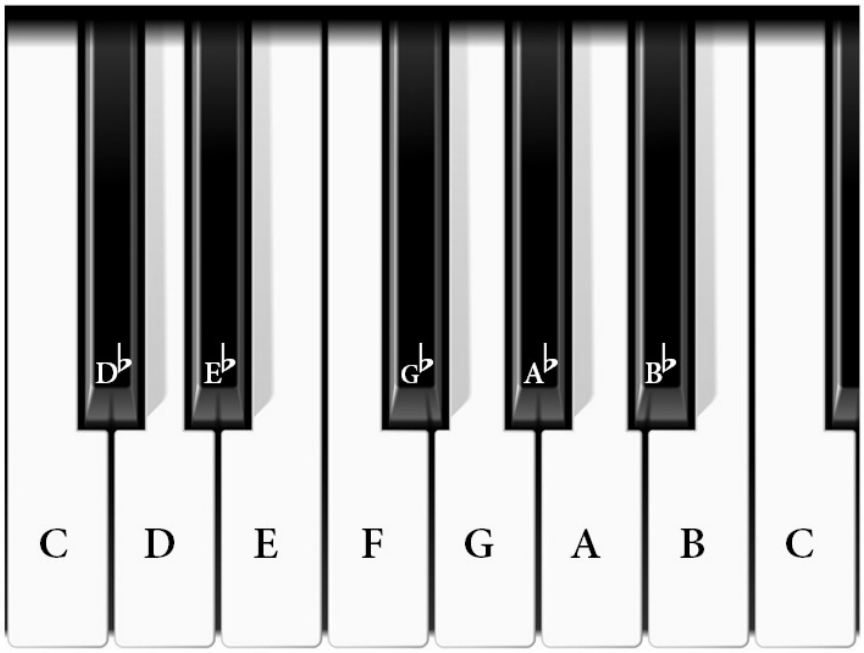


Any white key to the left of a group of two black keys is the note C. Any white key directly to the left of three black keys is F. If you'd rather find A because it's the beginning of the alphabet, it's between the second and third black keys.

From there it's easy to fill in the rest of the natural note names on piano, also known as the white keys. Notice how the letters repeat after 8 keys/notes: after A comes after G.

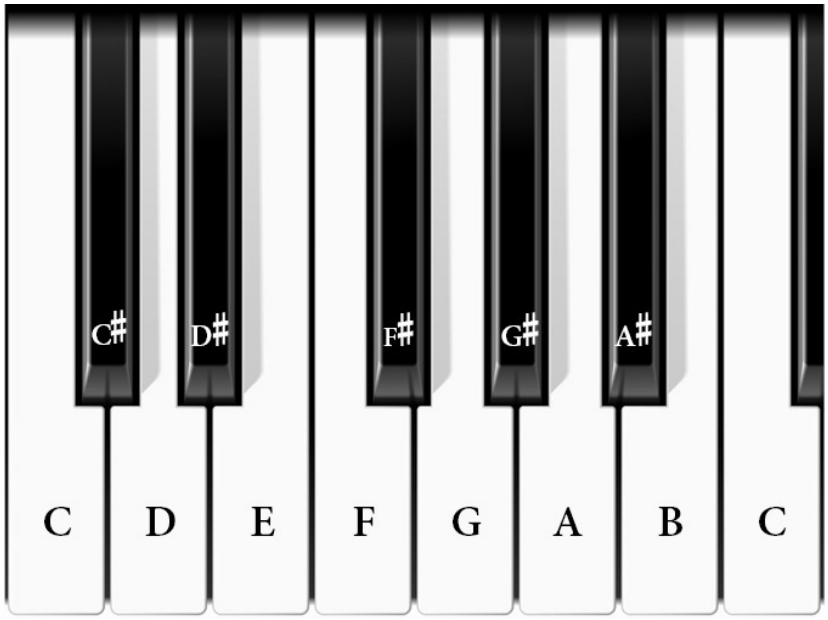
Flat Notes on the Keyboard Any black key directly to the left of a white key is a flat note (remember to the left is lower). The note's name is derived from the natural note. So the black key just to the left of the A, is A flat. The black key directly to the left of the D is D flat. And so on.

Due to the limited space, I'll use the symbol for flat (b) and sharp (#) next to the letter name instead of the word. Here's a section of a piano keyboard labeled with natural notes and flat notes.



Sharp Notes on the Keyboard

A sharp note is any black key to the right of a white key (remember to the right is higher). The sharp note names are also derived from the natural note. For example, the black key directly to the right of the C is C sharp. The black key directly to the right of the F is F sharp. Here's a short section of a piano keyboard labeled with natural notes and sharp notes.



Enharmonic Notes

You probably noticed that each black key has both a sharp name and a flat name. When notes have the same pitch but different names, they're called enharmonic notes.

Enharmonic notes are a lot like homophones, words that sound alike but mean different things, like the words to, too, and two. Enharmonic notes are the same pitch but have different meanings. A common question is, "Why bother? Doesn't that make things confusing?" Well, yes, it does make things a bit confusing but there are several good reasons for enharmonic notes. The first I'll show you below; we'll get to the other good reasons for enharmonic notes in Parts V and VI.

Half Steps and Whole Steps

A half step, as it's defined by Webster's, is one twelfth of an octave, but that

definition doesn’t help us much. A better definition for a half step is the difference in pitch between any two adjacent keys on a piano. Or, if you’re more familiar with the guitar or electric bass, a half step would be the difference in pitch between any two adjacent frets on the same string.

Natural Half Steps

The concept of a natural half step is really important and will cause you no end of confusion if you don’t understand it, so put on your thinking cap. Most half steps involve some kind of accidental, like B to BB, or F# to G, or C# to C natural. But if you look at the keyboard, you can see that there are two places where there is no black key between two white keys. Go ahead. Look right now and see if you can name them. I’ll wait.

Remember our definition of a half step? Any two adjacent keys on the piano, right? So those notes—E to F, and B to C—are also half steps, but without the need of any accidentals. These are called natural half steps and if you memorize them now, you won’t have to memorize them later.

Whole Steps

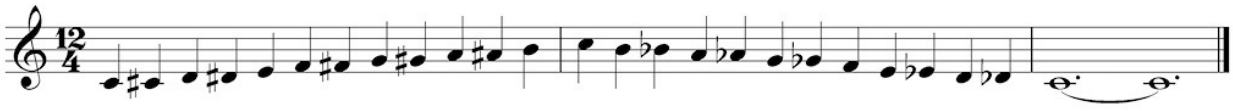
Two half steps make a whole step. Some easy whole steps are C to D, A to B, and F to G. Two whole steps that incorporate the natural half step are E to F# and BB to C. Find others.

The Chromatic Scale

We haven't talked about scales yet, so I guess first we have to define what a scale is in music. According to Webster's it's a graduated series of musical tones ascending or descending in order of pitch according to a specific scheme of their intervals. And actually, that's a pretty good definition, so we'll use it.

The chromatic scale is the first reason for the existence of enharmonic notes. The scheme of intervals in the chromatic scale is half steps. If you were to play a chromatic scale from C to C, you would begin at C and play every single note going up until you got to the next C, and then you'd come back down doing the same thing. Here's where the enharmonic notes come in:

As you go up the scale, sharps are used. As you come down, flats are used. An example is worth a hundred words. For this example, follow along with your keyboard. Below is the chromatic scale from C to shining C in 12/4 time. Notice the natural half steps between E-F and B-C.



Moving On

The piano keyboard will be a valuable tool in the chapters that follow, so be sure you've understood it before going on. Not only will it help you in the next chapters, it will also be valuable in your life as a musician.

Coming up next is the major scale, the basis for nearly everything in Western music. A small and simple scale, but very important.

Chapter 20 Study Guide

1. What is the definition of a half step?

The difference in pitch between two adjacent keys on a piano keyboard

2. What is an enharmonic note?
Give a couple examples.

A pitch with two different names, like C# and Db, or F# and Gb

3. What is a whole step?

Two half steps

4. Where are the two natural half steps?

Between B-C, and E-F

5. Which accidentals are used when going up a chromatic scale?

6. Which accidentals are used when coming down a chromatic scale?

Flats

Practical Use Exercises

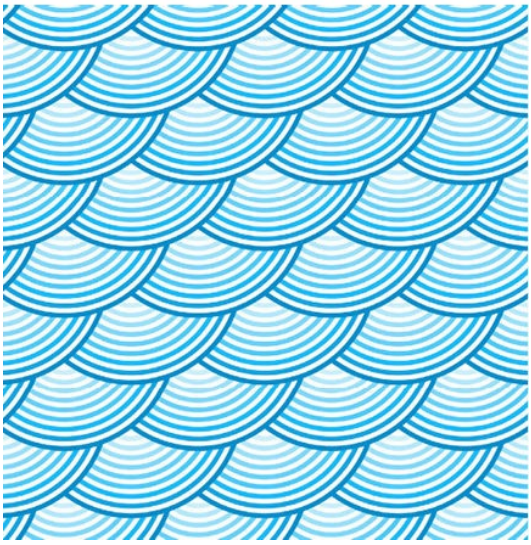
1. Write out the chromatic scale from A to A in both clefs ascending and descending. Refer to the example above if you must.

2. Identify the notes on the keyboard.

3. From the note C, count up three half steps. What note did you get? It should be Eb. Start on F# and count down two whole steps. What note did you get? Should be a D.

4. Get in front of a real piano/keyboard. Find all of the E-sharps on the piano. Find all of the C-flats on the keyboard. Find the F-flats. The B-sharps (hint: enharmonic notes).

CHAPTER 21



Major Scales

Without music, life would be a mistake.

MUSICAL DNA: THE MAJOR SCALE

Facts on the Internet are like notes on the trombone: infinite in number, but most of them are wrong. Still, I read on the Internet that if Western music were genetic material, the major scale would be its DNA. A more perfect analogy I have never heard. The major scale is related to nearly all music you're familiar with, from country to hip-hop, classical to jazz, grunge to punk.

Other scales are described based on their relationships to the major scale. Intervals—the measurement of distance between two notes—are based on the major scale. Chord symbols are derived from the major scale.

Remember our definition of a scale: a graduated series of musical tones ascending or descending in order of pitch according to a specific scheme of their intervals. With the chromatic scale, the scheme of intervals was half steps. With the major scale, the scheme of intervals is a pattern of whole and half steps. Remember that a whole step consists of two half steps.

Every scale has a letter name and a descriptive name. The letter is the bottom note of the scale—known as the *tonic*—and also the top note of the scale. The descriptive name tells you what kind of scale it is, like major, minor, blues, pentatonic, *etc.* For example, the D Major scale would start on D and end on D and have the necessary whole and half steps that make up a major scale.

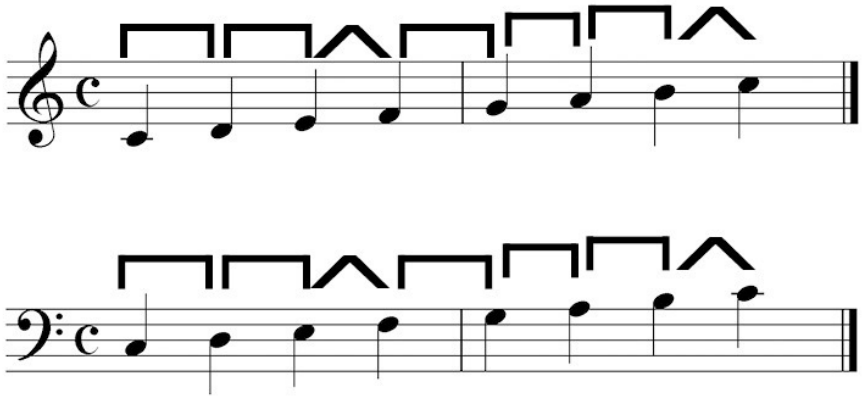
Enough words. An example will show you the pattern of whole and half steps for a major scale. The scale we'll use will be the C Major scale, because it has no sharps or flats in it. If you have your keyboard out and use it to follow along, you'll understand these concepts more quickly and more thoroughly.

SHOWING WHOLE AND HALF STEPS

Before I show you the scale, I've got to define a couple images used to show half and whole steps. If you play a bowed instrument, don't confuse these with the narrower upbow or downbow symbols, written above only 1 note.

If you have access to an actual keyboard, play the scale below. It will be all white notes from C to C. You'll probably recognize the way it sounds. It's the C Major Scale. Ascending whole and half steps are shown. Remember the natural half steps between E-F, and B-C. You can see those in this scale, indicated by the half step sign (m).

Remember the natural half steps between E-F and B-C? In the C Major scale, these natural half steps give us the pattern of whole and half steps without the bother of accidentals.



As you can see above, the pattern for the C major scale is: whole, whole, half, whole, whole, whole, half (wwhwwwh). You should memorize this, because this pattern of whole and half steps is the same for *every* major scale.

OCTAVE

This is as good a place as any to introduce you to the octave, a type of interval that contains a certain amount of notes. Like octopus and octagon, the octave also has an 8 in it.

Look at the scale above, and count the notes from C to C. There are 8 of them. That's an octave. From one letter name to the next note with the same letter name—either up or down—is an octave.

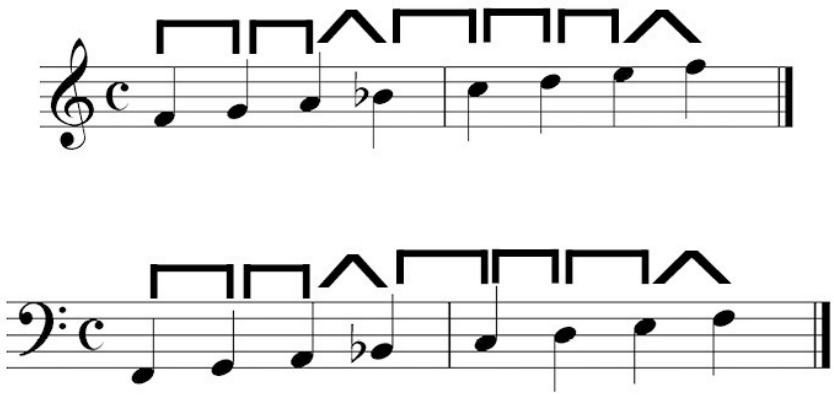
So, to be more specific, the above scale is the C Major scale, one octave, ascending.

Scales with Accidentals

Now we can take that pattern of whole and half steps and apply it to another scale. Let's start on F this time. Use your piano keyboard to fully understand this concept. Play it so you *hear* this concept.

F Major Scale

Here's the F major scale, ascending, with whole and half steps shown.



In order for our series of whole and half steps to be correct (wwhwwwh), we have to alter a note. Look at your keyboard while you examine the whole and half steps in the F major scale to see where those half and whole steps fall.

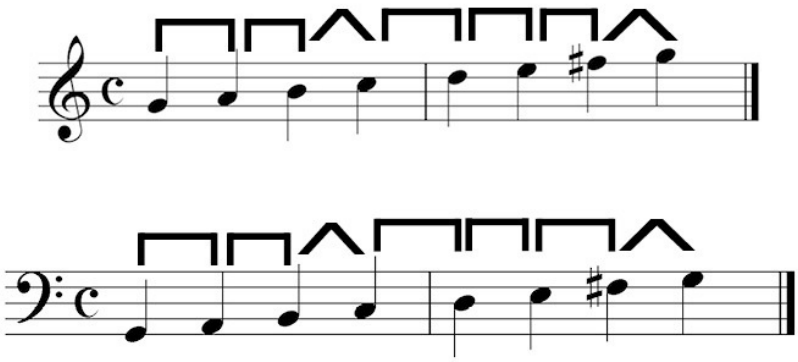
That B♭ is necessary to get the half step between the third and fourth degrees of the scale. The B♭ also gives us the whole step between the fourth and fifth degrees of the scale.

A ***degree is a name for a scale tone***, and is usually associated with a number. For example the 4th degree of a scale is the fourth note from the bottom.

In the above scale, because E to F is a natural half step, we don't need to alter either of those degrees of the scale to have the half step between the seventh and eighth degrees of the scale.

G Major Scale

And here's the G major scale, ascending, with whole and half steps shown.



Follow along with your keyboard and you can see where the whole and half steps should be for the Major scale starting on G.

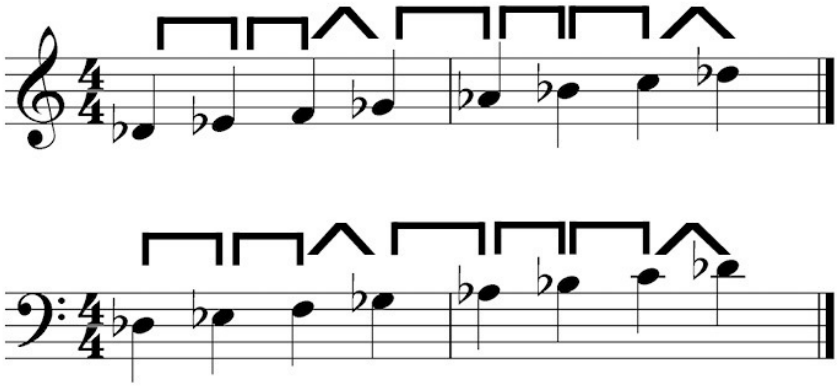
Between the third and fourth degree of the scale we have the natural half step from B-C, and between the seventh and eighth degree of the scale, in order to have a half step, we need an F#. And it just so happens that between the sixth and seventh degree of this scale we need a whole step; E to F# is a whole step.

Major Scales with Many Accidentals

This same technique can be applied to a scale with any starting note. Just for kicks, we'll do one with lots of flats and one with lots of sharps. You'll need to follow along with your keyboard for this one, so have it ready. Photocopy it from the back of the book if this is a borrowed book.

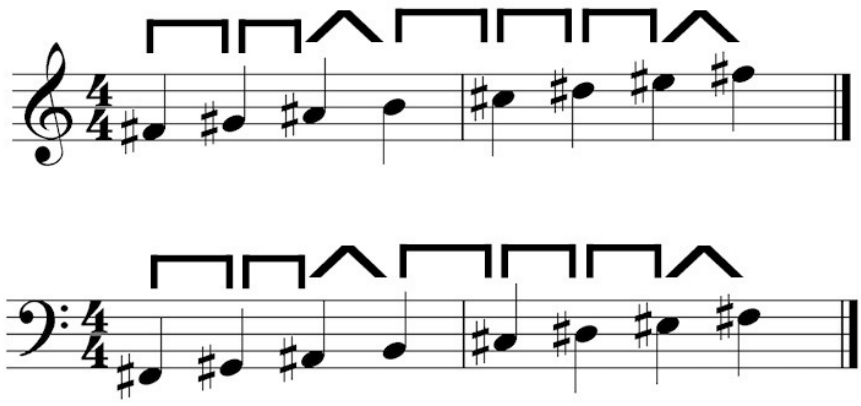
A Major Scale with Lots of Flats

Here's a major scale with 5 flats, the D♭ major scale, shown ascending, with whole and half steps indicated between degrees 3-4 and 7-8, just like all other major scales.



A Major Scale with Lots of Sharps

The F# major scale, ascending, with the exact same pattern of Major scale whole and half steps shown.



More Enharmonics

Use your keyboard to understand the following concept.

Take a look at the seventh degree of the F# major scale above. An E#, right? The enharmonic note that is the same pitch as E# is F. It's that natural half step between E and F that causes this. Similarly, a B# sounds the same as C. Going the other way, F ♭ is the same pitch as E, and C ♭ is the same pitch as B.

Moving On

If you understand the major scale, you've got a powerful tool to unlock the intricacies of much of music theory. Be sure you know the ins and outs of this scale before you move on. If you haven't already, start memorizing all 12 major scales on your instrument. You can print them out for free on this book's Web site. Go to http://is.gd/guhuga

Coming up in the next chapter are key signatures, devices at the beginning of a piece of music that tell you which notes are sharp or flat for the entire piece.

Chapter 21 Study Guide

1. What is an octave?

Distance from one note to the next note with the same name. 12 half steps or 6 whole steps.

2. What is the series of whole and half steps for the major scale?

wwhwwwh

3. What is the symbol for a half step?

4. What is the symbol for a whole step?

5. Between which degrees of the major scale do the half steps occur?

3-4, 7-8
Practical Use Exercises

1. On a blank staff using the clef of your instrument, write in an E-flat low on the staff. Use your keyboard to figure out the E-flat major scale. Write it down, then play it on your instrument. Does is sound right? Sing it. Make it musical! Play with it by varying length, articulation, and anything else. Make it fun instead of just plodding up and down the scale.

2. Do the same thing, starting on A. Play and sing the scale until it's memorized. Make it musical! Play with it by varying length, articulation, and anything else. Make it fun instead of just plodding up and down the scale.

3. Write out all 12 Major scales. Learn them on your instrument. They are of immense value in your progress as a musician!

CHAPTER 22

UNLOCK THE SECRET OF KEY SIGNATURES

The key to everything is patience. You get the chicken by hatching the egg, not by smashing it.

ARNOLD H. GLASGOW

KEY SIGNATURE BASICS

Any piece of music has a certain feel that arises from many things, some of which are the meter, the timbre of instruments, the tempo, as well as the subject of this chapter: the tonal center of the piece, or its key signature. In written music, the key signature is a device containing sharps and flats and suggests to the performer what type of scales the piece is based on, the most likely starting and ending notes, and most importantly, which notes in the piece are affected by accidentals. If there is improvising in the song, the key signature will tell the performer which notes can be used. If a song is too high for a singer, the whole song can be lowered, and this will give you a different key signature.

Just like time signatures, key signatures come at the beginning of a piece of

music. ***The key signature fits between the clef and the time signature***. I have included a time signature in all of the examples so you can see where the key signature should be placed. Most of the time signatures will be familiar, but some are odd, so don't let that throw you.

A key signature is a device that tells you which notes have flats or sharps for an entire piece of music. This saves the composer from having to write in all the accidentals for an entire piece. The good news is that a key signature will never have mixed sharps and flats. It will be either all sharps, all flats, or no accidentals at all.

Another piece of good news is that the order of the flats and the order of the sharps will *always* be the same. That is, if you have only one sharp in a key signature, as long as you've memorized the order of sharps, you'll know what that sharp is. If you have seven flats in a key signature, as long as you've memorized the order of flats you'll know exactly which seven flats to use and what order to put them in.

More good news. The order of the sharps is the reverse order of the flats, or vice versa, so you only have to memorize them one way.

Why Key Signatures?

When you constructed major scales in the last chapter, you had to alter some of the notes with sharps or flats to make the whole and half step pattern correct. Each key signature is also the name of the major scale of the same name. For example, the key signature of G will give you the correct accidentals for the G Major scale. A key signature at the beginning of a song affects all the notes throughout the song. Many pieces of music change key, perhaps several times, between the beginning and the end. For example, most Sousa marches change key in the *trio* section by adding a flat.

Flat Key Signatures

There are only seven flats, and they'll always be in the same order in a key signature. This is one of the few rules that has no exceptions.

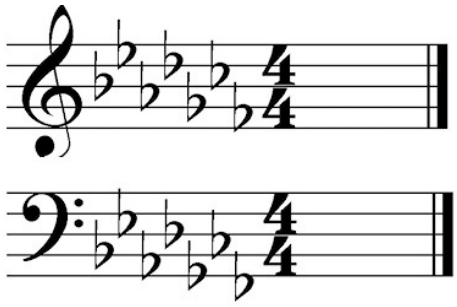
More Mnemonics

The order of flats is B-E-A-D-G-C-F. An easy way to remember this is the word

BEAD followed by Greatest Common Factor. Or you can make up your own saying that uses all the letters in the proper order. Something like, “Being Ethereal After Death, Ghosts Can Fly.”

As with other mnemonic devices, if you make up your own and make it silly or funny or weird, you’ll be more likely to remember it.

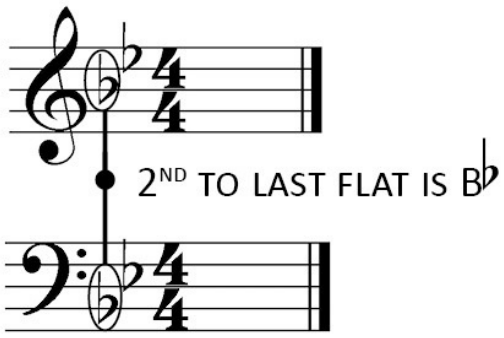
Here is a key signature with all seven flats in it. Notice the order (from left to right) and where the flats are placed on the staff. Here is the key signature in both treble and bass clef with all seven flats.



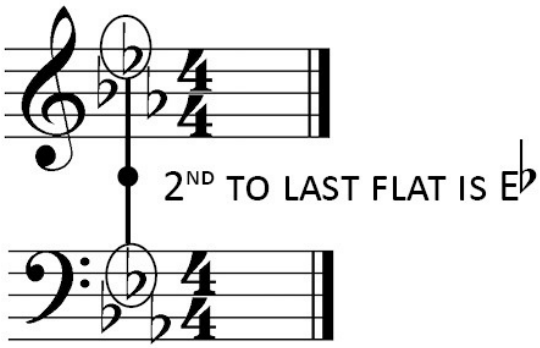
Find the Name of a Flat Key

If you’re faced with a piece of music with a bunch of flats in the key signature, there is an easy way to find out what key it’s probably in. The name of the Major key is the same name as the second-to-last flat in the key signature. An example will show this better than words can:

The key of Bb

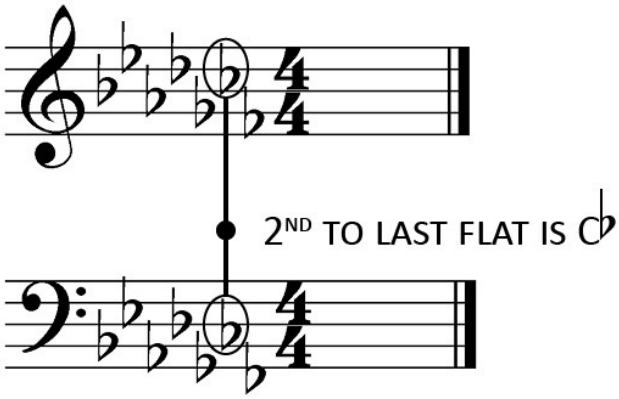


The Key of Eb



Now that you know how to find the name of the flat key, let's figure out the name of the Major key with all 7 flats introduced above? Same process.

The Key of Cb



Construct a Flat Key

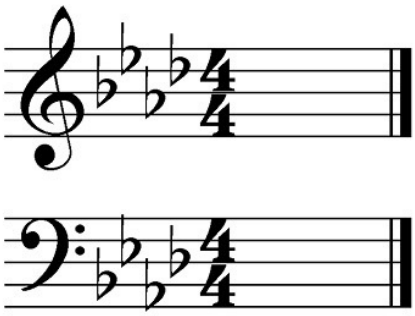
To create a flat key, there are three easy steps:

1. Find the name of the key you want in the order of flats. For example, if we're looking for the key signature for A flat, we'd find where the letter A is in the order of flats: B E ***A*** D G C F.

2. Add one more flat beyond the key signature name, and use all of the flats up to that point for the key signature. In our example, one flat beyond Ab would be Db, for a total of 4 flats.

3. Construct the key signature, putting the flats in the correct order, and on the right line or space.

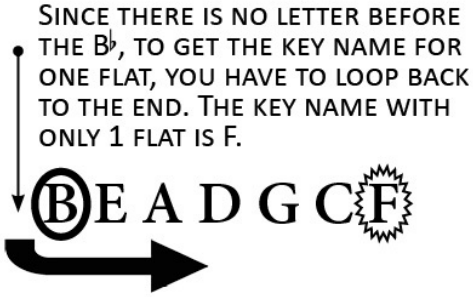
And that's all there is to it. Here's the result:



The Key of F

One flat key is a little different than the others, and that's the key with only one flat in it. Because there's only one flat, there can't be a second-to-the-last flat. But if you continue the lettering, looping back around to the end, you'll arrive at the correct name for the key with only 1 flat, F.

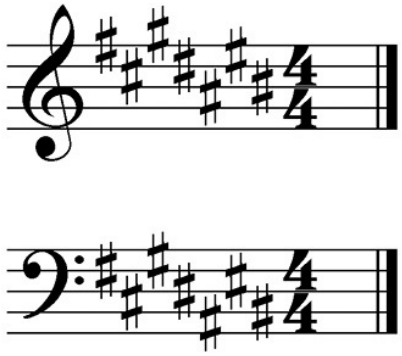
To the right is a more visual representation of what I'm talking about. Or you could just memorize that one flat is the key of F. Whatever works best. Here's an illustration of the concept:



Sharp Key Signatures

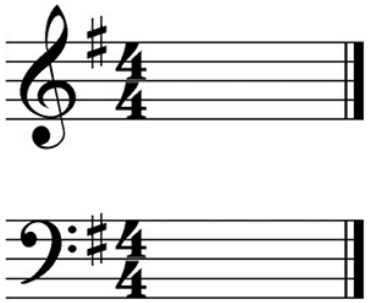
I hope you've already got the toughest part learned, the order of sharps. It's the order of flats backwards, or: F C G D A E B. If you want, make a mnemonic device for the order of sharps, or simply reverse the order of flats.

In the following key signature using all the sharps, notice the order and the placement of the sharps. Here are key signatures in bass and treble clef with all seven sharps.

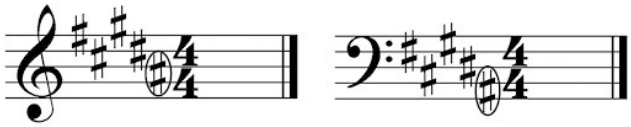


Find the Name of a Sharp Key

Finding the name of a key with sharps in it is less involved than finding a flat key. That very last sharp in a sharp key signature is the one responsible for making the half step from the seventh to the eighth degree of the major scale. Simply go up half a step from that last sharp and you have the name of the key. Here's the keys of G. A half step up from the last sharp in the key signature, an F sharp, is G.



A key with more sharps is below.



THE LAST SHARP IS A♯ AND A HALF STEP UP FROM THAT IS B, SO THIS IS THE KEY SIGNATURE FOR B MAJOR.

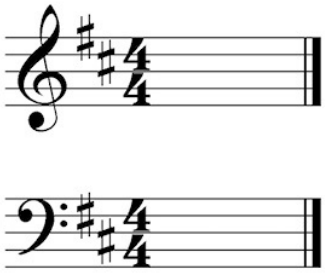
Construct a Sharp Key

If you reverse the process, you can construct a sharp key. Again, three easy steps.

1. Take the name of the key you want and go to the sharp note a half step below the key note. For example, if you want to find the key of D, go down a half step to C#.

2. Find out where that note is in the order of sharps. In our example, C# is the second sharp (F ***C*** G D A E B), so there are two sharps in the key of D.

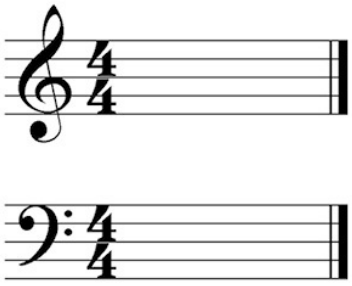
3. Put the sharps in the correct order on the right line or space and you've got it. Your results should like this:



The Key of C

This is the only key signature you have to memorize. Because there are no sharps or flats with this key, there is no quick way to figure out what the key signature is. But if you know the C major scale, you know that there are no sharps or flats in the scale. It's the white keys of the piano.

Here's the key of C in treble and bass clef. It doesn't get any easier than this:

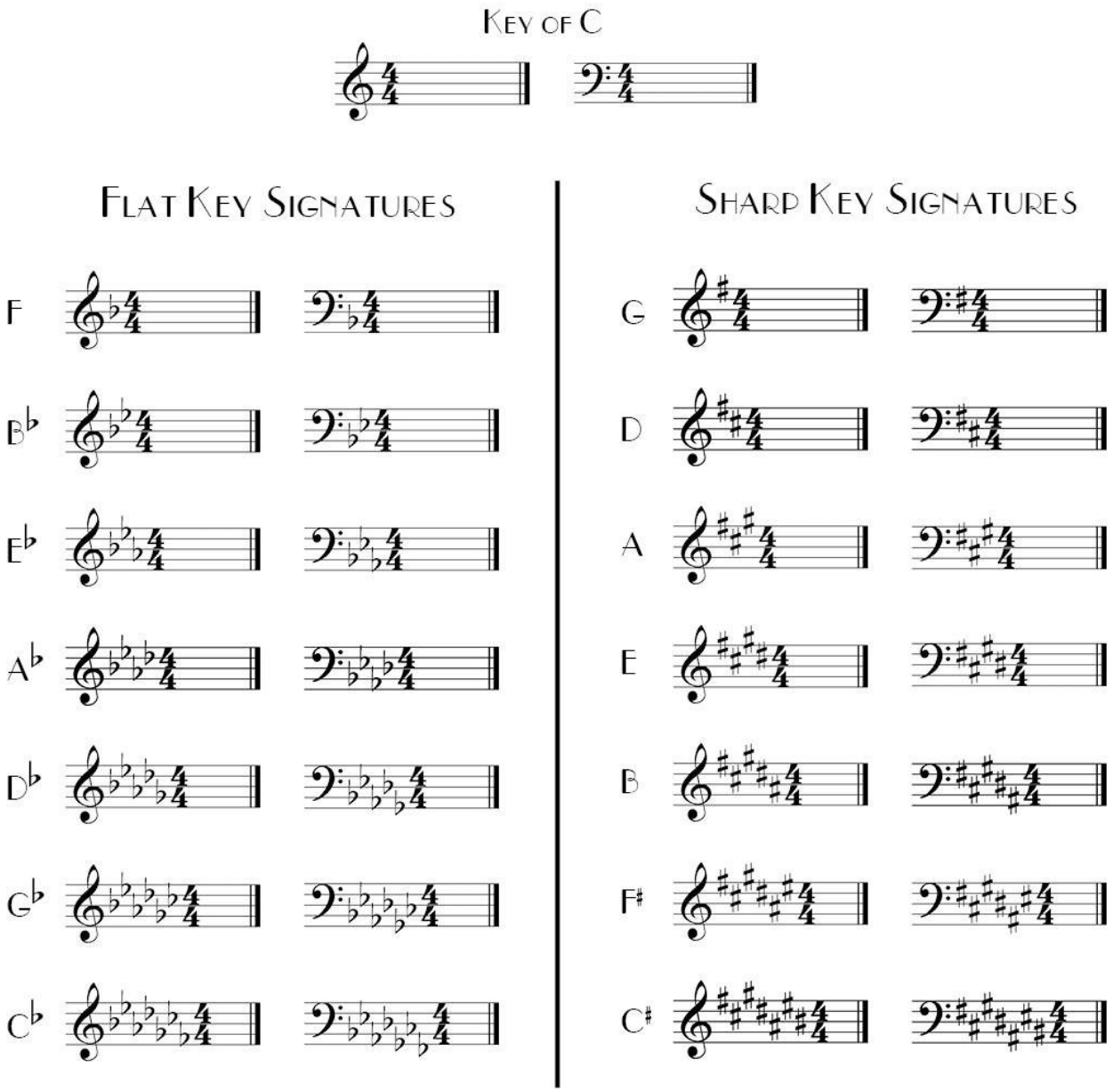


Major v. Minor

In Western music, there are two basic kinds of tonality, major and minor. Because much of music theory is based on the major tonality, it's the one you're learning first. All intervals, and many other relationships are explained based on

the major tonality. There are some really cool relationships between the major and minor tonalities, but for now, don't worry about minor key signatures. We'll get to minor scales and key signatures in the next section, Chapter 25.

The Keys to the Kingdom: All Major Key Signatures



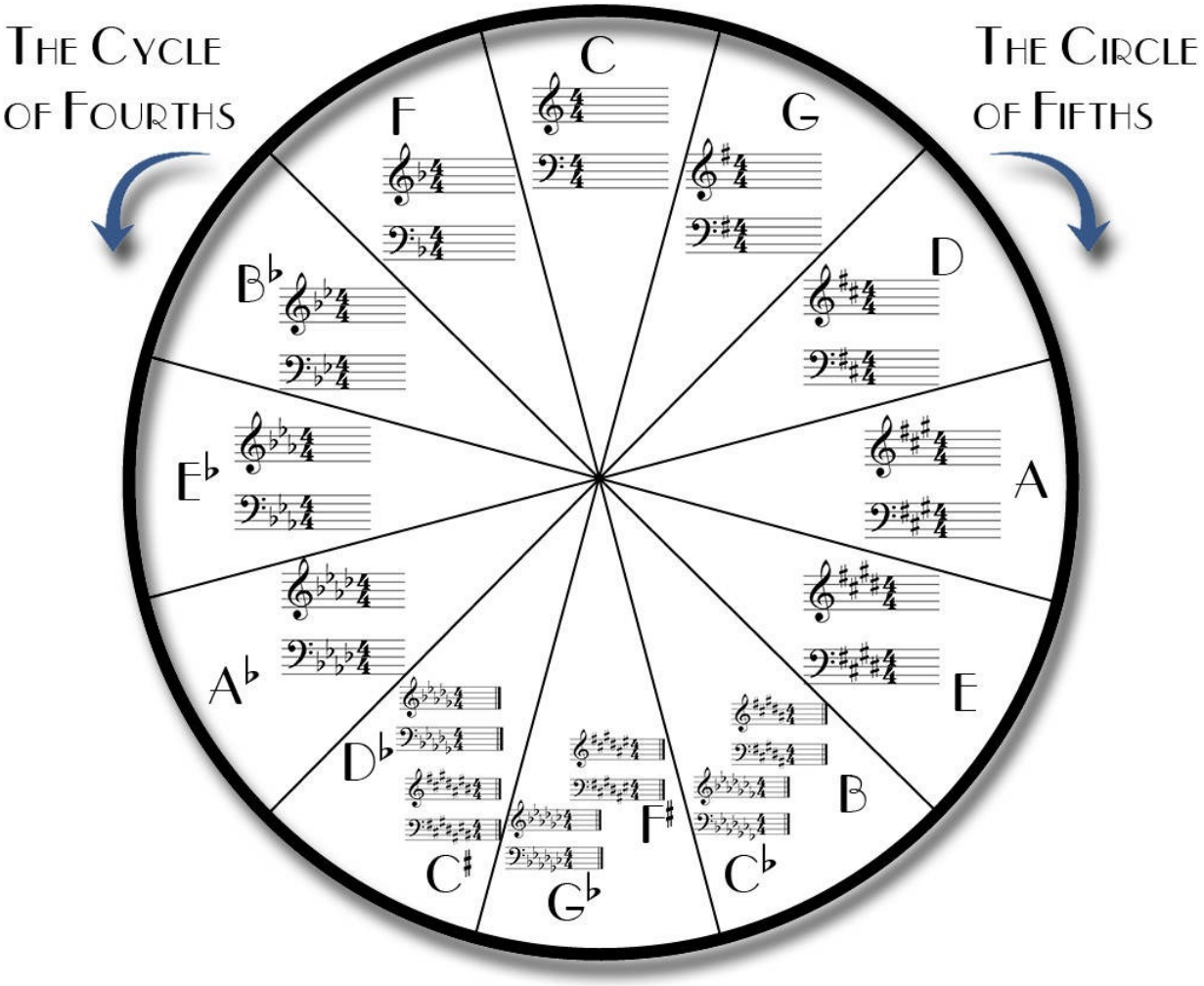
The Circle of Fifths (a.k.a. Cycle of Fourths)

The graphic tool on the following page is known by some different names. You may see “cycle” or “circle” and it may be called Cycle/Circle of Fourths, or Cycle/Circle of Fifths. It’s a device to help you understand key signatures, how they relate to each other, how they’re used in chord progressions, among other things. If you look at the diagram, you’ll notice that going clockwise around the circle, each key has one more sharp than the key before it and the notes are all the same distance apart (an interval called a fifth, that you’ll soon learn. And going counter-clockwise, each key has one more flat than the key before it and the notes are a fourth apart. You’ll learn about intervals in general and fourths in particular in the next Section of the book.

The Cycle of Fourths is used counterclockwise because it follows common chord progressions, many of which move in fourths. For instance, one chord progression is called the ii-V-I progression. In the key of C Major, that would be D-, G7, C. Look at the circle below, start at D and go counterclockwise. Same order, right? For more on chord progressions, see “What is a Chord Progression?” on page 238. This is really an ingenious device. We’ll be spending more time with it when we cover minor keys.

Enharmonic Key Signatures

Just as there are notes that sound the same but have different names, there are 3 key signatures that sound the same but are written quite differently. They’re key signatures in which every note has its enharmonic equivalent in the related enharmonic key. Choose a pair and sit down at a piano to sound them out and you’ll understand this concept more clearly.



Moving On

The concept of key signatures can be difficult to understand, but I hope you've got it. If not, spend some more time with this chapter until you do. Key signatures are important and extremely useful.

After the review for this chapter is the review for the entire section. This has been an important section, and most of what follows builds on what you've learned in this section, so be sure you understand all of it before moving on.

After the section review, you get to take a break from music theory with another Interlude. In this one you get to learn a little bit about conducting.

Chapter 22 Study Guide

1. How are key signatures and the major scale related?

A key signature gives the correct whole and half steps for a major scale of the same name.

2. What is the order of flats?

BEADGCF

3. How do you find the name of a flat key?

The second -to-the-last flat in the key signature is the name of the key

4. Which key has only one flat in it?

F

5. What is the name of that lonely flat in the key of F?

B*b*

6. Which major key signature has four flats?

A*b* Major

7. How many flats in the key of Eb Major, and what are they?

3: B*b*,E*b*, A*b*

8. How many flats are in the key of C Major?

none

9. Which major key signature has seven flats?

C*b* Major

10. What is the order of sharps?

FCGDAEB

11. How do you find the name of a sharp key?

Go up ½ step from the last sharp in the key signature

12. How many sharps in the key of D and what are they?

2: F#, C#

13. What is the name of the key signature with 4 sharps?

E Major

14. How many sharps in the key of C?

none

15. Where do you find key signatures (be specific)?

At the beginning of a
piece of music, between the
clef and the time signature Practical Use Exercises

1. On a low line/space of a blank bass or treble clef staff, write an F. Now put a note on each line and space above the F until you reach the F an octave above (you should end up with 8 notes). Now, just after the clef, put in the key signature for F# Major. Look at the sharp key examples for help with this if you must. Play and sing the F# Major scale you just made (have a fingering chart for your instrument handy).

2. Create a 4-measure melody in the key of Ab. Choose your own clef and meter. Play and sing what you've written. Change it if you don't like it. Do the same in two more keys of your choice.

3. Write out each of the major key signatures with their major scale.

4. From now on, whenever you see a piece of music, look at it and identify its key signature.

CHAPTER 23

THE GUITAR FINGERBOARD

Information is not knowledge.
Knowledge is not wisdom.
Wisdom is not truth. Truth is not beauty.
Beauty is not love. Love is not music.
Music is the best.

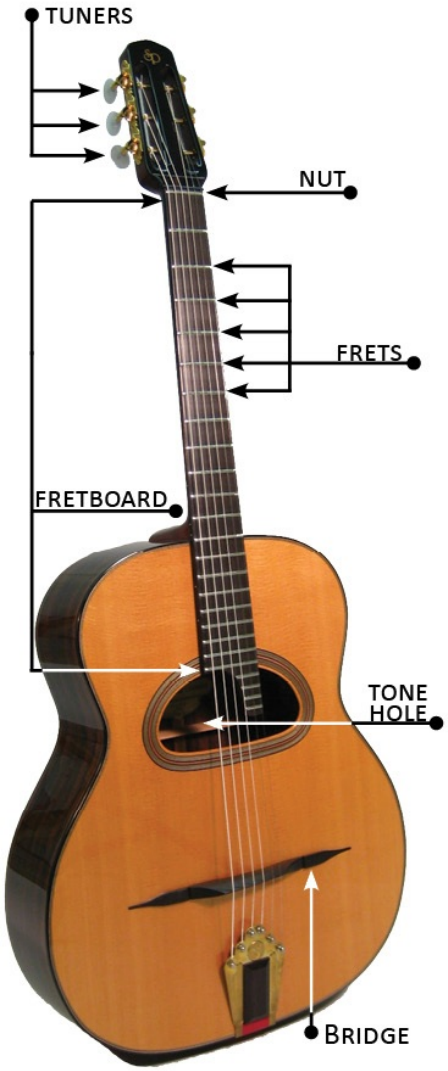
FRANK ZAPPA

BASIC GUITAR DETAILS

This chapter is *not* intended to teach you how to play guitar. There are tons of great books and teachers out there for that. But there are so many people who have guitars, and play them, it's more likely that you'll own a guitar than a keyboard, and it's important to explore these concepts on guitar to help understand and assimilate them. So, what you *will* get from this chapter is information about how the guitar works, how its notes and chords are written out, and a few other important details.

Parts of the Guitar

Most of these parts of the guitar we won't cover in much detail. What you'll be learning is the fretboard, the frets and the notes on guitar as they're written down. But just for kicks, and to give you a visual, enjoy the beautiful Gypy jazz D-hole guitar made by luthier Shelley Park.



Luthier Shelley Park's
Elan D-Hole Guitar
http://www.parkguitars.com

The 6 strings of the guitar are suspended over the fingerboard and frets between the *nut* and the *bridge*. The nut is the piece of plastic (perhaps originally it was

made out of nut) closest to the tuning mechanisms known as—you guessed it—*tuners*. The nut holds the strings just off the fretboard of the guitar.

On the face of the guitar, towards the fat end, is the *bridge*, a slim bridge-like piece, just past the sound hole on an acoustic guitar, or the pickups on an electric guitar. The bridge holds the strings up off the top of the guitar and its placement is partly responsible for the intonation and tone quality. All guitars have these parts.

The fretboard is where half of your work will take place. It's where you change the pitch of the instrument with the fingers of your left hand (or your right if you're playing a left-handed guitar). The other half of your work takes place with the right hand which either strums or picks the strings.

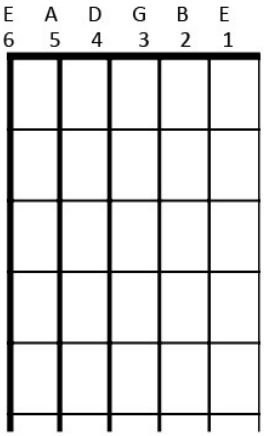
Perpendicular to the fretboard are the frets of the guitar, thin strips of metal you'll use when you change notes or play chords. In order to get a good sound, your finger tips should press the string down just behind the frets. Behind the fret means closer to the tuners than the bridge.

Guitar isn't nearly as intuitive as the piano keyboard, so spend some time on the concepts in this chapter (and the whole book) using your guitar if you want to really understand it. Instead of *one* series of chromatic notes, like you have with piano, the guitar has 6 series of chromatic notes, one for each string.

Guitar is a unique instrument and despite the fact it's more challenging to comprehend than piano, there are compensations. If you were to learn all 12 major scales on a wind instrument or piano, you'd have to memorize 12 separate patterns. That's a lot of memorizing. With guitar, to memorize those same 12 scales, all you need is one pattern. Start the exact same pattern on a different fret of the guitar and you've got the same scale (chords, melodies, etc.), but in a different key signature. More on this wonderful attribute in a little bit.

The Strings of the Guitar

Guitar has six strings. The thickest and lowest in pitch is the sixth string. The thinnest and highest in pitch is the 1st string. I'm sure you can figure out the ones in between. In addition to a number, each string also has a letter name that corresponds to the note the string is tuned to. From lowest to highest, the letter names are E, A, D, G, B, E. Here's a graphic to show you the string names. Notice that the 6^{th} string is fatter than the 1^{st}.

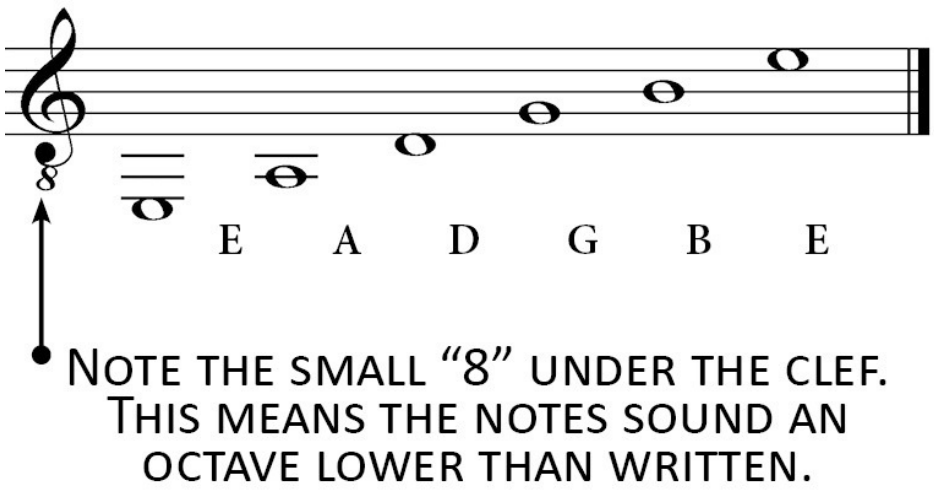


WHEN PLAYING GUITAR, THE FATTEST STRINGS ARE CLOSEST TO YOUR FACE.

With one exception (the 2nd string), guitar strings are tuned in intervals called fourths. You'll learn more about intervals in the next Part. You don't need to know about intervals to tune a guitar, you just need a tuner that will show you the note names, or a piano on which you can play the notes you need and tune the strings by ear. Let's go through the strings.

When you hold the guitar, the fattest strings, the lowest-sounding ones, should be on top, closest to your face. Remember way back in the beginning when I said things in music are always counted from the bottom up? Guitar strings are numbered from the floor up, so the sixth string is closest to you. Check out the name and number for each guitar string on the right.

Below are the guitar's open strings as written. An open string means the string isn't fretted with a finger and is vibrating along its entire length, from nut to bridge. Play each open string on a guitar and memorize where it's written and how it sounds.



Half Steps and the Guitar

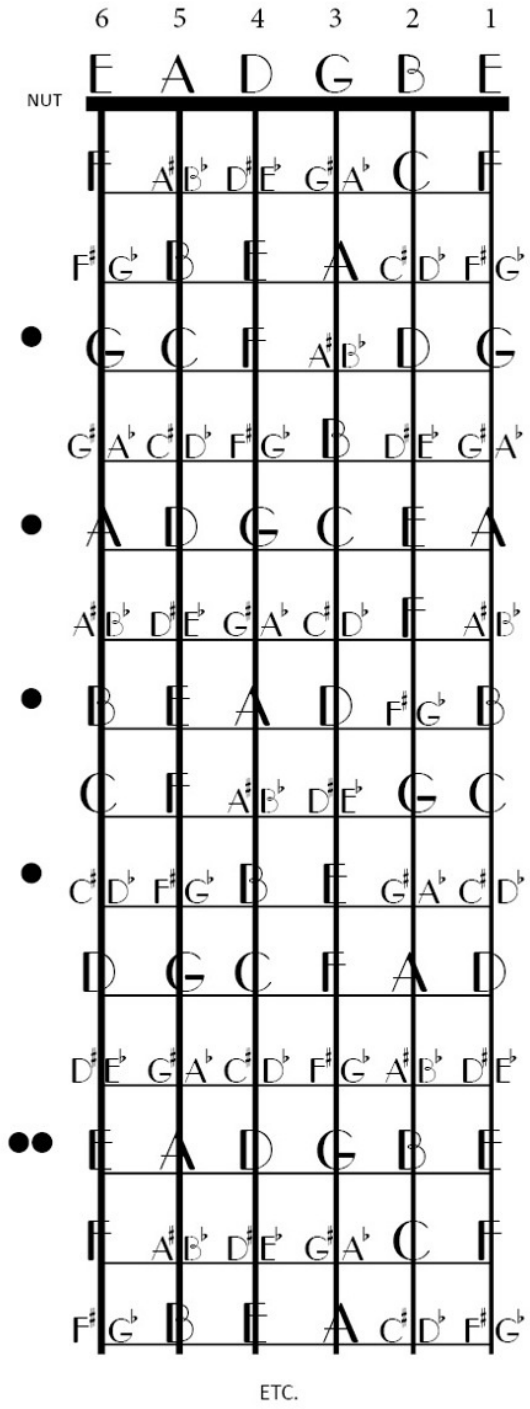
Remember half steps, the smallest interval we have in Western music? Two adjacent keys on the piano, right? Well on guitar, the half step can be heard on adjacent frets on the same string. As you shorten the string, the pitch goes higher. For example, on the first string, a note on the 5th fret is a half step lower than the note on the 6th fret. If you own a guitar, play each fret all the way up each string. This is the sound of consecutive half steps.

If you've memorized the order of notes (notes are sharp ascending and flat descending), and especially the natural half steps (E to F, and B to C), you'll have no trouble finding note names on guitar.

All Notes on Guitar

Below are all the notes on each string of the guitar up to the 14th fret. Do you remember that there are twelve half steps in an octave? There are. That's why the note at the 12th fret of each string is the same letter name as the open string. Twelve half steps is an octave.

Notice the dots to the left of the fretboard. Two dots at the octave on the 12th fret. Most guitars have these dots marked both on the surface of the fretboard, and also along the outside edge of the fretboard where you can see them from above. They're a a visual aid to help you see the patterns. Memorize the names of the fret at each of the dots on all strings.



What is the note at the 5th fret on the low E string? You should've come up with "A," which also happens to be the pitch of the open fifth string. What is the note at the 5th fret on the A string? It's D, right? Same note as the fourth string. And the 5th fret on the D string is what? Did you get G, the same note as the third string? Remember the interval from the G string to the B string is a third, so we

have to move from the 5th fret. On the G string, push the string down behind the 4th fret and you'll get G, the same pitch as the second string. And finally, back to the 5th fret of the B string will give you an E, the same pitch as the 1st string. I hope you understood all that. Throwing all those numbers around can be confusing. Sit with your guitar and play all that I just wrote. It will become much more clear if you can play and hear what I'm talking about.

You can use this sequence of notes to tune the guitar to itself. Play the fretted note and match the pitch of the open string to the fretted note by tightening the string with the tuner to raise the pitch or loosening the string to lower the pitch.

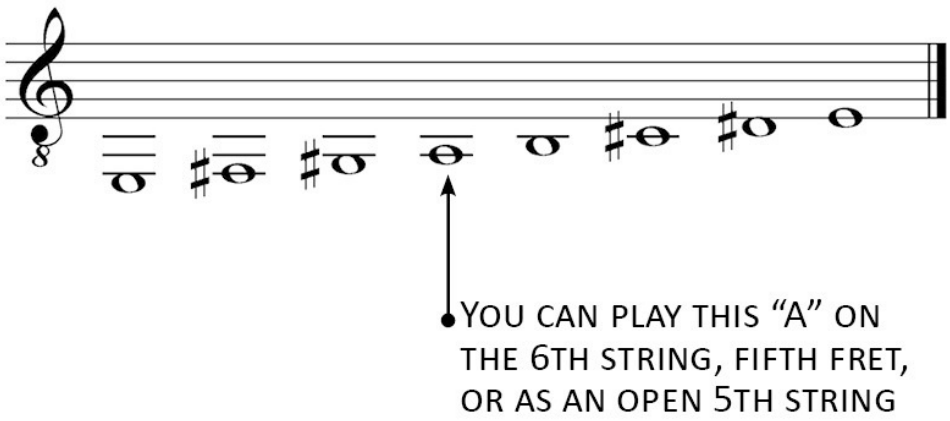
Scales on Guitar

Once you know the notes on guitar, scales will be relatively easy to figure out. Of course, you have to remember the pattern of whole and half steps for the scale you want, but you memorized that long ago, right? We're going to use the major scale, so if you need a review, see "The Major Scale" on page 137.

At first you'll do the entire scale on one string. This will be a little awkward but it will be easier to see where the half and whole steps fall. We'll take the E major scale and play it on the sixth string. You could also play the same scale on the 1st string, which is also E, but stick with the sixth string for now because we'll soon be using the fifth and fourth strings also.

The pattern for the major scale is wwhwwwh (w=whole, h=half). So, starting on E, our scale has these notes: E, F#, G#, A, B, C#, D#, E. Play all these notes on the sixth string. Once you've done that, we'll play the scale without moving your hand so far up the neck. Go play your scale on the 6th string before you continue.

Take a look at the notes of the scale and find out which note of the scale is the first one you can play on the fifth string. It's A, right? So, after you play E, F#, and G# on the sixth string, then you'd play the next note of the scale, the A, as an open fifth string. Stay on the fifth string and play the B and C#. The next note, the D#, can be played on the fourth string, 1st fret, and the E at the top of the scale can also be played on the fourth string, 2nd fret. Viola, your scale is done and you haven't moved out of first position.

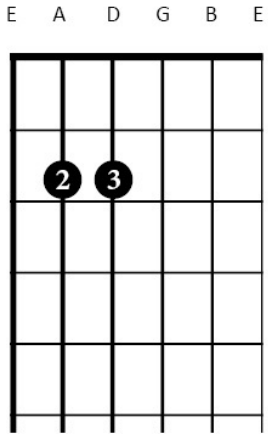


We won’t go into all the scales and scale patterns on guitar here, that’s best left up to you and your guitar teacher. Let’s move on to chords.

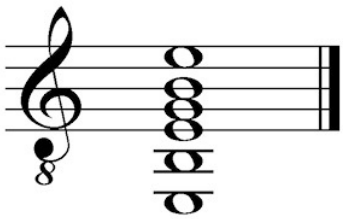
Chords on Guitar

It’s possible to play six-note chords on guitar and there are many chords that do use all six strings. Remember a chord is three or more notes, so you could use only half the guitar’s strings and still get a chord.

We’ll start with the e minor chord, which is easy to finger and sounds cool because it uses all six strings. Below is a chord diagram representing the guitar fretboard. Dots indicate where your fingers are placed. Index finger is 1, middle finger 2, ring finger 3, and pinky is 4.



Below you’ll see this e minor chord written out. There are six notes, one for each string. As a little test, find the notes in the guitar chord that are doubled (or tripled).



If you want to learn more chords, there are many chord charts out there and I'd bet the farm you can find a bunch online, too. Happy searching.

Moving On

Okay, after the Chapter review is a review for all of Part Four. Once you've got that information stored in your little gray cells, we'll move on to concepts like intervals (measuring the distance between notes), minor scales, modes (another type of scale), blues scales, and many other types of scales.

Chapter 23 Study Guide

1. How many strings on the guitar?

6

2. What are the string names from lowest pitch to highest?

E A D G B E

3. What number string is the fattest?

6th, E string

4. What number open string is highest in pitch?

1st, high E string

5. What is the definition of a half step on the guitar?

the distance from one fret to another, on the same string Practical Use Exercises

1. Practice writing out the guitar clef. It's called an *octave clef* or a *vocal tenor clef* (because it's used for tenor voice). Draw a little bitty 8 underneath the clef. This tells you it sounds an octave lower. Bonus: draw an 8 above the clef and the notes on the staff sound an octave *higher*.

2. Write out a proper clef, then write the notes for the open strings on guitar. Then fill the staff with notes on, above, and below the staff. Write in the note names, and then find them on your guitar. Most can be found on more than one string.

3. Play some chords. It doesn't matter if you don't know any fingerings. Try some until you find a sound you like, then write out the notes in that chord.

Part Four Review

Study the past if you would divine the future.

CONFUCIUS

WHEW! YOU MADE IT THESE PAGES CAN BE USED TO TEST YOUR MEMORY ON WHAT YOU'VE LEARNED IN PART FOUR, AND IF SOME OF THE INFORMATION HASN'T STUCK, YOU SHOULD GO BACK AND CHECK IT OUT.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. What does an accidental do?

page 126

Alters the pitch of a note by a half step.

2. What are the names of the accidentals?

page 126

Flat, sharp, natural

3. Where are accidentals written?

page 126

In front of the note and on the same line or space as the note

4. What does a flat do to a note?

page 127

Lowers the pitch by one half step

5. Draw five flats.

page 127

♭♭♭♭♭

6. Draw five sharps.

page 127

♯♯♯♯♯

7. What does a sharp do to a note?

page 127

Raises the pitch by one half step

8. Draw five naturals.

page 128

♮♮♮♮♮

9. What does a natural do?

page 128

Cancels a sharp or a flat

10. How many notes are accidentals be used with?

page 128

All of them

11. How long does the effect of an accidental last?

page 128

for an entire measure

12. Can an accidental have an effect across a bar line?

page 128

No, unless it's tied.

13. What is the definition of a half step?

page 128

The difference in pitch between
two adjacent keys on a piano keyboard

14. What is an enharmonic note?
Give a couple examples.

page 134

A pitch with two different names,
like C# and D♭, or F# and G♭

15. What is a whole step?

page 134

An interval containing two half steps

16. Between which notes do the natural half steps occur?
page 134

B-C, E-F

17. Which accidentals are used when going up a chromatic scale?
page 134

sharps

18. Which accidentals are used when coming down a chromatic scale?
page 134

flats

19. What is an octave?
page 138

The distance from one letter name to the next letter of the same name. 12 half steps/6 whole steps

20. What is the series of whole and half steps for the major scale?
page 137

wwhwwwh

21. What is the symbol for a whole step?
page 138

22. What is the symbol for a half step?
page 138

23. Between which degrees of the major scale do the half steps occur?
page 138

3-4, 7-8

24. Use your keyboard to figure out the following scales:
A Major, Ab Major, D Major, and Db Major.
page 139

Did you actually do this?

25. How are key signatures and the major scale related?
page 143

A key signature gives the correct whole and half steps for a major scale of the same name.

26. What is the order of flats?
page 144

BEADGCF

27. How do you find the name of a flat key?
page 145

The second -to-the-last flat in the key signature is the name of the key.

28. Which key has only one flat in it?

page 146

F

29. Which flat is it that appears in that key signature?

page 146

B♭

30. Which key has four flats?

page 145

A♭

31. How many flats in the key of Eb, and what are they?

page 145

Three: B♭,E♭,A♭

32. How many flats are in the key of C?

page 148

none

33. What key signature has seven flats?

page 145

C♭

34. What is the order of sharps?

page 147

FCGDAEB

35. How do you find the name of a sharp key?

page 147

The key name is up one half step from the last sharp in the key signature

36. How many sharps are in the key of D and what are they?

page 147

Two: F#, C#

37. What is the name of the key signature with 4 sharps in it?

page 147

E Major

38. In a piece of music, where will you find the key signature (be specific)?

page 143

At the beginning of a piece of

music, between the clef and the time signature

39. What are the letter names of the guitar strings?

page 157

EADGBE

40. What is the letter name of string number 4? Number 2? Number 5?

page 157

D, B, A

41. To get a good tone from a guitar, where do you place your finger on the fretboard?

page 157

Push down right behind the fret (behind=towards the tuners)

42. What are the note names at the dots on the 6th string? (start at the third fret and go up)

page 158

G A B C# E (2 dots)

43. How many strings on the guitar?

page 157

6

44. What number string is the fattest?

page 157

Low E, or 6th string

45. What number open string is highest in pitch?

page 157

High E, or 1st string

46. What is the definition of a half step on the guitar?

page 158

The distance between adjacent frets on the same string.

Moving On

This was a super-important section, and it's crucial that you've understood everything, because in the next section, you'll use these concepts to understand things like minor scales, intervals, modes, the blues scale, and a ton of other scales, too. Onward!

Part Five

Interval Training

In This Section You Learn

All Musical Intervals

Minor Intervals & Scales

Modes of the Major Scale

Diminished & Augmented Intervals & Scales

Natural Minor Scales vs. Harmonic Minor Scales

Pentatonic Scales, Blues Scales, Bebop Scales, and Others

Conducting

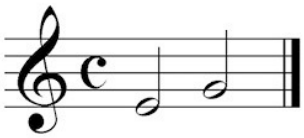
CHAPTER 24

INTERVALS

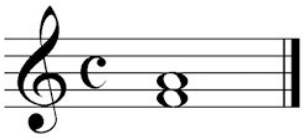
My idea is that there is music in the air,
music all around us; the world is full of it,
and you simply take as much as you require.

SIR EDWARD ELGAR

INTERVALS BY THE NUMBER ***AN INTERVAL IS THE DISTANCE BETWEEN TWO PITCHES.*** THERE ARE TWO BASIC TYPES OF INTERVALS: HARMONIC AND MELODIC. A HARMONIC INTERVAL IS WHEN TWO TONES SOUND SIMULTANEOUSLY. A MELODIC INTERVAL IS WHEN TWO NOTES ARE SOUNDED ONE AFTER THE OTHER.



MELODIC INTERVAL



HARMONIC INTERVAL

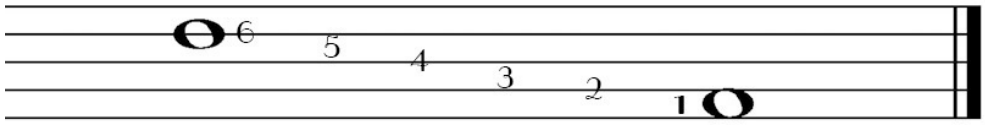
There are two components to each kind of interval: its number, and its quality. We'll cover each in turn. Numbers first.

An interval's number is usually from 1 to 13. It's possible to have a number greater than 13, but it's so rare that we'll forget about it.

When measuring the interval between two notes (both harmonic and melodic), do it from the lower note to the higher (you'll learn the reason for this in a moment).

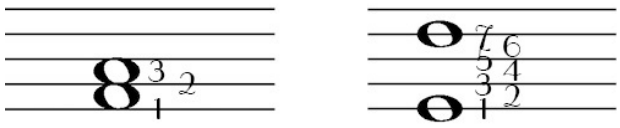
A Simple Way to Find an Interval's Number

To find the number of an interval, simply count every line and space from the lower note to the higher note. Be sure to count the line/space of the bottom note as "1." This is the most common mistake beginners make when figuring out an interval. If you don't count the bottom note as 1, you'll end up with the wrong interval.



Above is the melodic interval of a sixth. Notice how the count starts with the lower note even though it may come after the higher one. Though the count is the same whether you count from the upper or lower note, intervals are usually measured from the lower note. The reason for measuring this way is on the next page.

Counting the harmonic interval is the same process, you're just counting vertically up from the lower note. Below are intervals of a third and a seventh.



Interval Quality In addition to having a number, each interval will also have a quality that describes how the interval sounds. These qualities are named *perfect*, *major*, *minor*, *diminished*, or *augmented*. We'll start with perfect and major intervals, because those are the intervals from which we'll derive the others.

In order to understand these qualities, we've got to take a look at the major scale again. We'll use the key of C Major because it's the least complicated, but these principles can (and should!) be applied to all key signatures.

Perfect Intervals

The symbol for a perfect interval is "P." The Perfect intervals are: Unison (the same note, also called *prime*), perfect fourths, perfect fifths, and perfect octaves (eighths). When talking about these intervals, you rarely hear anyone say "perfect." Usually you just say the number (as in, "That's a fourth,") and it's assumed to be perfect. Find all of the perfect intervals in the C major scale below.

They're called *perfect* intervals because the tones blend so well together. In the case of the prime and the octaves, they blend so well it's difficult to tell there are two notes. Another reason they're called perfect intervals is that the ratios of their frequencies are simple whole numbers. We won't delve into the physics of sound here, but the qualities of these intervals were first observed and praised in China and subsequently explored and documented in the West by Pythagoras. For more information on this subject, and for a great way to begin to practice connecting what you hear to written music, get *Hearing and Writting Music* by Ron Gorow. On the Web at http://is.gd/tavaso. Here are the perfect intervals:

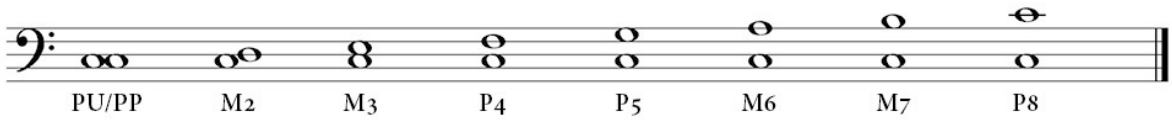
Perfect Intervals	Meaning

PU/PP	perfect unison/ perfect prime
P4	perfect fourth
P5	perfect fifth
P8	perfect octave

MAJOR INTERVALS All other intervals in a major scale are called major intervals. That leaves us with Major seconds, thirds, sixths, and sevenths. The letter used for a major interval is a *capital* "M." Identify all of the Major and Perfect intervals in the key of C major below. You're going to use them to find other intervals like minor, diminished and augmented.

MAJOR INTERVALS	MEANING
M2	major second
M3	major third
M6	major sixth
M7	major seventh

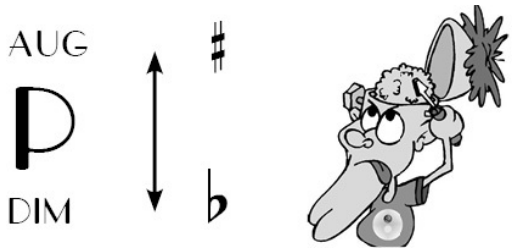
It takes two notes to have an interval, so in the following example I've put a C below each note to give us harmonic intervals up the major scale. Any of these intervals spread out one after the other would be a melodic interval.



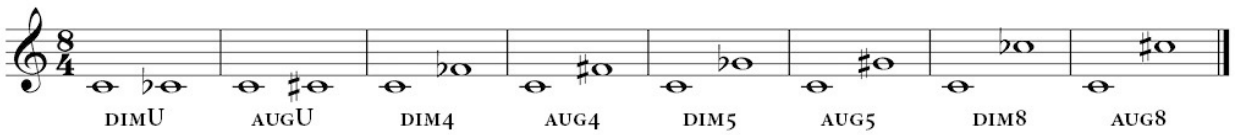
ALTERING PERFECT INTERVALS A PERFECT INTERVAL CAN BE RAISED OR LOWERED, AND THIS CHANGES THE *QUALITY* OF THE INTERVAL (PERFECT), BUT NOT ITS NUMBER (UNISON, 4, 5, OR 8).

A perfect interval lowered a half step becomes a diminished interval.

A perfect interval raised a half step becomes an augmented interval.



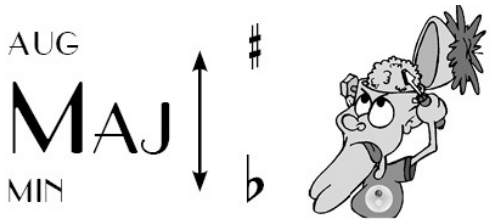
Above is a little diagram to help remember this. The aug is above the P because an augmented interval is higher than a Perfect interval. The dim is below the P because a diminished interval is lower than a Perfect interval. Also, the abbreviation for diminished is *dim*, so if you dim the lights, you lower the level, right? Same thing. Sort of. Here are all of the altered Perfect intervals from the key of C Major. Play and sing these to start getting them into your head. It's better to hear them and know them than look at them and know them. Both is best.



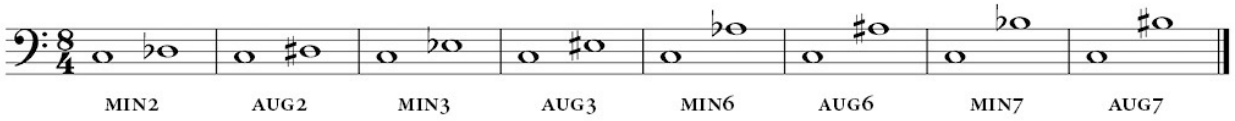
Altering Major Intervals Major intervals can also be altered by raising or lowering them.

A Major interval lowered a half step becomes a minor interval.

A Major interval raised a half step becomes an augmented interval.



Here's another little diagram. Just like before, the aug is above because it's higher than the Major, and the min is below because it's a lower than the Major. Here are examples of the altered Major intervals from C (in bass clef this time).

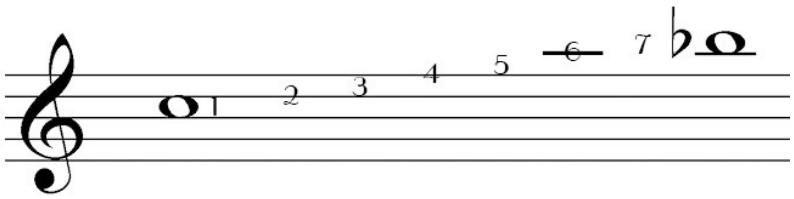


Finding an Interval In a few easy steps you can find an interval. It's easiest with the key of C so we'll stick with that for examples, but you should be able to find an interval from any note to any other note.

1. Count the lines and spaces up from the lower of the two notes. **Be sure to count the lowest note as 1.**

2. Determine if the number of the interval is Major or Perfect. (M = 2, 3, 6, 7; P = U, 4, 5, 8).

3. Determine if the interval is lowered or raised from what it would be in the Major scale. Use the Major scale that starts on the lower of the two notes.



So for the example above, a C and a Bb, with C being the lower of the two notes. For the first step, we count the lines and spaces to get the number of the interval, in this case, we get 7.

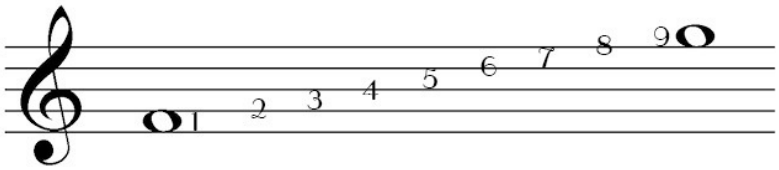
For step 2, we need to know if a 7th is a Perfect or Major interval. It's a Major interval if unaltered. But this one *is* altered, so....

For step 3 we determine that the 7th has been lowered a half step, which would make it a minor 7th.

You may begin to see why working in the key of C (no sharps and flats) is much simpler than other keys. What would a minor seventh be if you started on an F#? One of the greatest songwriters in U.S. history was Russian-born Irving Berlin who wrote all his songs in the key of C using just the white notes on the piano, with some black ones for flavor when necessary. And by the way, a minor seventh above an F# is E.

Intervals Greater than an Octave

So far we've only used intervals up to the number 8 (an octave). Intervals greater than an octave are called *compound intervals*. The process of naming them is the same. Simply count up from the lower of the two notes. There will be more information and study of compound intervals in Chapter 29. The example below shows the interval of a Major ninth.



Finding Intervals in Keys Other than C

The best way to find intervals in other keys is to have all the Major scales memorized. There are only 12 of them, so it shouldn't take too long. Because I'm originally a trumpet player, I still figure out intervals by running up the major scales with trumpet fingerings. It's sort of like counting on your fingers. Very handy.

Another way is to memorize how many whole and half steps are in each interval. This takes a lot of brain space, but it's possible. On the next page is a table with the number of whole and/or half steps for each interval.

Interval	½ steps	Whole Steps
dim U	**-1**	-.5
PU	**0**	**0**
augU	**1**	**.5**
min2	**1**	**.5**
M2	**2**	**1**
aug2	**3**	

1.5	
MIN3	3

1.5		
M3	4	2
AUG	3	5

2.5		
DIM4	4	2
P4	5	

2.5		
AUG4	6	3
DIM5	6	3
P5	7	

3.5		
AUG5	8	4
MIN6	8	4
M6	9	

4.5		
AUG6	10	5
MIN7	10	5
M7	11	

5.5		
AUG	7	12	6
DIM	8	11	

5.5		
P8	12	6
AUG	8	13

6.5 *ETC.*

A Brief Note on Ear Training Knowing these intervals intellectually is valuable, but knowing them by hearing them is priceless. If you've ever struggled with learning a song by ear, you'll appreciate knowing intervals by the way they sound.

The trick is to sing and play and really *hear* each interval until you can sing and/or play any interval from any note. There are many ways to do this. One way is to pick an interval a week and sing/play that interval from every note you can sing/play until you've memorized the difference in pitch.

Do this everywhere you won't be looked at strangely (or if you don't mind looking strange, do it everywhere): in the car, in the shower, hum them under your breath at a boring lecture or meeting, use your imagination. Knowing these intervals by ear is a valuable skill for any musician of any level. If you can hear an interval correctly, writing it out is a cinch.

You can use a song to do this, too. Some people like *Over the Rainbow*, from *The Wizard of Oz*. A funny and useful one describes the intervals in the music, set to Mel Torme's *The Christmas Song*. You know, *Chestnuts roasting on an open fire*.... That one. You can find it at http://is.gd/jutisu

Moving On It may take some time living with these intervals before they really

stick in your head. Keep at it until you've got them. Knowing your intervals will be necessary when we get to building chords, which is coming up in a few chapters. Coming up in the next chapter are minor scales.

Chapter 24 Study Guide

1. What is the definition of an interval?

The distance between two pitches

2. What is a harmonic interval?

The distance between two pitches sounded at the same time

3. What is a melodic interval?

The distance between two pitches sounded one after the other

4. How do you find the number of an interval?

Count each line and space up from the lower of the two notes

5. What will always be the number of the lower note?

1

6. What are the qualities of intervals?

Perfect, Major, minor, diminished, augmented

7. What does a Perfect interval become when lowered a half step?

diminished (dim)

8. What does a Perfect interval become when raised a half step?

augmented (aug)

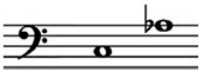
9. What does a Major interval become when raised a half step?

augmented (aug)

10. What does a Major interval become when lowered a half step?

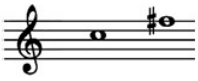
minor (min)

11. What is this interval?



min 6

12. What is this interval?



aug 4

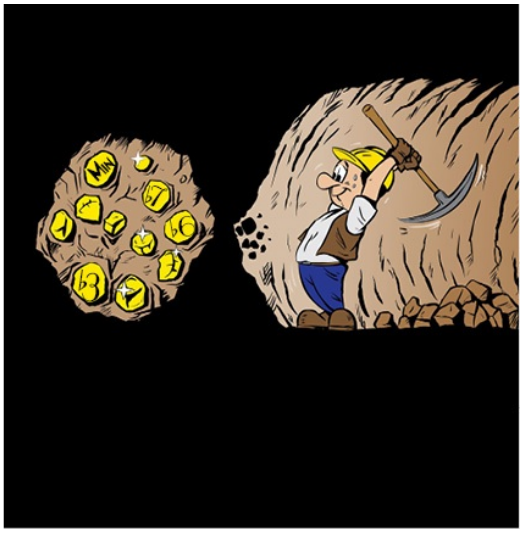
Practical Use Exercises

1. Print some staff paper (free PDF at http://is.gd/guhuga). Draw a whole note C on the treble clef (any octave is fine). Draw another note a fifth above the C. What is the name of the note a fifth above C? Sing or play the interval of a fifth until you can do it from any pitch (this may take some time...keep at it).

2. On the first three lines and two spaces of the treble staff, draw whole notes on E, F, G, and A. Next you'll make a harmonic interval (one note directly over another) above each note you've already written. Write in the note an octave above the E, F, G, and the A. What are the names of these notes an octave above? Now, in between the note and the octave, write in a fifth. Play and sing these intervals.

3. On a piece of music you're working on, identify at least two intervals. Sing and play the interval out of the context of the piece. When you play the piece from now on, try to be aware of the sound of the intervals you've chosen. When you can identify them by their sound, pick a couple more and repeat the process.

CHAPTER 25



Minor Scales & Keys

A painter paints pictures on canvas, but a musician paints pictures on silence.

General Minor Scale Info

If you hear music that evokes a feeling of sadness or melancholy, you can bet it's in a minor key. This change in emotion is brought about in part by lowering a few degrees of the major scale by a half step.

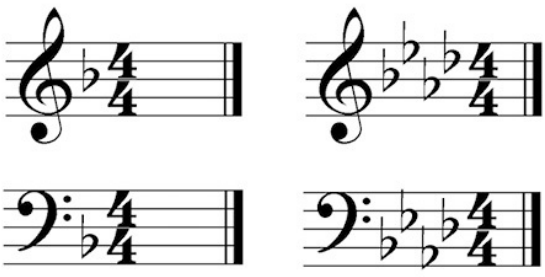
There are three types of minor scale: natural minor, harmonic minor, and melodic minor. Just like the Major scale, each minor scale has a different scheme of whole and half steps.

The good news is that you don't have to memorize those schemes, because if you've memorized the Major scale information, you can use that knowledge to create the minor scales.

The Natural Minor Scale

It's easy to get a key signature for a natural minor scale: simply add three flats to the key signature of a Major scale.

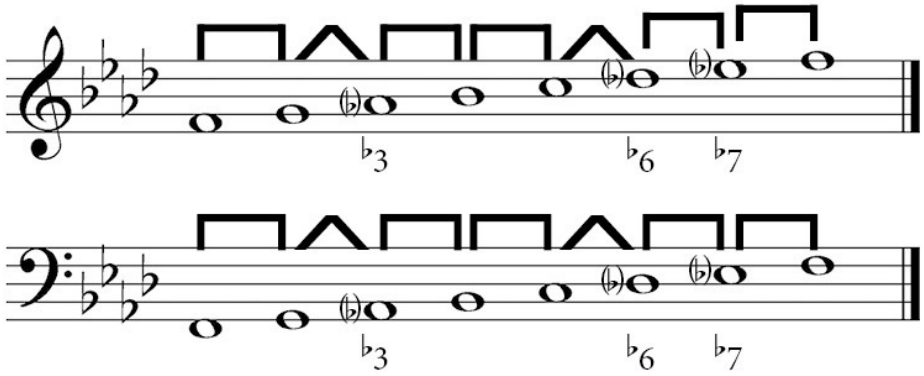
Which three flats? Well, it depends on the major scale. You add the next three flats in the key signature. For example, the key of F Major has one flat, a BB. If we wanted to get f minor, we'd add the next three flats in the order of flats, which are EB, AB, and DB. Here are the key signatures of F Major and f minor.



F MAJOR f minor

I hope you're scratching your head, saying, "But wait a minute, the f minor key signature is also the key signature of AB Major, isn't it?" Yes it is. I'll address the similarity of the key signatures in a minute.

For now, we'll be starting on F, so the key signature of f minor will give us a specific series of whole and half steps from F to F. In the following example, you see that adding the next three flats in the key signature lowers the third, sixth, and seventh degrees of the major scale by a half step. The key signature takes care of the flat notes, but I've put small flats in parentheses in front of the three altered notes to illustrate that they've been lowered by the key signature.

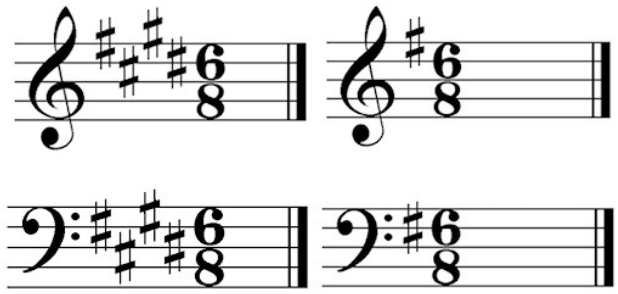


In this example, you can see the series of whole and half steps for any natural minor scale: whole, half, whole, whole, half, whole, whole (whwwhww). Notice there are still two half steps in the scale, but they have shifted position from where they are in the major scale. This new pattern of whole and half steps gives the minor scale its distinctive melancholy sound.

What About Sharp Keys?

The process for making a minor key is the same for sharp keys: add three flats. What's different is that the 3 flats will cancel out 3 of the sharps. When you take the sharps away from the key signature, take them off the *end* of the key signature (far right).

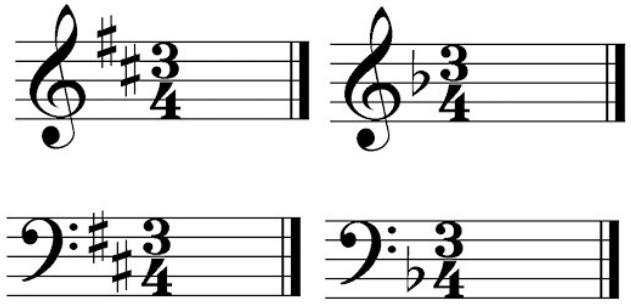
For example, if we take the key of E with 4 sharps and add 3 flats, those three flats cancel out the last three sharps in the key signature, leaving us with one sharp, which is the key of e minor. Here are the key signatures of E Major and e minor.



E MAJOR e minor

You'll notice that the key of e minor is the same as the key of G Major, but what is different is the starting note, which will of course be E. I'm not going to write it out but I guarantee that if you checked the whole and half step pattern from e to e with one sharp, it'll also be whwwhww.

If you have a sharp key with only one or two sharps (keys of G and D Major), adding three flats will cancel out the existing sharps and you'll be left with two or one flat, respectively (keys of g and d minor). Here's an example using D Major and d minor.



D MAJOR d minor

Minor or Major Key Signature? How to Tell

You might be wondering why a key signature can be either Major or minor (as in the examples above: e minor is the same key signature as G Major; d minor is the same key signature as F Major). There is a fairly easy way to tell. Your first signal should be how it sounds. If you actually *hear* the music, you can tell by the way it sounds: simply speaking, sad is minor, happy is Major. Then look at the beginning and ending notes, especially the ending one of the melody. It is

almost always the tonic, or the note that gives the key its name. For example, in a song with one sharp, if it's in G Major, the last note (and likely the first note, too) will be G. In fact, the whole piece will gravitate around G, generally. If the piece is in e minor, the last note (and likely the first note, too) will be e, and the piece will hover around e, generally.

The key signatures are the same because the notes are exactly the same! The difference comes from which notes and chords are emphasized, and where the scale is started. Confused? Don't be. I'll explain it next.

Parallel and Relative Minor Scales

At some point you'll probably hear *parallel* and *relative* in reference to minor scales. These terms aren't indicating separate scales but are different ways of describing the same kind of minor scale. Here's what I mean:

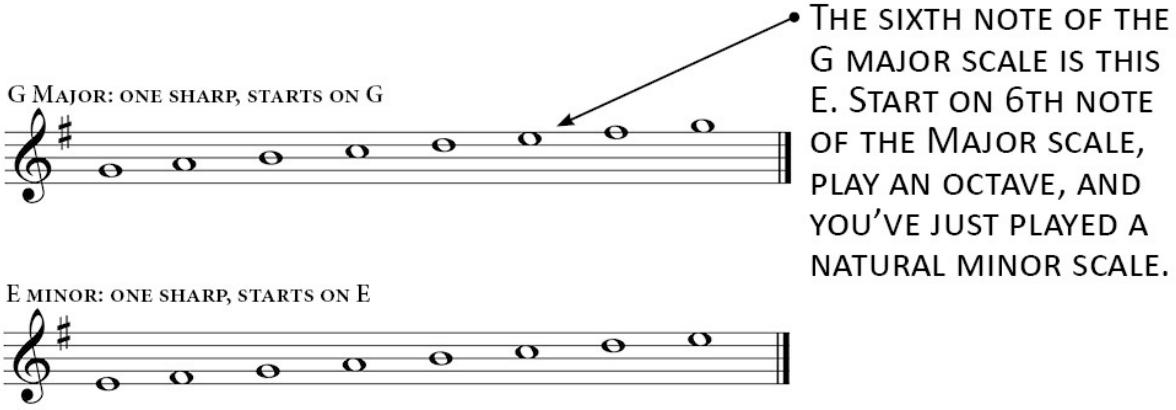
Parallel Minor

Find the parallel minor by doing what you've just learned—adding 3 flats to the Major key. This method is called *parallel* because it begins on the same note as the Major scale equivalent. So the parallel minor of G major is g minor. The parallel minor of D major is d minor. Simple! Add 3 flats and you've got a parallel minor scale.

Relative Minor

I pointed out above that a minor key signature can also be a major key signature, but what makes it minor is the starting note.

Take a look at the example above showing the key signatures for E Major and e minor. The key of e minor has only one sharp, right? This is also the key signature for G Major, isn't it? These two keys are related (hence the term "relative minor"). The key signatures are *exactly* the same, but the difference is the starting note and the tonality around which the piece is built. Here's the example of G Major and its relative minor, e minor. Below is how to find a relative minor scale. It's a handy piece of information, especially if you're improvising, because the scales complement each other. They're related, after all.



Find the 6th note of the G Major scale and don't forget to count G as "one." I'll wait while you figure it out ....

It's E, isn't it? Play or sing a scale with the key of G (one sharp), but play it from E to E and you've got the E natural minor scale. If you take any major scale and play from the sixth note up an octave to the next sixth note, you'll have played the relative minor scale of the major key.

So e minor is the relative minor of G Major; A minor is the relative minor of C Major; G minor is the relative minor of BB Major; B minor is the relative minor of D Major; and so on. This is a *supremely* handy piece of information when you're improvising or trying to learn a tune by ear. Play each of the examples here, and a few in other keys too, so you can hear and *feel* the difference.

The cool thing about this is that when learning to play natural minor scales, you don't really have to memorize a whole new set of scales, simply start on the sixth degree of the Major scale, play the notes of that major scale from the 6th degree to the 6th an octave higher, and you've got a natural minor scale.

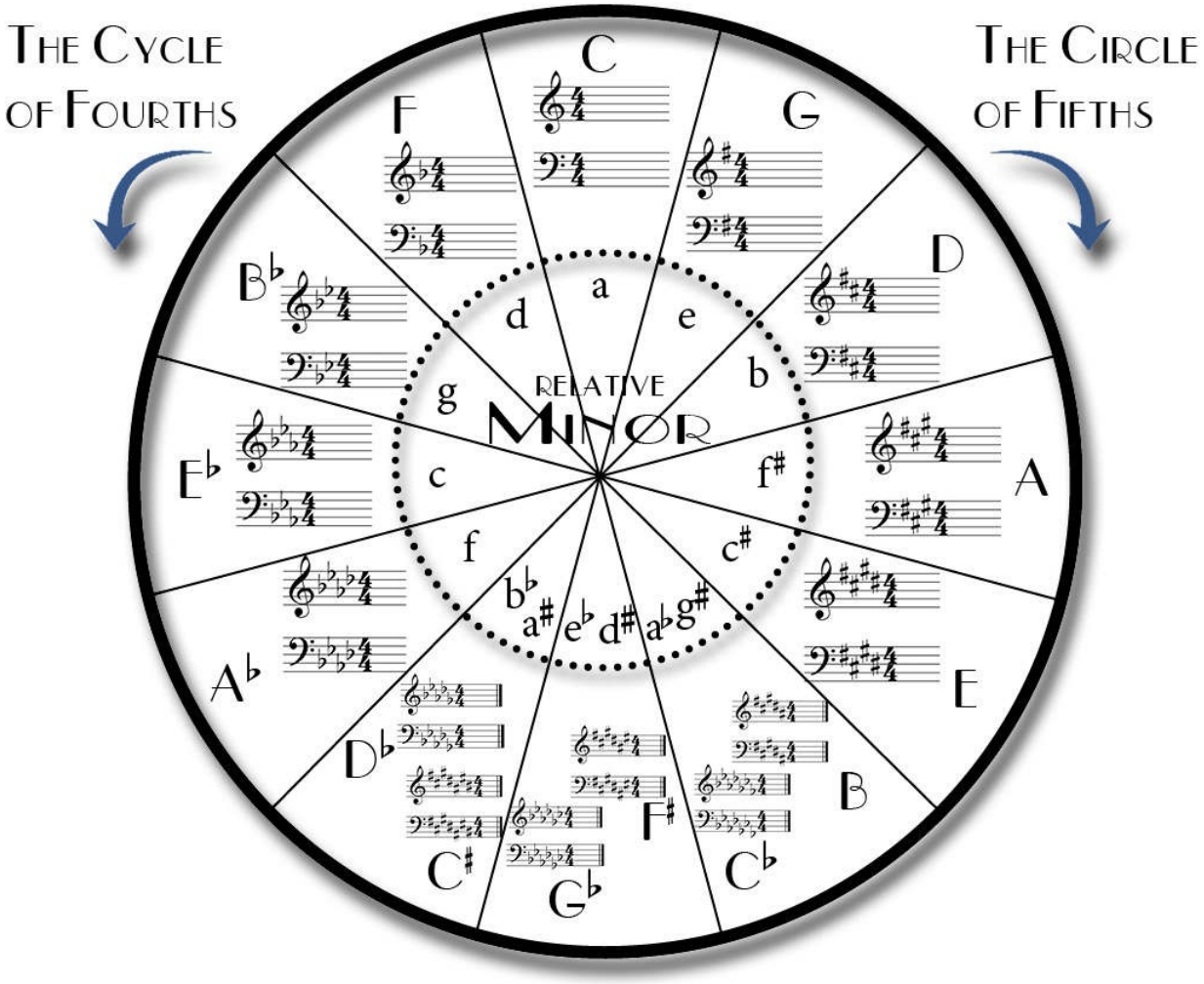
Remember the Circle of Fifths (a.k.a. the Circle/Cycle of Fourths)? The relative minor key signatures are usually shown on it, too. Here it is in its full glory.

Coming Full Circle: Minor Keys on the Circle of Fifths

The Cycle of Fourths (aka: Circle of Fifths) usually shows the minor keys, too. Below you can see the names of the relative minor keys around the inner circle. Movement around the circle in minor keys is similar to Major keys, explained on page 118.

You just learned that Major and relative minor share the same key signatures, so what you're seeing below is the relationship between the Major key and its relative minor key. Cool!

As with the Major keys, the minor keys technically also have enharmonic equivalents, but usually, the key signature with the least accidentals is used for the minor key sound, unless you're a malevolent composer, or you're writing or reading exercises to hone your music-reading skills.



THE HARMONIC MINOR SCALE

The harmonic minor scale is a slightly altered natural minor scale. The seventh degree of the natural minor scale is raised one half step to get the harmonic minor scale. The harmonic minor scale gets its name from how it's used. The harmonic minor scale is used in order to get the harmony correct in chord progressions.

When constructing chords (that is, harmony—two or more notes at once), in order for the chord progressions to sound right to our ears, we need a half step between the 7th and 8th degree of the scale, and that's what the harmonic minor scale does. Don't worry about this fact at the moment.

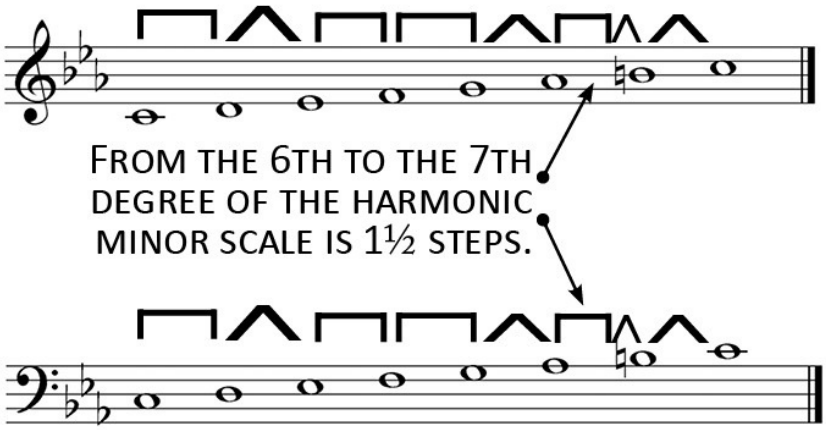
This seventh degree, when it's a half step away from the tonic, is called a

leading tone. It's called a leading tone because it leads our ear to the tonic. Try this: play a major scale and stop on the seventh degree. It feels unresolved, unfinished, and leaves us slightly unsettled. You *really* want that last note, the tonic.

If you remember, in the natural minor scale, there is a whole step between the 7th and 8th degrees of the scale. To change this to a half step, you must raise the 7th degree a half step.

You find the key signature of a harmonic minor scale exactly the same way as a natural minor scale: add three flats to the Major key signature of the starting note, then simply raise the seventh degree one half step. In the example here, I took the C Major key signature (no sharps or flats), added three flats (BB, EB, AB), then wrote out the scale and raised the seventh degree (BB) a half step with a natural sign.

There is no key signature specifically for the harmonic minor scale, so you have to alter the 7th degree in order to get the scale. If you tried to alter the key signature to do this, you'd have to take out the first flat, the Bb. You can't take it out without also taking out the others because the order of flats must always remain the same. The order of flats isn't just a good idea, it's the law.



Notice that between the 6th and 7th degree of this scale we have 1½ steps. This is part of what gives the harmonic minor scale its distinctive sound. Play the scale in the example above. Many people think it sounds "exotic." The scale is

used a lot in Klezmer music. It’s a cool sound.

Moving On

The information in this chapter can be confusing, and many students find it a little challenging to wrap their brain around these concepts, so don't be surprised if you have to go back through it several times before it makes sense. Keep at it.

Coming up in the next chapter are modes, two of which you already know: the Major and minor scale.

Chapter 25 Study Guide

1. Which two minor scales did you learn?

natural minor,
harmonic minor

2. How do you make a natural minor scale?

Add 3 flats to the key signature of a Major scale and use the same starting note (parallel min), or start on the 6th degree of a Major scale (relative min).

3. Which degrees of the major scale are lowered to make the natural minor scale?

3rd, 6th, 7th

4. The key of D Major has 2 sharps (F# and C#).
What is the key of d minor?

One flat (B♭)

5. How do you make a harmonic minor scale?

Raise the 7th degree of the
natural minor scale one half step

6. What is a leading tone?

One half step between the
7th and 8th degree of a scale

7. Do Major scales have leading tones?

yes

8. Which minor scale does not have a leading tone?

natural minor

9. What's the difference between a parallel
minor scale and a relative minor scale?

Parallel minor scales start on the same note as
the major but the key signature has 3 more flats.
Relative minor scales begin on the 6th note of
a Major scale and have the same key signature.

Practical Use Exercises

1. Write out the harmonic minor scale starting on the following notes: C, B, D, and F. Play them and sing them until memorized. Learn all 12 harmonic minor scales (keep at it and be patient, it takes time). There's not much room to write 'em out below, so use blank staves elsewhere in the book.

2. Write out all the key signatures and identify the major and minor for at least three of them. Example: 1 sharp is G Major and e minor. Use the Circle of Fifths if you need help.

CHAPTER 26

Scales a la Mode

Musical innovation is full of danger to the State,
for when modes of music change, the laws of
the State always change with them.

Plato

What is a Mode?

A mode is a type of scale. Modes are used in music like salsa, jazz, country, rock, fusion, speed metal, and more. The reason the Chapter image is of musicians jamming is that modes are important to understanding (and using) jazz theory, and helpful if you're trying to understand improvisation. Certain modes go with certain chords. For more information about modes and their specific uses in jazz, read James Levine's excellent book, *Jazz Theory*. On the Web at http://is.gd/iqufof

These are also called "church modes" because they were first used in the Catholic Church back in Medieval times (remember good old Guido d' Arezzo?). The names of the modes were taken from the Greek modes, but other than the names, they have no relation to the Greek modes.

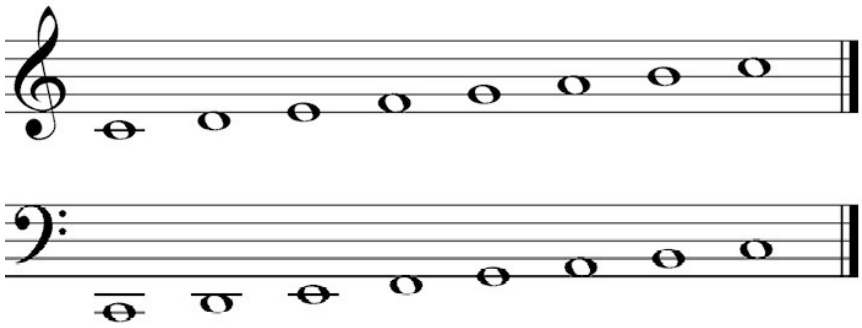
The two modes that have been used the most, and the only two most people know, are now called the Major and natural minor scales. Their original names were the Ionian mode (Major), and the Aeolian mode (natural minor). The other modes are: dorian, phrygian, lydian, mixolydian, and locrian.

Modes are easy to understand. We'll map out each mode's series of whole and half steps and use the key of C so there aren't any sharps or flats to bother with.

The Modes

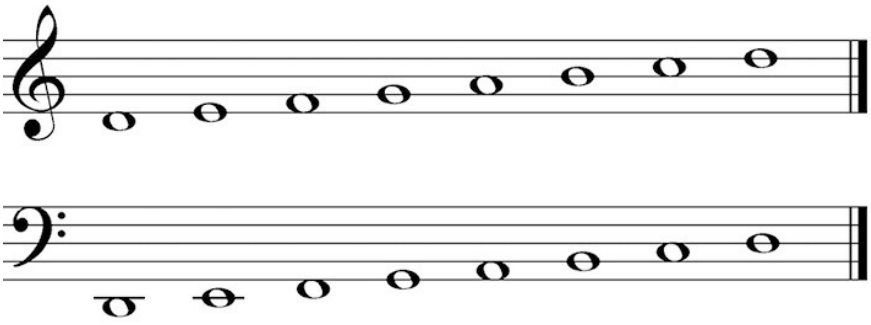
Ionian

Ionian is used in nearly all Western music, from Acid Rock to Zydeco. You already learned it. The Ionian mode is the same as the C Major scale. Use the half/whole pattern you get from the white keys on the piano from C to C: wwhwwwh



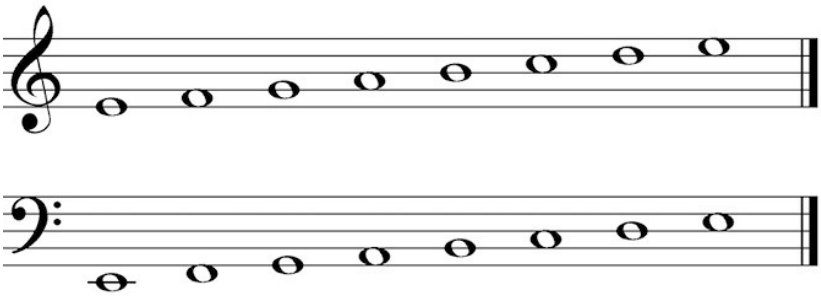
Dorian

We’re still using only the white keys, remember. The Dorian mode begins on D. The pattern of whole and half steps from D to D on the white keys of the piano is whwwwhw. Do you see where the shift occurred? There are 12 Dorian scales, each starting on a different note, just like all other scales, corresponding to the 12 key signatures. The Dorian mode is a minor-sounding scale used in rock, jazz, blues, and fusion.



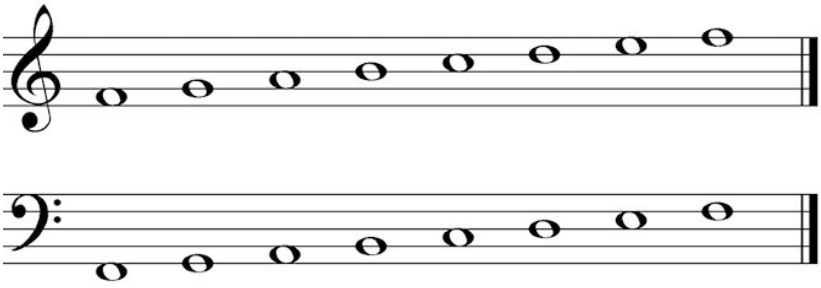
Phrygian You've probably caught on to the pattern by now. Phrygian begins on the third degree of the Major scale and in the key of C is E to E on the white keys of the piano. The whole-half step pattern is HWWWHWW.

This mode has a Spanish flavor and is used in jazz, flamenco music, fusion, and speed metal. Twelve of these, too. In fact, there are 12 of each type of mode because there are 12 different key signatures, and 12 different pitches in an octave.



Lydian Lydian begins on the 4th degree of the Major scale and in the key of C is from F to F on the white keys of the piano. Whole-half step pattern is WWWHWWH.

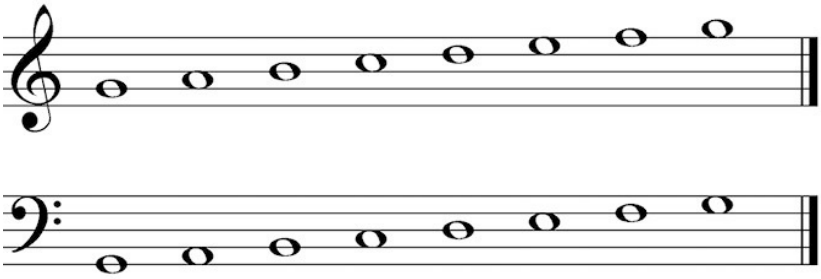
You might see this mode in jazz, fusion, rock, or country music. It’s like a major scale with a raised 4th which gives this scale a floating, open quality.



Mixolydian

Mixolydian begins on the fifth degree of the Major scale, and in the key of C is G to G on the white keys. Whole-half step pattern is wwhwwhw.

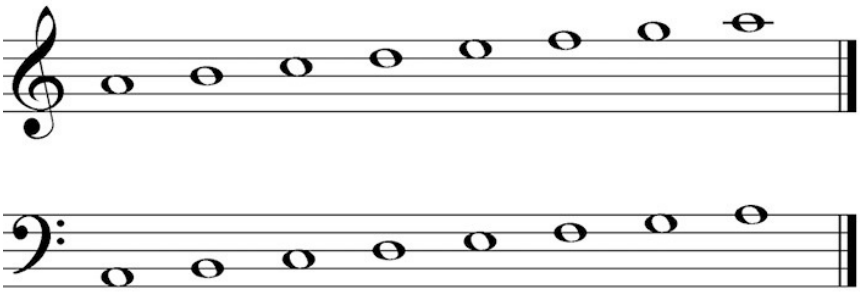
This mode shows up in jazz, rockabilly, country, blues, and rock.



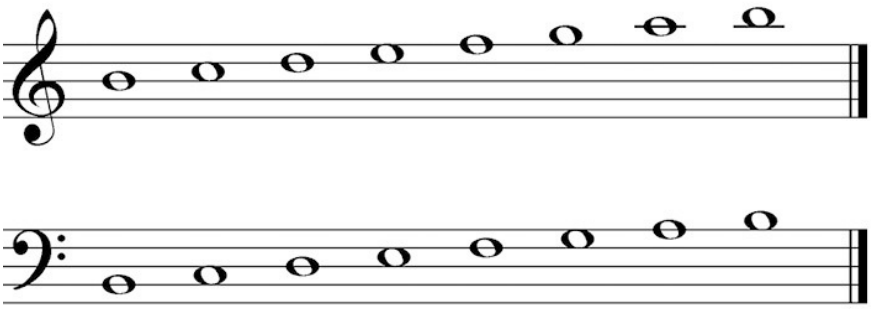
Aeolian

Also known as the natural minor scale, the Aeolian mode begins on the sixth degree of the Major scale. In the key of C it’s from A to A on the white keys. whwwhww.

Aeolian appears in all kinds of music: jazz, pop, country, Rock, blues, heavy metal, classical, and on and on....



Locrian The Locrian mode has a very exotic and other-worldly sound. All because of the placement of those half steps, in this case, hwwhwww. You'll find Locrian in fusion and in jazz. The Locrian mode begins on the seventh degree of the Major scale, and is B to B in the key of C.



Finding Modes in Other Keys There are two ways to find a mode in another key. You can find a mode within a certain key signature, or find a mode starting on a specific note.

Modes in the Key of X

To find a mode in a certain key is easiest; there are just a couple steps.

1. Play the Major scale in the key you'll be using. For an example, let's say you wanted to find the Dorian mode that uses the key of AB. First step is to play the AB Major scale.

2. Depending on what mode you want, start on the appropriate note in the Major scale, and play an octave in the key of the Major scale. For our example, you want the Dorian mode, which begins on the second degree of

the Major scale. So you’d play from BB to BB using the key of AB.

Modes from a Specific Note

To find a mode beginning on a specific note, the process is a little different but still pretty simple. You have a few options, but here's the best. It's the best method, because there is only one step, and finding the mode this way relates closely to the chord that goes with it, something you'll learn in the next section of the book:

For this method to be effective, you have to know what degrees of the major scale are lowered to achieve the mode. Let's try a different mode, perhaps the most common one, the Mixolydian.

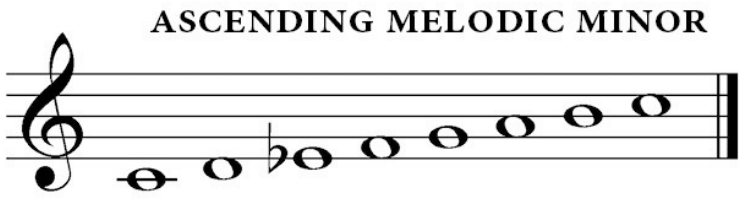
1. Compared to the Major scale, the Mixolydian mode has a lowered seventh. So, if you wanted to play B Mixolydian, you'd use the B Major scale with a lowered seventh. That's it, one step only.

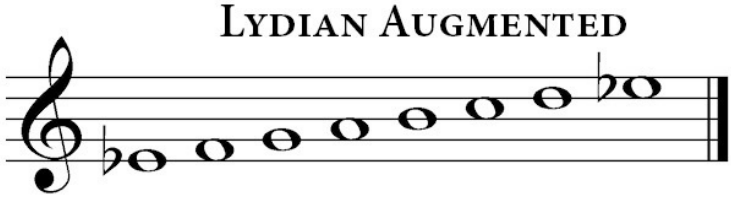
2. But, let's take the next most common mode, Dorian. Compared to the Major scale, the Dorian mode has a lowered third and seventh. Lower those two degrees in the Major scale and you've turned it into a Dorian mode. Easy peasy.

Modes Using Other Scales

The word *mode* is a general term. There are modes built from other scales, too, like the ascending melodic minor scale (a scale we haven't covered). Taking a scale and going through its modes will give you interesting and exotic-sounding patterns of notes to play with.

To the right is the "parent" scale (ascending melodic minor) and its third mode, Lydian Augmented. Both scales are used with more advanced harmonic progressions, that are covered elsewhere, but this will help illustrate the concept of modes. There is always something more to practice!





Moving On

Again, modes aren't particularly necessary to understand music theory in general, but they're crucial to gain a deeper understanding of jazz theory and especially improvisation.

Next we'll move on to blues scales and many others that sound cool and are fun to play.

Chapter 26 Study Guide

1. What are the names of the modes?

   Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian

2. What mode is the same as the major scale?

Ionian

3. Which mode is the same as the natural minor scale?

Aeolian

4. Compared to the Major scale, which notes are lowered for the Dorian mode? Mixolydian?

Dorian: 3rd, 7th; Mixolydian: 7th

5. What key signature would be used for the Dorian mode beginning on an A?

key of G Major
one sharp (F#)

6. What key signature would be used for the Mixolydian mode beginning on F?

key of B*b* Major,
two flats (B*b*, E*b*)

Practical Use Exercises

1. Write out all of the modes in the key of F. Learn them on your instrument/voice. Know where the half steps are in each. Then learn all modes in the key of G, then BB, then D, *etc.* Another way is to learn one mode at a time in every key, for example: D Dorian, EB Dorian, E Dorian, F Dorian, *etc.*

CHAPTER 27

Blues to Bebop & Beyond

Jazz isn't dead, it just smells funny.

General Blues Scale Info

Most people like blues scales. They sound cool, are fun to play and easy to learn. They also come in handy if you're improvising in blues, rock and roll, country, jazz, and many other styles of music.

Just like all the other scales, the blues scale can be made by altering notes of the major scale. These altered notes are called *blue* notes, and their use originated with Africans who were brought to the United States as slaves. A blue note was originally a bending of the pitch with the voice.

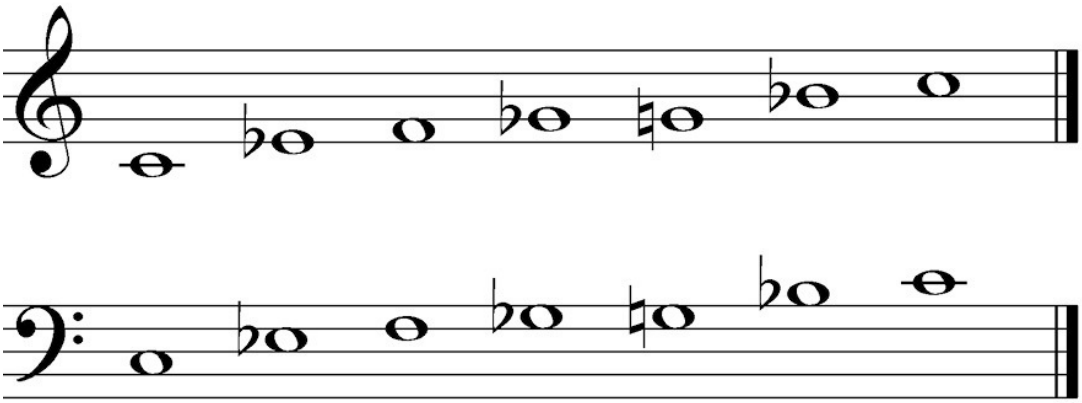
It's thought that the use of "the blues" as a term for feeling down came from a Native American tribe in the south who would cover their bodies with a blue dye when they were in mourning. Slaves in the area saw the practice and coined the term "feeling blue." Maybe it's just a legend, but it's a story I like, despite its tragic nature. If ever there were two populations who have a right to sing the blues, it's those two.

The Blues Scale

Standard Blues Scale

The standard blues scale is also called the minor blues scale. Unlike the scales and modes you've learned so far, the blues scale is what's called a "gapped scale," meaning there's a gap in it. Curious? Read on.

Compared to the Major scale, in the blues scale there is no second note, the third, fifth and seventh degrees are lowered a half step. We still need a perfect fifth in there, so we'll have to slap a natural on the next G to get that pitch. Here's the scale:



Recipe for Any Standard Blues Scale

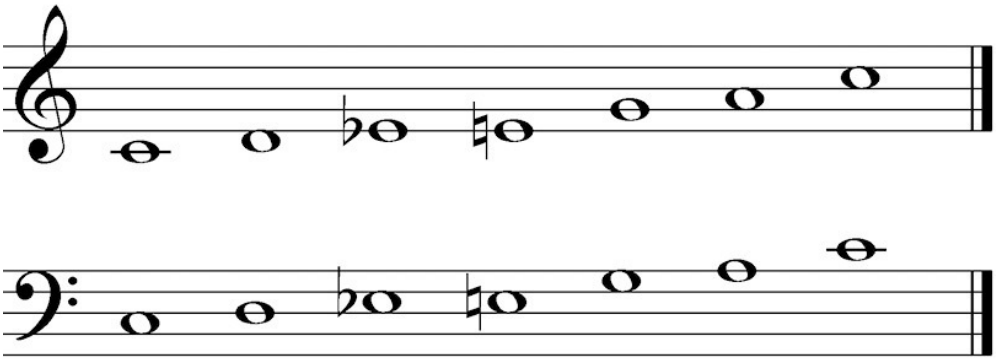
As with most other concepts in music theory, we're going to use the Major scale as a reference for creating any blues scale.

1. Take one Major scale of your choice.
2. Use the tonic of the Major scale as the first note of the blues scale.
3. Lower the third degree of the Major scale a half step to get the second degree of the blues scale.
4. Use the P4 of the Major scale as the 3rd note of the blues scale.
5. Lower the P5 by a half step to get the 4th note of the blues scale.
6. Put the needed accidental in front of the 5th to get a P5 for the 5th note of the blues scale.
7. Lower the seventh degree of the Major scale a half step for the 6th degree of the blues scale.
8. Use the P8 for the seventh note of the blues scale.
9. Turn lightly over and over in your brain and under your fingers until memorized.
10. Repeat from step one with a new scale until all 12 are memorized.

The Major Blues Scale

The Major blues scale is a slight alteration of the standard blues scale. See if you can spot the difference. There is a Major second, a Major third, and a Major sixth, but no perfect fourth, and no minor seventh.

If you were talking to a “jazzer”, and asked her what the Major blues scale was, she’d say, “Tonic, two, flat three, three, five, six, eight,” or something similar. This is a shorthand version of describing each degree of the Major blues scale as it relates to the Major scale. Here’s the Major blues scale:



Other Cool Scales

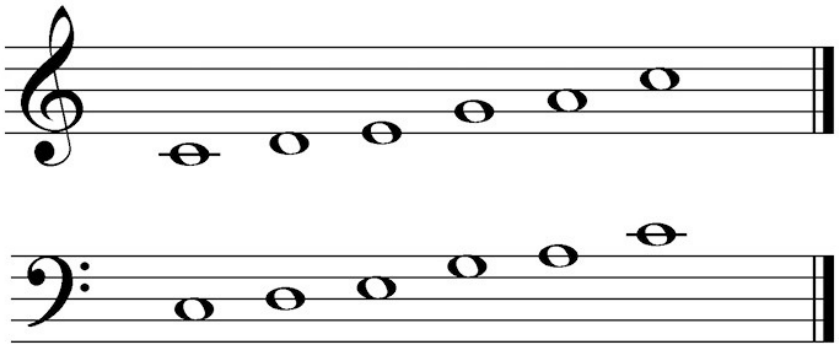
In this little section I’ll show you: bebop scales, pentatonic scales, whole tone scales, and the super-locrian scale. I’ll only give you the version of each scale starting on C, and from there you can figure out the rest.

Pentatonic Scales

The pentatonic scale is used in music from hundreds of cultures. One of the world's most creative musicians, Bobby McFerrin gives a wonderfully playful demonstration of how intuitive this group of notes is. On this book's Web page at: http://is.gd/guhuga.

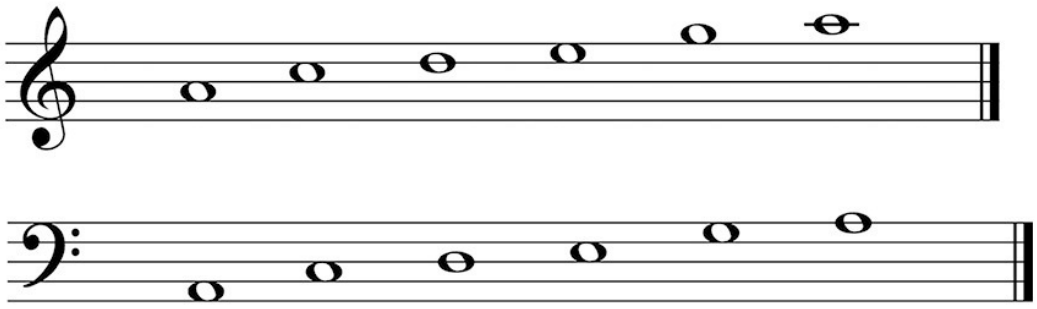
This is another gapped scale, closely related to the blues scale, called the Major pentatonic. Can you spot the gaps in each?

As the name *pentatonic* implies, there are only 5 notes in this scale. You see six notes in the examples here, but the bottom and top notes (tonic) count as one because they have the same name.



Minor Pentatonic

Closely related to the Major pentatonic is the minor pentatonic. Remember relative minor scales on page 182? There are also relative minors in pentatonic-land. Just as with the relative minor, you start on the note a Major sixth above the tonic and use the same notes. The a minor pentatonic is below. Play it. Sing it. Switch between minor and Major.

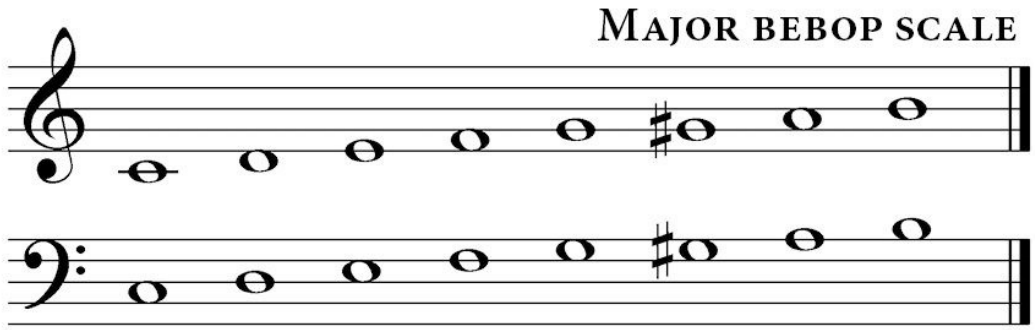


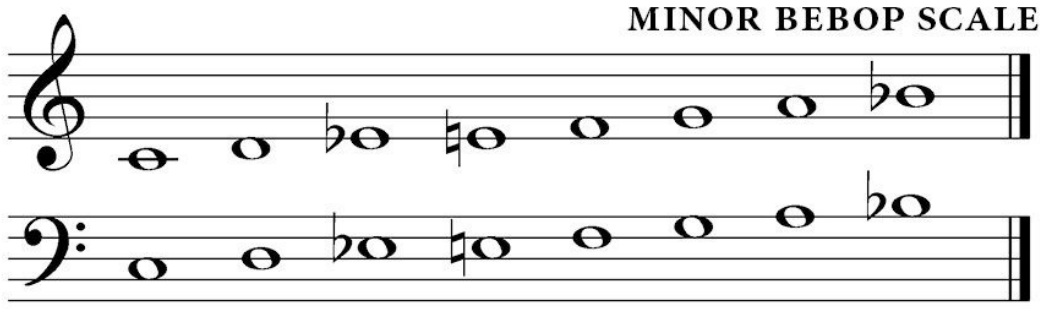
Bebop Scales

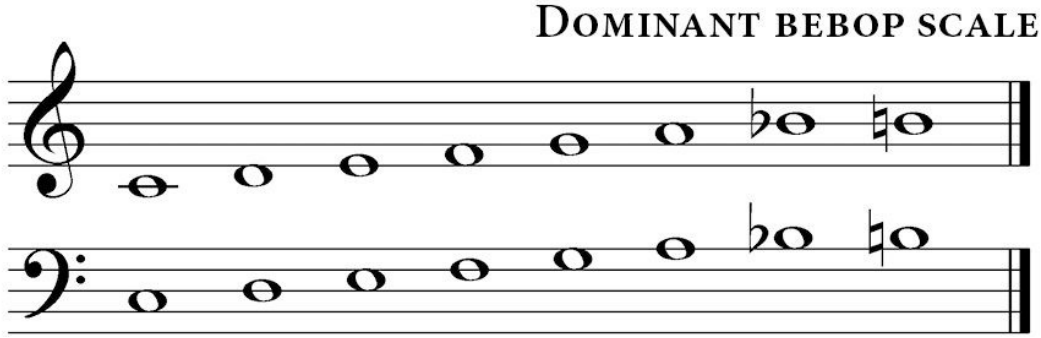
Bebop is a form of jazz begun by Dizzy Gillespie, Charlie Parker, Thelonius Monk, and others. It features blinding speed and virtuosic improvisational solos and altered harmonies. Some great bebop performers include Dizzy and Bird (Charlie Parker), Thelonius Monk, John Coltrane, Clifford Brown, Charles Mingus, Bud Powell, Stan Getz, Sonny Rollins, Sonny Stitt, and many others.

Bebop scales are classified as *octotonic scales* because there are 8 notes in them (notice I have *not* repeated the upper tonic in these examples). The scales were created so chord tones would land on the beat whenthe scale is played at burning speeds over chord changes.

There are three types of bebop scales: Major bebop, minor bebop, and dominant bebop. Here they are in that order.

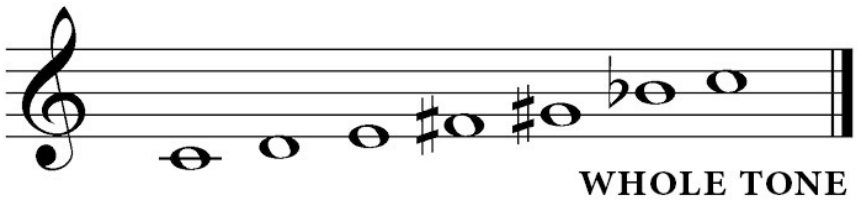




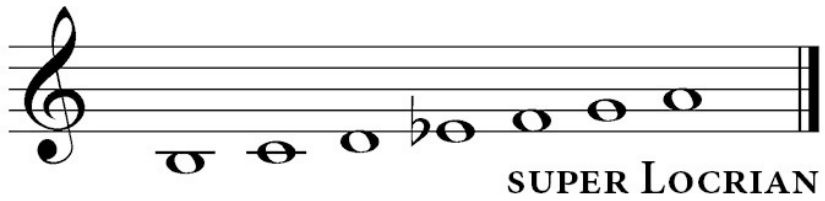


OTHER SCALES: WHOLE-TONE, PERSIAN, INSEN AND SUPER-LOCRIAN!

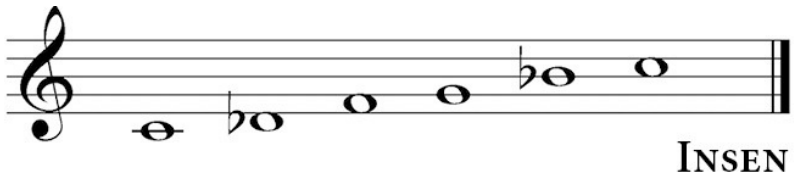
Here are a few scales that don't sound so familiar, like the whole tone scale, consisting entirely of whole steps.

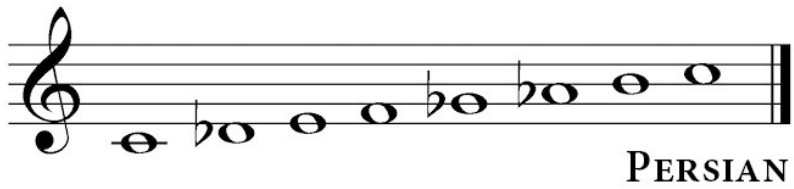


The second scale has several names: diminished whole tone, altered, and my personal favorite, the super Locrian. The super Locrian is actually a mode derived from the ascending melodic minor scale. Can you figure out which scale degree of the melodic minor scale you'd start on to get that pattern? Hint: Locrian in this case is similar to the Locrian of the major scale in its starting note, or the 7th scale degree.



Up next are two more scales, the Insen (or In Sen), a Japanese scale invented to tune the *koto* and found in Shakuhachi flute music; and a scale called the Persian scale, found in Iranian and other Middle Eastern music. The Persian and Hindustani music systems contain notes that our Western system doesn't have. Where we have half steps, some Middle Eastern systems often call for quarter steps. This makes for 24 notes in an octave!





Moving On

Now that you've gotten a taste of several other scales that are out there, you can never say, "But there's nothing to practice." These scales can all be practiced in a gazillion different patterns. Get started now and you'll have that many more under your fingers a year from now. Many more scales than these are out there, too.

Coming up is the chapter review, then the hefty Section review. After that it's on to the next Part, which is all about chords: what they are, how to build them, chord extensions, and basic chord progressions.

Chapter 27 Study Guide

1. What is a blue note?

An altered note (lowered) of the major scale

2. As compared to the major scale, what are the notes of a standard blues scale?

Tonic, flat 3, 4, flat 5, natural 5, flat 7, 8.

3. What is a gapped scale?

A scale with intervals of more than a 2nd between some notes of the scale

4. Name at least three other types of scales. Play one of each starting from the same note.

Super Locrian, In-sen, Persian, Major pentatonic, minor pentatonic, Major bebop, Insen, Persian, Pélog, heptatonic, hexatonic, dodecatonic, googoltonic, etc., *etc.*

Practical Use Exercises

1. Write out the C, F, and G blues scales. Memorize them on your instrument. Sing them. Improvise melodies and sounds with these three scales.

2. Write out, then memorize your pentatonic scales in every key. Or better yet, vice-versa.
Both Major and minor.

Part Five Review

The more we study the
more we discover our ignorance.

PERCY BYSSHE SHELLEY

WHEW! YOU MADE IT THESE PAGES CAN BE USED TO TEST YOUR MEMORY ON WHAT YOU'VE LEARNED IN PART THREE, AND IF SOME OF THE INFORMATION HASN'T STUCK, YOU SHOULD GO BACK AND CHECK IT OUT.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. What is an interval in music?

page 170

The distance between two pitches

2. What is a harmonic interval?

page 170

The distance between two pitches sounded simultaneously

3. What is a melodic interval?

page 170

The distance between two pitches sounded consecutively

4. How do you find the number of an interval?

page 170

Count each line and space up from the lower of the two notes

5. When figuring an interval, what will always be the number of the lower note?

page 170

1

6. What are the qualities of intervals?

page 171

Perfect, Major, minor, diminished

7. What does a Perfect interval become when lowered a half step?

page 172

diminished (dim)

8. What does a Perfect interval become when raised a half step?

page 172

augmented (aug)

9. What does a Major interval become when raised a half step?

page 173

augmented (aug)

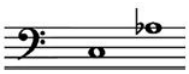
10. What does a Major interval become when lowered a half step?

page 173

minor (min)

11. What is this interval?

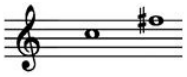
page 174



minor 6th

12. What is this interval?

page 174



augmented 4th

13. What are the three types of minor scale?

page 179

natural, harmonic, melodic

14. How do you make a natural minor scale?

page 179

Add 3 flats to the key signature of
a Major scale and use the same starting note.

15. Which notes of the major scale are lowered to make the natural minor scale?

page 179

3rd, 6th, 7th

16. What is the key signature of B minor?

page 181

two sharps (F#, C#)

17. What is the key signature of Ab minor?

page 181

Seven flats (BB, EB, AB, DB, GB, CB, FB)

18. How do you make a harmonic minor scale?

page 184

Raise the 7th degree of the
natural minor scale a half step.

19. What is a leading tone?

page 184

One half step between the
7th and 8th degree of a scale.

20. Do Major scales have leading tones?

page 184

yes

21. Which minor scale does not have leading tones?

page 184

natural minor scale

22. What's the difference between a parallel minor scale and a relative minor scale?

page 182

Parallel minor scales start on the same note as the major but the key signature has 3 additional flats. Relative minor scales begin on the 6th note of a Major scale and have the same key signature.

23. What are the names of the modes?

page 188

Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian

24. Which mode became known as the major scale?

page 188

Ionian

25. Which mode became known as the natural minor scale?

page 190

Aeolian

26. What is the starting note for the Dorian mode that uses the key of D Major?

page 191

E

27. What key signature would be used for the Dorian mode beginning on an A?

page 191

key of G Major,. One sharp (F#)

28. What is a blue note?

page 194

An altered note (usu. lowered)

29. Using the major scale as a reference, what are the notes of a standard blues scale?

page 195

Tonic, flat 3, 4, flat 5, natural 5, flat 7, 8

30. Name at least three other types of scale.

page 196

Super Locrian, Major pentatonic, minor pentatonic, Major bebop, minor bebop, dominant bebop,

whole tone, Insen, *etc. etc.*

MOVING ON OKAY. ONCE YOU HAVE THIS INFORMATION STORED IN YOUR LITTLE GRAY CELLS, TAKE A BREAK FROM GRAPHIC NOTATION AND LEARN ABOUT MUSICAL TERMS THAT YOU MIGHT SEE IN WRITTEN MUSIC. UP NEXT IS AN INTERLUDE CALLED *CONDUCT YOURSELF* IN WHICH YOU'LL LEARN ABOUT WHAT CONDUCTORS ARE DOING UP THERE WHEN THEY WAVE THEIR ARMS ABOUT..

After that, move on to Part Six, *Strike a Chord,* in which learn all about chords, three or more notes at once. Good work. Keep it up!

Chapter 28: Interlude

How to Conduct Yourself

Conductors must give unmistakable and suggestive signals to the orchestra, not choreography to the audience.

George Szell

General Conducting Info A conductor is a musician whose instrument is a large group of singers or instrumentalists. The conductor guides these musicians with a baton (also called a stick) or with the hands alone.

An audience only sees a very small part of what a conductor does, because all they see is the conductor's back. The audience doesn't get to see the frowns and grimaces, the stern or kind looks, the oh-so-rare smiles, and all the subtle nuances of body language and facial expression. The audience sees only the wilder gesticulations of the arms and some of the body language.

Most of a conductor's work in shaping a piece of music comes during rehearsals, though a good conductor with a good group of musicians can shape a piece of music spontaneously during a performance.

A conductor's arm moves in a specific pattern that depends upon the time signature of the piece being played. It's usually the right hand and arm that beat out this pattern while the left hand controls dynamics and phrases and expressiveness. This is only a general rule.

The roles of a conductor change depending upon the level of musician in the group. Let's compare conductors at the two ends of the spectrum: the professional symphony conductor and the elementary school music teacher.

An elementary school musician needs a very clear pattern that shows explicitly where all the beats are. The job of an elementary director is primarily to help the students get through the piece, and so the elementary conductor's gestures will be very clear and concise to help the student. Expressiveness is certainly important, too, but a clear beat is crucial for younger players.

A professional orchestra conductor's focus is more on his or her aural vision of the piece, on the subtle nuances of the music. He or she is not concerned with

teaching the clarinets an alternate fingering for low F. A professional conductor's gestures will be more expressive, sometimes to the point of being unclear rhythmically. A professional conductor might be interested with a certain passage being more marcato, a little quieter, and with less trombone. A professional conductor may however, fire the clarinetist who doesn't know the alternate fingering for low F.

Whatever the level, a conductor is responsible for many more things than the individual musician. First of all, the music a conductor reads is much more complex than the music of any one player in the group. This is because the conductor reads from a score, which is a large, multi-paged piece of music with all the parts in it, from the piccolo to the percussion, from the violin to the bass voice parts.

Conductors are also musical scholars, and should know about performance practices (how a certain piece should be performed), about chord structure and chord progressions, about the intonation tendencies of every instrument, about movement and how musicians react to it, about rehearsal technique and how to get what is needed from musicians, about music history and theory, and on and on. A good conductor is always learning.

Stance

How a conductor stands will change based upon the music, and we'll get to some specifics later in the chapter, but generally, a conductor should have good posture, feet about shoulder width apart, and a relaxed stance.

At first, the left arm will simply hang relaxed at your side—you'll use it later, but for now you won't need it. The right arm will be extended, slightly bent, and will move around in an area a foot or two in front of you, from the top of your head to the middle of your chest, and from shoulder to shoulder.

If you're using a baton (a pencil will work), grip it lightly but firmly with the thumb and index finger and wrap the other fingers lightly around it without grasping.

Eye Contact Probably one of the most important aspects of conducting is eye contact. If a conductor's face is buried in the score, he or she won't be able to look a section of altos or a section of trumpets right in the face to be sure they understand what is being asked for.

Eye contact is a double-edged sword. It won't matter how fiercely the conductor looks at the musicians, or how flamboyantly his or her arms wave if the musicians don't look up from their music. Ever wonder why choirs memorize their music?

Conducting Patterns

The right arm gives each beat in each measure. Each meter has a different pattern for the right arm. The first one you'll learn is the most common pattern, the one for 4/4 time.

Each diagram that you see is given from the conductor's point of view. You'll get the right movement if you simply trace the pattern in the air. What you'll see while sitting in a group with a conductor will be the mirror image of the following diagrams.

With all patterns, beat one is always given straight down. Your arm is out in front of you and travels from the level of your head down to the level of your chest.

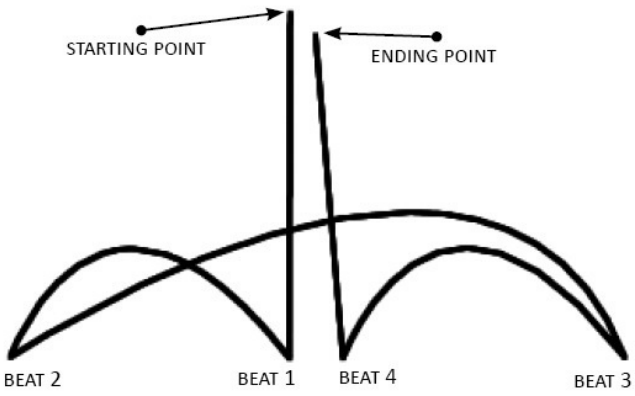
Be sure to make each beat obvious. Do this by giving a tiny flick of the wrist on each beat.

It takes a little practice to make each pattern look natural, so keep at it. You can learn a lot by watching other conductors. You'll notice that the more accomplished the conductor, the more challenging it will be to determine exactly what pattern he or she is using. Call it creative license.

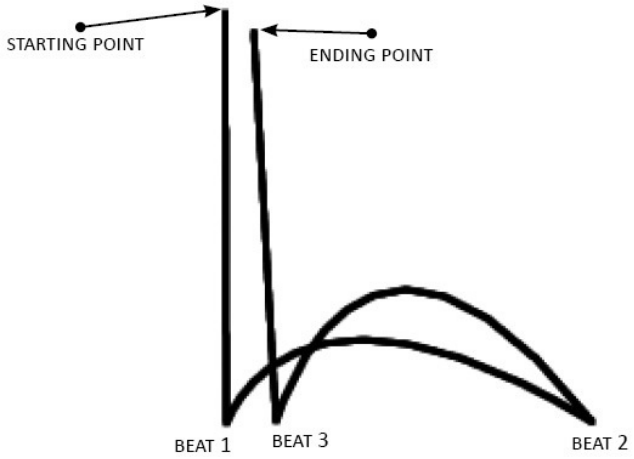
Remember: these patterns are from the conductor's point of view. Make your hand/baton move in these patterns in the air in front of you. Notice how close the first and last beats of the measure appear.

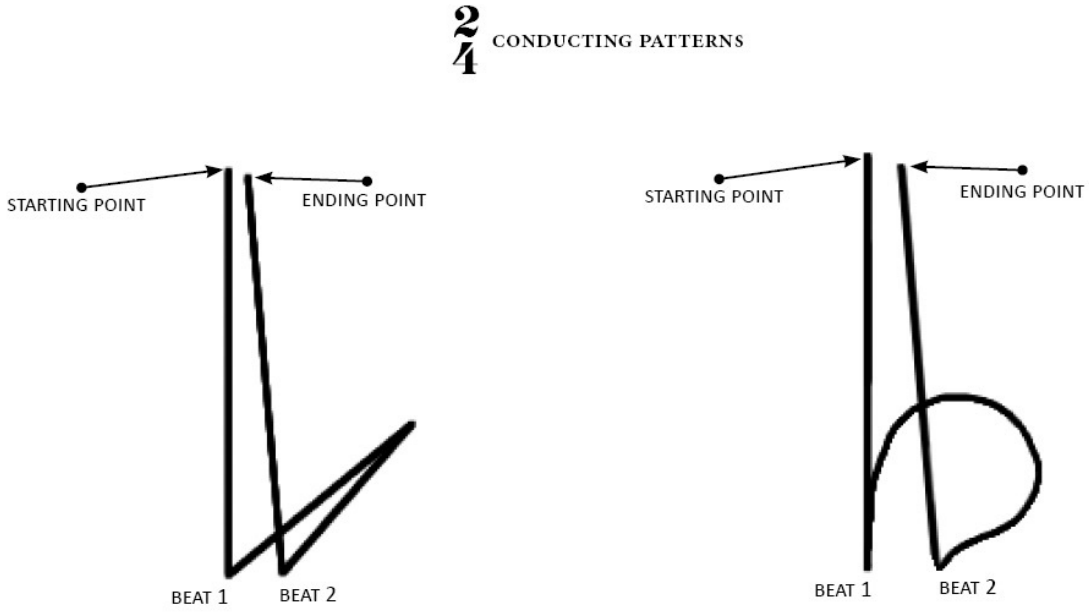
You have two patterns to choose from for conducting in 2/4 time.

4/4 CONDUCTING PATTERN



3/4 CONDUCTING PATTERN





Showing Style with the Right Hand

Much of the style of a piece of music can be shown with the right hand alone: short, choppy strokes for a piece like a march; long flowing strokes for a more lyric song; a small pattern for quiet sections; a larger pattern for loud sections.

Use a Conducting Pattern to Help Transcribe Music

Even if you'll never conduct a large group, conducting is a useful tool when you're trying to write down music you hear. Because it's a physical manifestation of the music's beat, conducting patterns make it easier to discover where in the measure the notes fall and how long they are.

This takes some practice, as you probably guessed. Transcribing what you hear is a difficult process for most of us and any tool helps. The conducting patterns breaks up the measure into beat-sized chunks, which is a great first step towards writing down what you hear.

The Left Hand Though the left hand may also beat out the patterns you just learned, the left normally shows dynamics, articulations, cues (telling instruments or soloists when to come in), and cut-offs.

The independence of each hand takes some effort to master. It's a lot like rubbing your head and patting your stomach at the same time. Try not to beat out the pattern simultaneously with both hands (called mirroring). It's generally considered bad conducting form.

While you're conducting, if you're having trouble getting your left hand to act independently, just let it hang at your side.

DYNAMICS

There are several ways to show dynamics while conducting: body position, facial expression, and hand position. Let’s start with hand position.

Hand Position

If you conduct with a very small pattern (say two square inches in front of you), players—if they're watching you—will play more quietly. In contrast, very large motions will cause a group to play or sing more loudly.

To show crescendos (gradually louden), start with the left hand down near your gut with the palm up and gradually raise it where the crescendo in the music should happen. By the time your hand reaches a position above the height of your shoulder, the crescendo should be at its peak. At the same time, the pattern in the right hand should start small and grow larger. It's easier to say than it is to do. Try it.

A decrescendo or a diminuendo (gradually soften) is shown in the opposite way. The left hand begins above the shoulder, palm down this time, and gradually lowers down to the middle of your torso. While doing this, make the right hand pattern become gradually smaller.

If the saxes or the sopranos are too loud, you can "give them the hand", which means holding your left hand out with the palm facing the loud group. This works well accompanied by a stern look.

Body Position

If you step forward on the podium and lean towards the group or even crouch down, this will cause them to become quieter, especially if you combine these movements with the above-mentioned technique of making the conducting pattern smaller.

Also effective is to show the group a quiet face, whatever you think that is for you. Pursing your lips in a “shush” works pretty well. Practice in a mirror.

In contrast, to get a group to play louder, stand tall as you step back on the podium and lean away from the group. Combine this with making all of your gestures bigger and a group should get louder if they’re watching you. For this technique, use a loud face, usually something that looks stern or even angry. An upraised fist shaken in the air is also quite effective.

Practicing Conducting

Perhaps the best way, when you're just beginning to learn, is to get some recordings of music you like what requires a conductor and, in the privacy of your own home, give it a try. The next step, once you've got the patterns down, is to get the score for that piece of music and try to follow along while you conduct.

The best advice I can give you for practicing anything is to be persistent. Persistence is way more important than talent. Keep at it. If you're serious about becoming better, videotaping yourself is a necessity, as is closely watching other conductors and taking lessons. Yes, conductors take lessons, too.

This is only the briefest introduction to the art of conducting. If you'd like to learn more, take a look at the following books: *The Modern Conductor*, by Elizabeth H. Green and Mark Gibson. On the Web: http://is.gd/olulur

Conducting Technique for Beginners and Professionals, by Brock McElheran and Lukas Foss. On the Web: http://is.gd/bigake

The Grammar of Conducting: A Comprehensive Guide to Baton Technique and Interpretation, by Max Rudolf and Michael Stern. This is a spendy one, but you can rent it! On the Web: http://is.gd/ivibut

Conductors to Check Out This is a huge list that I've pared down to only a few on next page. Most conductors are associated with several orchestras, but I've included only one. Find links to more information as well as CD and mp3 recordings of these musicians at WWW.SOL-UT.COM. In no particular order, these are

SOME OF MY FAVORITES, MOSTLY BECAUSE THE MUSIC THEY EVOKE FROM THE ORCHESTRA IS ASTONISHING AND BEAUTIFUL AND POWERFUL AND… WELL, YOU GET THE IDEA. I'M AWARE THE LIST IS PRETTY U.S.- AND EURO-CENTRIC IN SCOPE, BUT WHAT CAN I SAY? THAT'S WHAT I KNOW. YOU CAN FIND HUNDREDS OF OTHER GREAT CONDUCTORS ONLINE. IF YOU HAVE TIME, FOLLOW THIS LINK TO THE LONG DOCUMENTARY FILM WITH LOST OF GREAT FOOTAGE OF CONDUCTORS CONDUCTING AND REHEARSING: *THE ART OF CONDUCTING: LEGENDARY CONDUCTORS OF A GOLDEN ERA*. ON THE WEB AT HTTP://IS.GD/HIFACO.

If you watch the videos it will be quite difficult to see the patterns I've mentioned in this chapter. It's a bit like the difference between learning about shapes such as squares, triangles, and circles, then watching Picasso paint using these shapes. In the hands of a Master, the simple becomes ineffable.


Conductor

General Symphonic Association

VIDEO LINK URL

Claudio Abbado

Berlin Philharmonic	http://is.gd/bozihe

Daniel Barenboim

Chicago Symphony Orchestra	http://is.gd/unobeb

George Szell

Cleveland Symphony Orchestra	http://is.gd/melate

Herbert von Karajan

Berlin Philharmonic	http://is.gd/ovivil

Kurt Masur

New York Philharmonic	http://is.gd/zewave

Leonard Bernstein

New York Philharmonic	http://is.gd/qegiho

Leonard Slatkin	St. Louis Symphony Orchestra	http://is.gd/anuvef

Marin Alsop

Baltimore Symphony Orchestra	http://is.gd/sutage

Michael Tilson Thomas

London Symphony Orchestra	http://is.gd/watidu

Seiji Ozawa

Boston Symphony Orchestra	http://is.gd/ahawuz

Sir George Solti

Chicago Symphony Orchestra	http://is.gd/xavogu

Xian Zhang

New York Philharmonic	http://is.gd/azejal

Zubin Mehta

Los Angeles Philharmonic	http://is.gd/hekile
Mei-Ann Chen	

Chicago Sinfonietta	http://is.gd/yurede

You can find these videos on this book's Web site at http://is.gd/guhuga

Moving On Conducting is a discipline much like playing an instrument, and the more you know about it, the better able you'll be to play in a group and follow a conductor, if one is even necessary.

Hope you liked this little break from learning to read music. Let's jump back into it. Up next are chords, a group of three or more notes played together.

Part Six

Strike a Chord

In This Section You Learn

Triads

Major Chords

Minor Chords

Chord Inversions

Chord Extensions

Chord Symbols

Some Chord Progressions

CHAPTER 29

Triads

Music, which can be made anywhere,
is invisible and does not smell.

W. H. Auden

General Chord Info

The use of the word chord began, according to Webster's dictionary, around 1608, and is short for *accord*, which means to be in harmony, as in agreeing. It's a good word for a musical chord, because the notes in most chords tend to agree with each other. They sound good together. Also, musical harmony is two or more notes together, so there you go.

A chord is three or more notes sounded simultaneously. A chord can be played on one instrument like guitar or piano, or a chord can be played by many instruments at once, like a woodwind quintet, or a brass quartet, or a choir. As long as there are three or more notes sounding simultaneously, it's a chord.

There are many types of chords, and many different chord symbols that tell you what notes to use in a chord. Just like with scales, there are Major chords, minor chords, diminished chords and augmented chords. ***The quality of a chord is determined by the intervals within the chord.***

There are also other types of chords with more than three notes and various ways to manipulate chords, but I'll save those for the next two chapters. We'll stick to the basics first, so you can get a handle on what chords are and how they work. While you're learning these chords, if you have access to a keyboard, you really should play them to hear what they sound like. It will help to sing them, too.

Naming Chords

A chord has two names. One is a letter name and a quality (Major, minor, diminished, augmented). The other is a number, a Roman numeral. Both the letter name and the Roman numeral have with them abbreviations or symbols to show the chord qualities of Major, minor, diminished, and augmented. It's more common (and more generally useful) to see the letter name and quality of the chord, so we'll hit that first.

LETTER NAMES A CHORD'S LETTER NAME COMES FROM THE ROOT (THE BOTTOM NOTE) OF THE CHORD. THE EXAMPLE ON THE FOLLOWING PAGE SHOWS YOU WHAT A ROOT IS.

If a chord is named with only a capital letter, this means the chord is Major. A minor chord will have a lower-case "m," or "min" or the minus symbol* (-) *written next to the letter. Another method for showing minor is to use lower case letters, though it's more common to use the "min" next to the capital letter. Other symbols like augmented (+) and diminished (o)are also used with the letter. We'll get to diminished and augmented chords in a few more pages.

When you say the notes in a chord, you're spelling the chord. For example, to spell the C chord I'd say, "C, E, G."

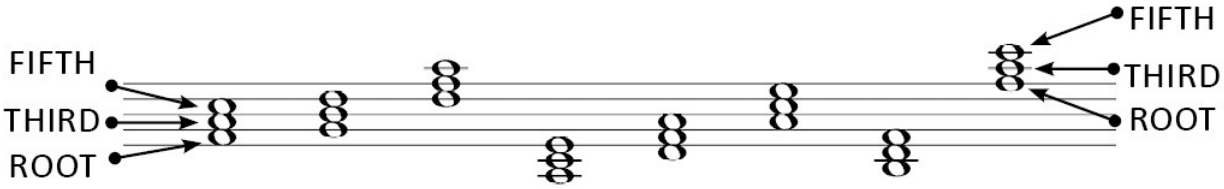
Roman Numerals

Each chord also has a Roman numeral that reflects the chord's function in the key signature. This is related to the degree of the scale on which the chord is built. The second example below shows this under the bass clef notes. The upper case Roman numerals denotes Major chords, and lower case Roman numerals denote minor chords. In addition, there are the symbols to show diminished (o) and augmented (+) chords.

The Basic Triad

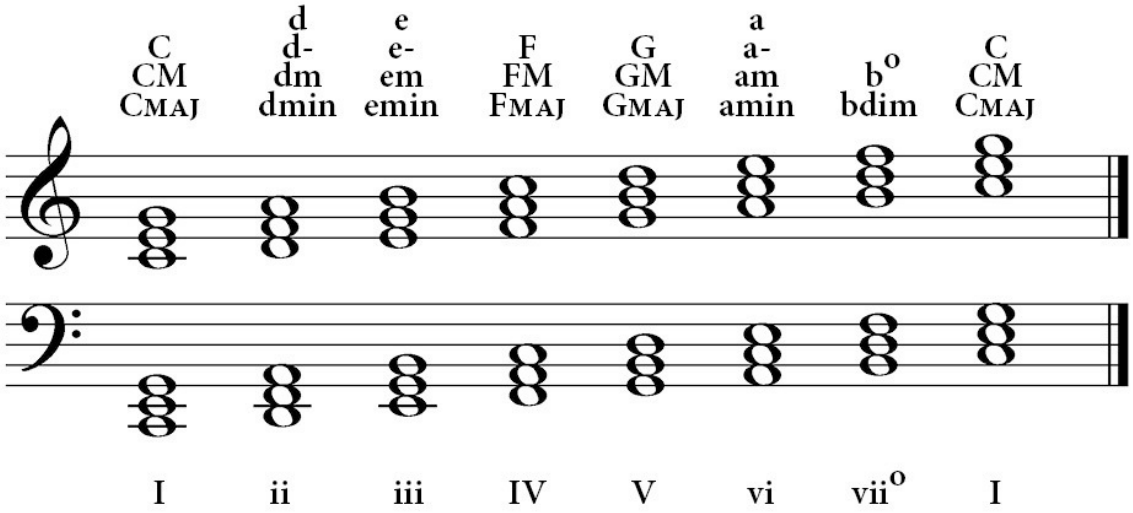
A basic triad consists of three notes stacked in a specific order, ***a root (or bottom note*** and the letter name of the chord), ***a third, and a fifth***. As you'll see in the examples, each basic triad is built on all lines or all spaces in a tidy little stack. This is called ***root position***.

The parts of a triad get their name from their interval above the root note. Here are some various triads on the staff.



Triads Found in Major Keys

In the following example, you'll see a triad stacked on each degree of the C Major scale. Triads stacked in this way will have a quality of either Major, minor, or diminished. The order from the bottom of the scale is in Roman numerals.

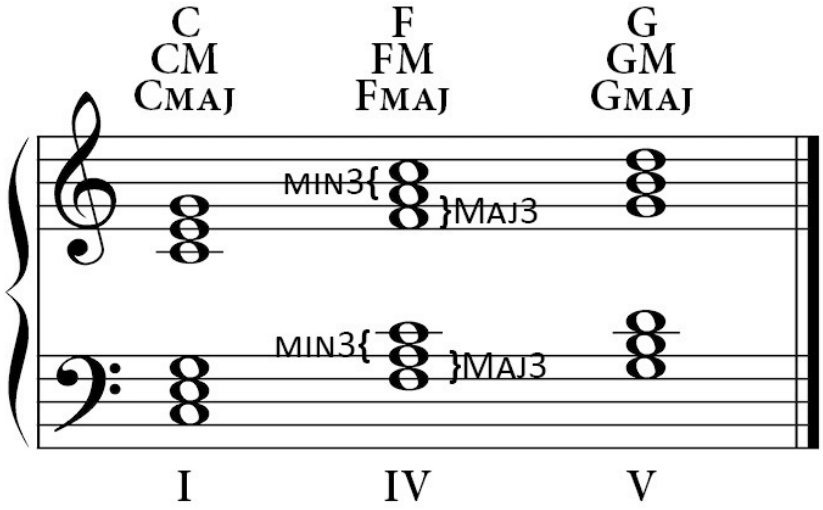


As in most written music, when you see treble and bass staves grouped together, you'll find chord symbols above the notes, but usually only one. In this example, I've listed most abbreviations you might see. Roman numerals are written below the chord, as in the example above, naming the triads built upon the degrees of the C Major scale.

Notice the little circle to the right of the vii and the "b," the seventh degree of the scale. The circle symbol tells you the chord is a diminished chord. I'll show you why it's diminished coming up. We'll go through all three types starting with Major triads.

Major Triads

Major triads have a happy, bright sound quality. In a Major key, there are three naturally occurring Major triads, those built upon the first, fourth, and fifth degrees of the scale, or the I, IV, and V chords. Like so:



A Major triad consists of a note a Major third above the root and another note a Perfect fifth above the root. You could also think of this triad as stacked thirds: a Major third from the root to the third, and minor third from the third to the fifth.

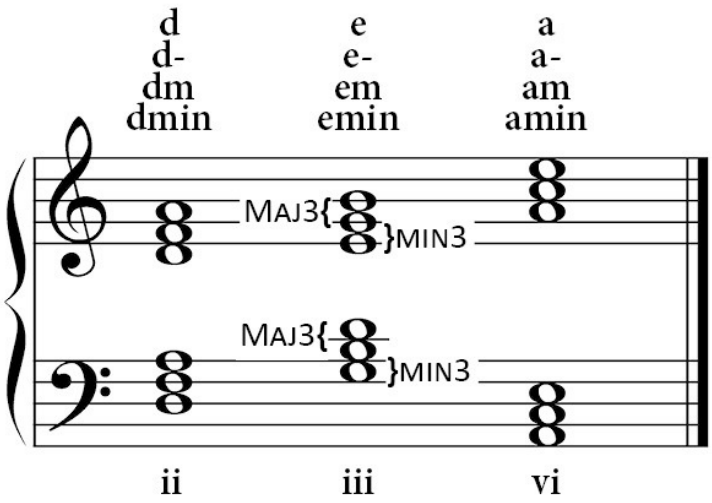
There is a new symbol in this diagram, the curly bracket to the left of both staves. It's used to show that staves are grouped together into what is called the *Grand Staff*. This is how piano music looks. A musical score has a similar grouping device, but it's a straight bracket and often covers many parts, as in an orchestral score.

Minor Triads

Minor triads have a dark, sad, or melancholy sound quality.

A minor triad consists of a note a minor 3rd above the root and another note a Perfect 5th above the root. You could also think of this triad as stacked thirds: minor third from the root to the third, and Major third from the third to the fifth.

In a Major key, there are three naturally occurring minor triads, those built upon the second, third, and sixth degrees of the Major scale, or the ii, iii, and vi chords.



Notice that, to avoid several leger lines above the bass clef staff, I've taken the final bass triad down an octave. This doesn't have much effect from a music-theory standpoint. All the note names and relationships remain basically the same. The sound however, would be lower, of course.

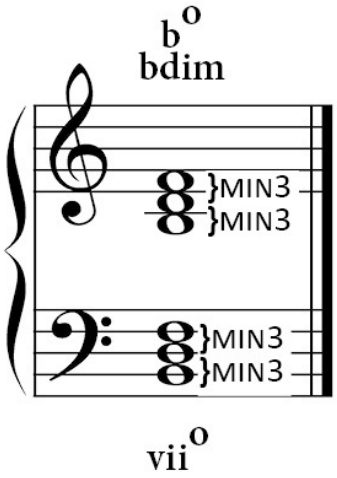
Diminished Triads

Diminished triads are less common than the Major or minor triads and have a suspenseful sound quality. This is the chord you hear when the damsel in distress is tied to the railroad tracks by Dastardly Dan as an approaching train hoots in the near distance.

A diminished triad consists of a note a minor 3rd above the root and another note a diminished 5th above the root. You could also think of this triad as stacked minor thirds: minor third from the root to the third, and minor third from the third to the fifth.

In a Major key, there is only one naturally occurring diminished triad, the one built on the seventh degree of the Major scale.

Don't forget to put the little circle next to the lowercase Roman numeral. We'll get into more chord symbols in the next chapter.

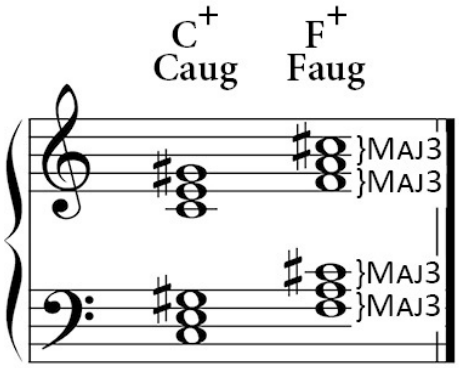


AUGMENTED TRIADS

There aren't any naturally occurring augmented triads in the key of C, or in any major key, so we'll have to throw in an accidental to get one. The augmented triad has a vaguely unsettling sound, and is usually the type of chord played just before the knife-wielding psycho jumps out from behind the couch and scares the cooties off your head.

An augmented triad consists of a note a Major 3rd above the root and another note an augmented 5th above the root. Or stacked Major thirds.

Since there aren't any augmented triads occurring naturally in the key of C, I'll just make a couple up. The chord symbol for an augmented chord is a plus symbol (+), or the abbreviation "aug."



Moving On

Triads are the most basic chord form and it’s important to know the difference between Major, minor, diminished and augmented triads, so don’t go on until you’ve got it.

In the next Chapter we’ll add another note on top of the chord, called an extension. But first, the review.

Chapter 29 Study Guide

1. What is the definition of a chord?

Three or more notes
played at the same time

2. What determines the quality of a chord?

The intervals within the chord

3. How are chords named?

With a letter, and a quality of Major,
minor, diminished or augmented;
and with a Roman numeral,

4. What are the parts of a triad?

Root, third, fifth

5. Why are they called this?

Root is the tonic of the chord;
the third is a 3rd above the root;
the fifth is a 5th above the root

6. How do you tell if a triad is Major?

Capital Roman numeral, a capital letter,
or the intervals within the triad.
Or best of all, hear it!

7. How do you tell if a triad is minor?

Lowercase Roman numeral or letter;
“min” next to the letter name;
the triad’s intervals. Hear it!

8. What are the intervals in a Major triad?

A note a Major 3rd above
the tonic and another a
Perfect 5th above the tonic.
Or Major third stacked atop a minor third.

9. What are the intervals in a minor triad?

A note a minor 3rd above
the tonic and another a
Perfect 5th above the tonic.
Or minor third stacked atop a Major third.

10. What are the intervals in a diminished triad?

A note a minor 3rd above
the tonic and another a
diminished 5th above the tonic.
Or stacked minor thirds.

11. What are the intervals in an augmented triad?

A note a Major 3rd above
the tonic and another an
augmented 5th above the tonic

Or stacked Major thirds.

12. What are the sound qualities of the different types of triads?

Major = happy; minor = sad;
diminished = suspenseful;
augmented = unsettling, or floating

Practical Use Exercises

1. Write out triads above the notes C, D, E, F and G. Sing or play these chords in an arpeggio (look this word up in the glossary if you don’t know it) until you can hear each note in the chord easily. Play these notes as a chord on a piano or guitar. Identify which chords are Major and which chords are minor. Sing and playing the minor thirds and Major thirds within these triads.

2. Write out four triads, all with D as their tonic. Make the first triad major, the second minor, the third diminished, and the fourth augmented. Play them on a piano. Memorize how they sound. Do the same thing starting on another note of your choice.

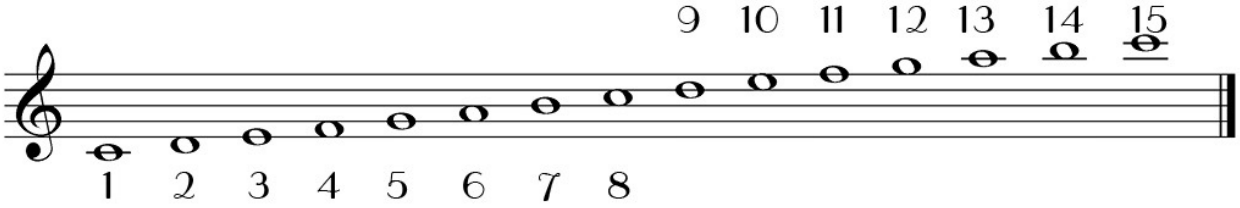
CHAPTER 30

CHORD EXTENSIONS I DON'T CARE MUCH ABOUT MUSIC. WHAT I LIKE IS SOUNDS.

Dizzy Gillespie General Chord Extension Info A chord extension is a note that isn't in the triad. It's extra. Notes are added to triads to change the triad's flavor, their feel, and in many cases the extension changes how the chord is used in a chord progression.

Some notes added to triads are: 7^{ths}, 9^{ths}, 11^{ths}, and 13^{ths}. We haven't yet talked much about intervals higher than octaves (called compound intervals), so now's the time.

If you look at the C scale in the example below, the 8th note is the same letter as the bottom note, but an octave higher. Therefore, the 9th note is the same letter as the 2nd note of the scale, only it's an octave higher. The 11th is like a 4th, but an octave higher; the 13th is like a 6th, but an octave higher.



Chords with extensions are written with the number of the extension above and to the right of the chord letter, like so: F^{B13}, A^{7}, G^{9}, C$^{\#11}$, F^{13}, D^{Maj7}, and so on. Extensions can also be used with Roman numerals, like V^{7}, IV^{9}, *etc.*

The number tells you what note you're adding to the triad. The number represents the interval from the root of the chord to the extension. For example, a chord symbol with a 7 in it means that you're adding a note a seventh above the root of the chord.

An extension can be altered a half step up or down to give yet another type of chord. In the examples I gave you above, there was an F chord with a ♭13, a C chord with a ♯11, and a D chord with a Maj7. In these cases you would lower the 13th a half step, raise the 11th a half step, and add a Major 7th above the root, respectively. In addition to the number, you'll often also see symbols that indicate a type of chord with its extensions. Here are the most common:

Symbols

Meaning
-, m, min,

minor
M, Maj, Δ

Major
dim, 0

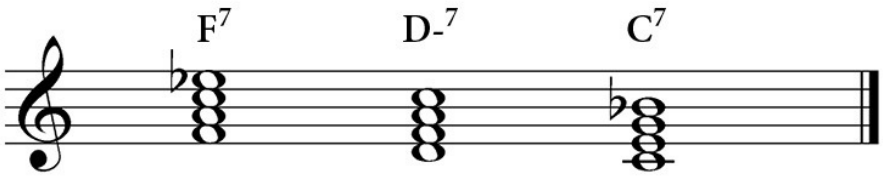
diminished	
-7 b5, Ø	half-diminished
aug, +	

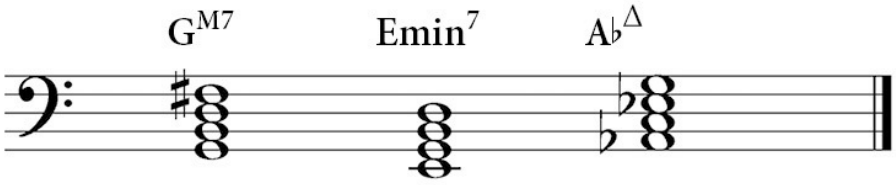
augmented

Be sure to experiment with these configurations of tones. Remember that music is about the sounds, and not the written note on the page. Experience and experiment and *listen* to these chords, don't just think about them! On to some specifics.

Seventh Chords Seventh chords are an important type of chord in Western music, and other styles, too. They're essential to most chord progressions, and give chord progressions the quality our ears are used to hearing. We'll get into specifics of chord progressions two chapters ahead.

Why are these called seventh chords? Because if you stack another note on top of a triad, the interval from the root to that top note is a seventh. Don't believe me? Count out the interval in the examples. When you see only a seven all by its lonesome next to a chord symbol, it's *always* a minor 7th above the root. However, sometimes you'll have a chord with a major 7th above the root. One of my favorite sounding chords. In that case, you have to specify that Major seventh in the extension by putting an "M" or a "Maj" or a small triangle "Δ" in front of the extension number. Here are various seventh chords.

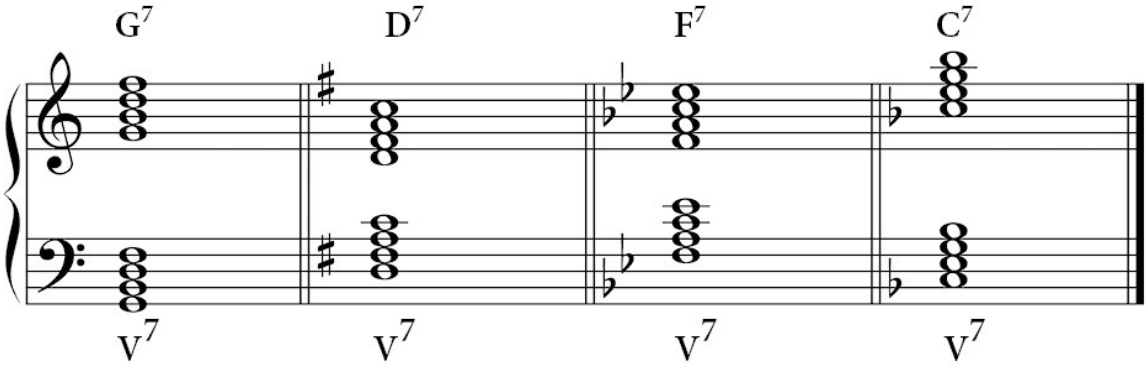




As you can see in the above examples, the quality of the chord itself is written in larger letters next to the letter of the chord (except for Major chords which are just the letter), and any alterations to the 7th are written in small letters before the 7. Remember, if it's just a 7, it's always a minor seventh.

The Dominant Seventh Chord

There is a special kind of seventh chord that appears in a huge majority of chord progressions and it's called the *dominant seventh chord*. It's called *dominant*, because that's one of the names for the fifth degree of the major scale. The dominant seventh chord is key-specific, meaning it's the relationship of the chord tones to the key signature and its function that makes it a dominant seventh. That's why each measure below is in a different Major key: first the key of C, then G, Bb, and F.



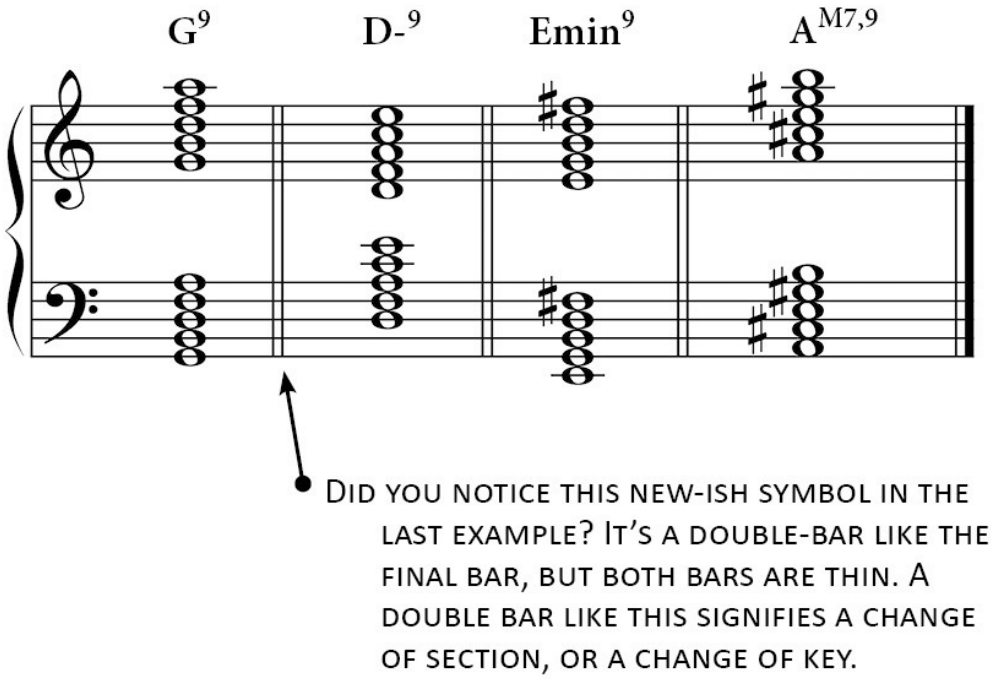
When you build a chord on the 5th degree of the scale in any Major key, the seventh of the V^7 chord will automatically be a minor seventh because of the key

signature.

The dominant seventh chord symbol looks like this: V^7. Because you know how Roman numerals are used, you know that the V^7 means the chord is built on the 5^{th} degree of the scale and it's got a minor seventh in it.

The dominant seventh chord is an important chord because it pulls our ears back toward the tonic chord, or the I chord. More on that in Chapter 32, *Chord Progressions*.

Ninth Chords Ninth chords have 5 chord tones: Root, third, fifth, seventh, and ninth. Below are some ninth chords of various flavors.



As before, the quality of the chord is written in larger letters next to the chord letter, and the extensions are written with smaller letters and numbers above and to the right. If all you see is a "9", the minor seventh is implied.

However, if you want a Major seventh in there instead, you have to specify it, as

in the $G^{\Delta 9}$ and the $AB^{M7,9}$ below. Remember that unless otherwise indicated, the 7 in a chord symbol is always a minor seventh. Also you won't see a comma (,) in the chord name much either, but it does happen, as in that last example, the $A^{M7,9}$ chord.

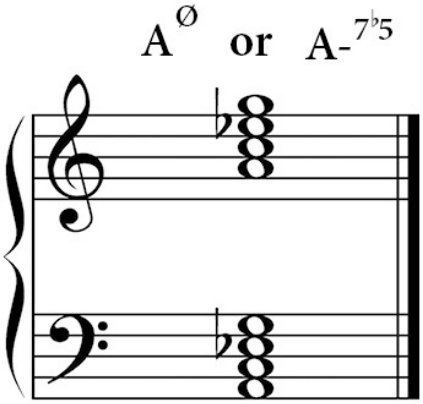
Other Chords Eleventh and Thirteenth Chords The process for these chords is very similar to what you already know. An eleventh chord will have a root, third, fifth, seventh, ninth and eleventh.

A thirteenth chord will have a root, third, fifth, seventh, ninth, eleventh, and thirteenth.

The Half Diminished Chord We'll stay in the key of A to avoid a bunch of accidentals, but of course, all chords including the half-diminished chord can be found or created in any key, starting on any note. I'll explain why it's called *half-diminished* later.

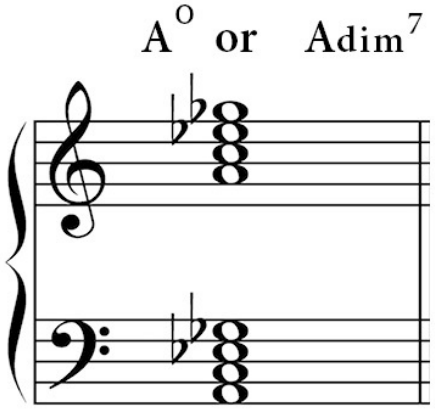
A half diminished chord is a minor seventh chord with a lowered Perfect fifth. Above the root you'll have a minor third, a diminished fifth, and a minor seventh. In a longer form, this chord would be notated $A-^{7B5}$, or $Amin^{7B5}$, but a shorter version that gives the same information is Aø.

Are all these symbols confusing? Without a doubt. The reason for the shortening of the symbols is that when musicians are reading through chord changes while improvising, it's more difficult and time-consuming to read $Cmin^{7B5}$, which has 5 to 7 "bits" of information, than it is to read Cø,with only two "bits" of information meaning the same thing. It's a no-brainer which one is better.


A Ø or A-7♭5

Diminished Seventh Chord Also known as the fully diminished seventh chord, compared to the half-diminished chord you just learned. The diminished seventh chord is made up of stacked minor thirds.

The diminished seventh chord has four notes, and the interval between each successive note is a minor third, or 3 half steps. Because these chords are symmetrical, they repeat every three half steps. The G^{O7} chord—G, B♭, D♭, F♭—has the exact same pitches as the $B♭^{O7}$, $D♭^{O7}$, and E^{O7} chords (Note: E is the enharmonic equivalent for F♭).



Chords Not Covered

There are several other types of chord that this book won't cover, though I'll tell you what some are and you can discover them on your own if you'd like.

There are suspended fourth chords, Neapolitan sixth chords, German sixth chords, and many more.

Moving On

This chapter should allow you to understand and spell most chords you'll come across. Again, the concepts you're now learning are more complex than previous ones and they may take some time before they're understood well, so keep at it.

All the chords in this chapter have been in root position, the most basic form of a chord. In the next chapter, you'll learn about chord inversions, which is a chord with a note other than the tonic as the bottom note.

Chapter 30 Study Guide

1. What is a chord extension?

A note in addition to the basic triad

2. How are chord extensions notated?

A number equal to the note's interval above the root. Also with a symbol showing quality

3. What is a compound interval?

An interval greater than an octave

4. When you see a 7 to the right of a chord letter, what kind of a 7th is it?

A minor 7th above the root

5. How would you indicate a Major 7 above the root?

Δ or ^{MAJ7} or ^{M7}

6. What's another name for the V^7 chord?

A dominant seventh chord

7. Why are V^7 chords so important?

They draw the ear to the tonic (I) chord,
and appear in nearly all chord progressions

8. Spell the V^7 chord in the key of G.

D,F#,A,C

9. What chord tones are in a 9th chord?

Root, 3rd, 5th, 7th, 9th

10. What chord tones are in an 11th chord?

Root, 3rd, 5th, 7th, 9th, 11th Practical Use Exercises

1. Write out the triads above C, A, B♭, and A♭. Put the chord name underneath (don't forget Major/minor distinctions). Place the seventh in each of the chords and alter the chord symbol as necessary to make it correct. Place the ninth in each chord and again correct the chord symbol.

2. Sing or play (both is best) a Major triad. Any starting note will do but try to make it in a comfortable range. As you are singing one note of the chord, try to hear the others simultaneously. Once the Major triad is in your ear, add the seventh until you can sing or play a seventh easily. Do the same with the ninth chord.

3. Spend some time messing around with all triads and extensions on the piano. It's fun and will help your understanding immensely.

CHAPTER 31

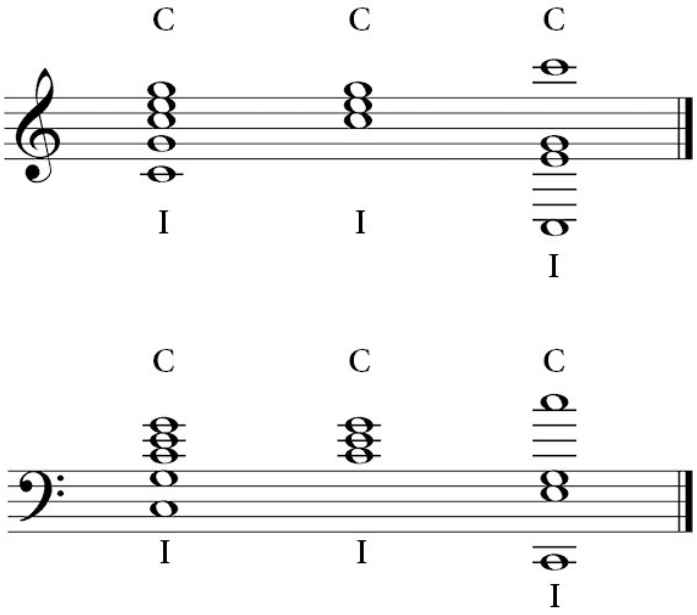
Chord Inversions

The world is wrong side up.
It needs to be turned upside down
in order to be right side up.

More General Chord Info

We've been working with chords in what is called *root position*, which is the most basic configuration of a chord. In root position the notes are stacked neatly together as closely as possible. There is a broader definition of root position. If the lowest note of a chord is also the letter name of the chord, then that chord can be said to be in root position.

For instance, with a C chord, as long as the C is the lowest note, it doesn't matter where the thirds and fifths are above that C; the chord is still considered to be in root position. Here are some versions on each clef of the I chord in the key of C in root position.



In these chords you'll find a C in the root, and above that root somewhere an E and a G. There could be three Es and seven Gs but as long as that C stays in the root position, it's a root position C chord. Any doubling of chord tones doesn't affect the theoretical quality of the chord, even though it does affect the sound of the chord.

Voice

Any note of a chord is also called a *voice* of the chord. For example, in a triad there are three voices: the bottom voice, the middle voice and the top voice. The term voice is often used even for music in which there is no vocal part.

Open and Close Harmony

One difference between the chords above is how they're spaced. When a chord's voices are written as closely together as possible, as in the first example above, that chord is said to be in close harmony, or close position, and this is usually within an octave. See the middle chords above.

When a chord is spread out over more than an octave, or if there is a gap between chord tones where another could be but isn't, that chord is said to be in open harmony, or open position. The first and third chords in each clef's example on the last page show this open harmony. It *looks* open, too.

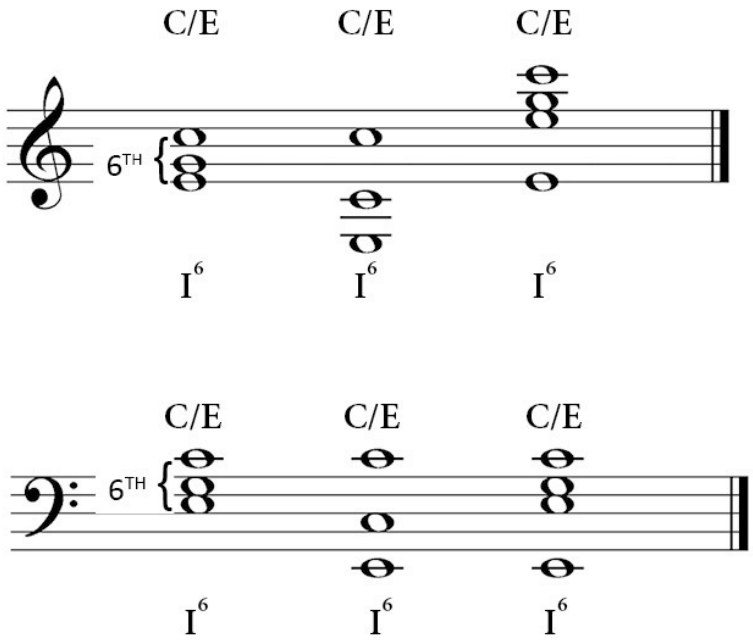
First Inversion

A first inversion chord has the third of the chord as its bottom note. To make a first inversion chord, take the tonic of a root position chord and move it up an octave. This will leave the third of the chord in the bottom voice. Or just skip a step by putting the third of the chord in the lowest voice.

A first inversion is indicated by the chord letter name and a slash (/) followed by the name of the note that will be in the bass. For example, a C chord in first inversion will be shown with C/E. An F chord in first inversion will be F/A. To the right are first inversion I chords in the key of C in close and open harmony.

You'll often see only the chord letters in music, especially music with lyrics. The letter name won't tell you anything about inversions or the Roman numeral for that chord; you have to figure these out for yourself. This is called harmonic analysis. Inversions and Roman numerals are shown in harmonic analysis, which you'll see under the chords in this chapter's examples.

To mark the first inversion in harmonic analysis, a 6 is written above and to the right of the Roman numeral. This is because the interval from the bottom note (3rd of the chord, remember) to the tonic is now a 6th.



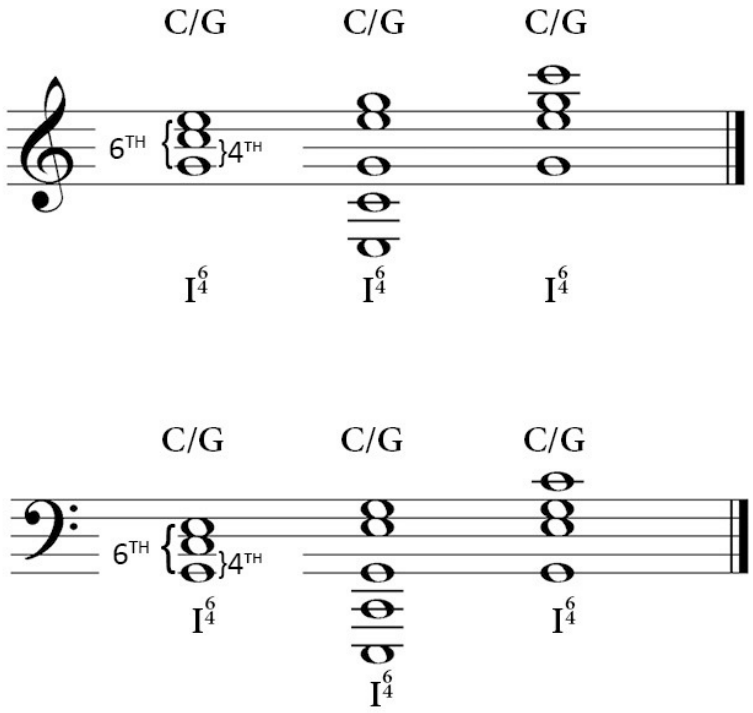
Second Inversion

A second inversion chord has the fifth of the chord as the lowest note. To make a second inversion chord, simply put the fifth of the chord in the bottom voice. As with the first inversion, this inversion is also shown by a slash and the bass note. For example, the C chord in second inversion is C/G. A D chord in second inversion would be written D/A. To the right are second inversion I chords in the key of C in close and open harmony.

In harmonic analysis, this inversion is shown by a 6 over a 4 next to the Roman numeral. Again, these numbers represent the intervals above the bottom note. In the second inversion C chord, it's a 6th from G to E, and a 4th from G to C.

Because the 6 and 4 are only used in a harmonic analysis, when you see a chord, you have to figure for yourself which inversion it's in. Not to fear; at the end of the chapter is a step-by-step process to find out what any type of chord is.

To keep things simple, I've only used the I chord, but these inversions can be applied to any chord, the IV, the ii, the vii^{o}, anything.



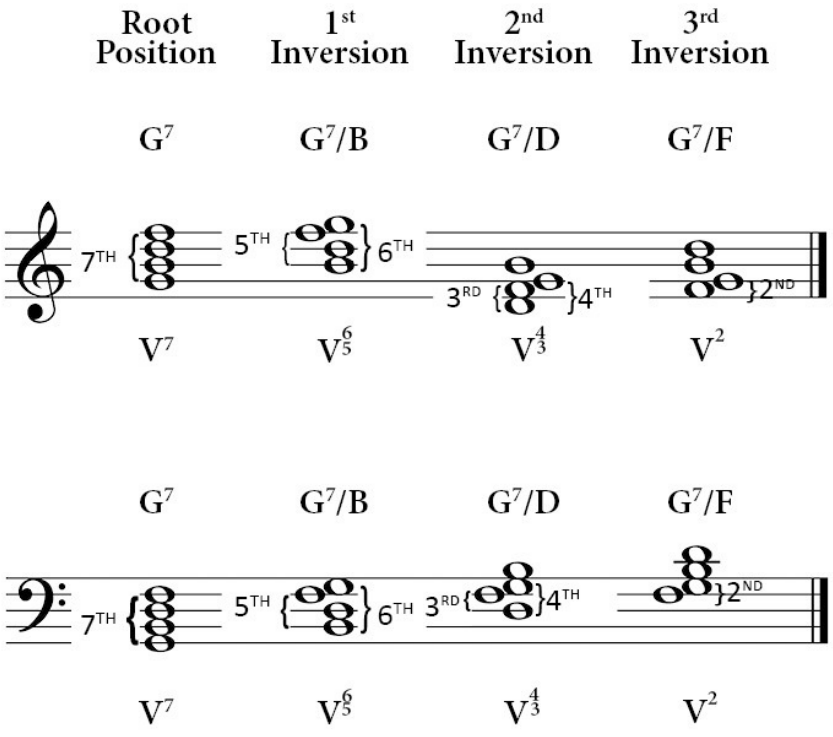
If chords are stacked in close harmony, it's pretty easy to tell at a glance whether it's a root position triad (three notes stacked one atop the other), a first inversion (two stacked on the bottom), or a second inversion (two stacked on the top).

Keep in mind that I've used simple chords in only one clef. Chords are often spread out over two clefs, and come in a bewildering array of colors, but the same inversion rules apply to all of them.

Inverting Seventh Chords Seventh chords can also be inverted, of course, and the symbols used in harmonic analysis employ the same concept, identifying intervals above the bottom note. The only change is that now we have 4 notes to consider, so there are more intervals.

With the 4 notes of a seventh chord, you get another inversion, called a third inversion. As with the other inversions, you show this with a slash and the letter name of the note in the bottom voice.

Here's one of many seventh chords in its various inversions. This one happens to be a V^7 in the key of C, but you can invert a minor seventh, a Major seventh, or any other kind of seventh chord.



If you take the numbers used for a seventh chord inversions in order (1st inversion, 2nd, etc.), you get the numbers of the relationship to the tonic in order, too. It's a good memory trick. Here's how I arrange them in my head: 7, 6-5, 4-3, 2

How to Find a Chord's Name and Function Here's where music theory starts to get interesting (or annoying, depending on how you see it). Analyzing a piece of music is a nuanced task requiring experience. Things are not as they seem.

NOR ARE THEY OTHERWISE. LOOKING AT ONLY ONE CHORD IS LIKE OBSERVING A WILD ANIMAL ISOLATED IN A PEN. YOU CAN LEARN A BIT WITH EXAMPLES CLOSELY EXAMINED, BUT YOU'LL LEARN THE MOST IF YOU LOOK AT THEM IN THEIR NATURAL HABITAT.

Few care (or need) to take musical analysis much further than being able to play a chord. If you're one who cares to take musical analysis further, I've chosen a particularly ambiguous chord as an example to illustrate some of the challenges.

So. Here's one way to find a chord's name and function:

1. Know the key signature you're working in. Let's use the key of F Major for an example.

2. Spell the chord using the letters in the chord. Ignore duplicate letters. Consider the arrangement of notes those letters represent. Here's a chord in F Major:

3. Stack the chord in close harmony, with the same root as the original chord. Keeping the same bottom-most note/pitch is important because if you don't use the same root note you won't know if the chord is an inversion or not.

(*I've included both bass and treble clef examples of this. When *you* do this, do it only on the staff you read best. Here, focus just on the staff most familiar to you.)

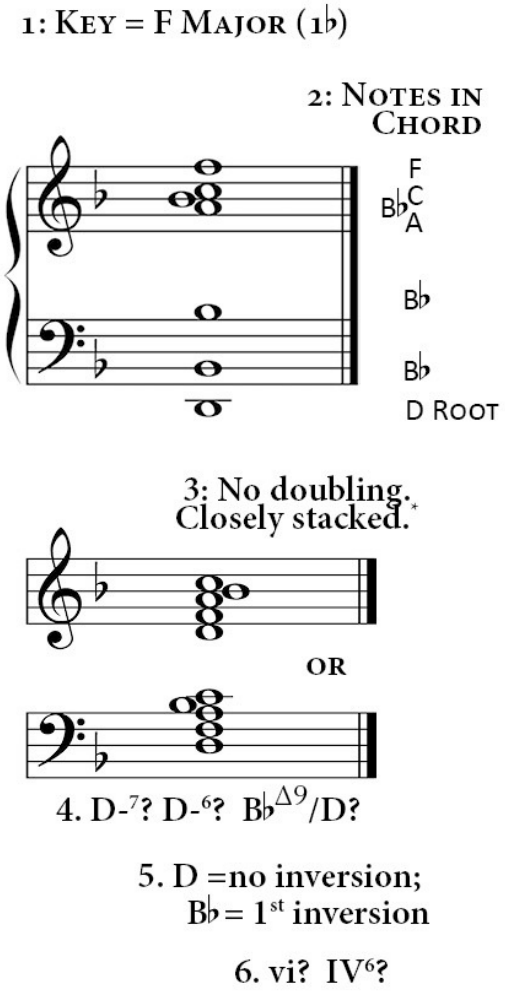
4. Determine what the tonic of the chord is. This will tell you the chord's letter name and Roman numeral in relation to the key you're in. In most examples the process becomes more complex here, because context matters. What is the tonic of this chord? Bb? D? Could be either.

5. Determine if the chord is a first, second, or third (for 7th chords only) inversion. Again, context matters. This could be a D-^{6} or D-^{7} chord, or a BB^{MAJ9}/D chord. Its name and function depends on what surrounds it and how it functions in the progression.

6. Once you've determined the context and listened to the example, you can

better judge its appropriate function in the harmony, and give it the proper Roman numeral. If our example chord was a D-^{6}, it would be a vi chord. If the chord was part of a I-IV-V^{7}-I kind of progression, it would function as a sub-dominant in first inversion, a IV^{6}. You have to hear it and examine the chords surrounding it to know for sure. Context matters.

Here's what all the above looks like with a chord example.



Moving On

Now that you can identify a chord and its inversion, you're ready for information about chord progressions, or how one chord moves to another chord. The next chapter covers the basics of a few of the most common chord progressions, found in sounds from Bach to Rock.

Chapter 31 Study Guide

1. What is a root position chord?

A chord with the tonic of the chord as the lowest voice of the chord.

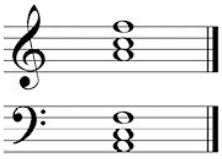
2. What is close harmony?

When the notes of a chord are placed as close together as possible

3. What is open harmony?

A chord spread over more than an octave with space between chord tones

4. What is the name and Roman numeral for this chord in the key of C?



F/A, IV^6

5. What is a first inversion chord?

A chord with the 3rd of the chord as the lowest voice.

6. How do you show a first inversion chord?

A slash followed by the note name in the lowest voice (e.g. C/E).

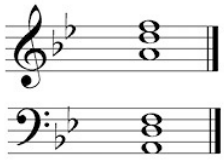
7. What is a second inversion chord?

A chord with the 5th of the chord as the lowest voice.

8. How do you show a second inversion?

A slash followed by the letter name of the note in the bottom voice. (e.g. C/G).

9. What is the name and Roman numeral for this chord in the key of B flat?



Dmin/A,

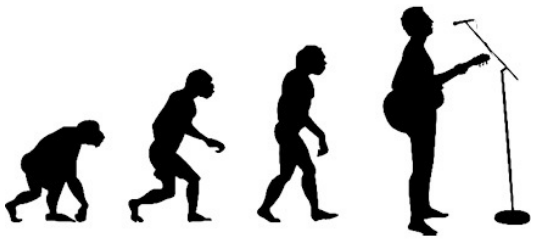
iii$^{6}_{4}$

Practical Use Exercises

1. Write out all the inversions for the F Major chord. Don’t forget root position. Label them correctly. Sing/play each inverted chord until it feels comfortable. Write out all inversions for Emin and label them. Choose three more chords and write out their inversions.

2. Write out all the inversions for $B\flat^{Maj7}$. Don’t forget root position. Sing/play each inverted chord until it feels comfortable. Write out the inversions for G^{7}. Choose three other seventh chords and repeat.

CHAPTER 32



Chord Progressions

Do you know that our soul is composed of harmony?

Leonardo da Vinci

What is a Chord Progression?

A chord progression is a pattern of movement from one chord to another. Any piece of music has a chord progression. And even if it's a melody without chords at all, there is still a chord progression implied by that melody. You may hear chord progressions called *chord changes* or even just *changes* by jazz musicians, as in, "Man, that cat can sure play those changes!"

Chord progressions are often very simple, involving only a few chords, but they can also be quite complex. The chord progressions we'll be going over will be of the simple variety.

Chord progressions are often repeated many times throughout a piece of music. All the progressions we'll be going over, with the exception of the 12 Bar Blues, are found most often at the end of sections or songs. These are special types of chord changes called cadences.

Chord Progression General Guidelines

Voice Leading

Remember all those pesky details about chord inversions you learned in Chapter 30? Well, now you get to put that information to work, because inversions can make chord progressions sound more smooth. Voice leading is how one chord tone (or voice) moves to another. There are certain general rules, and if you follow them, you'll get a clean, clear-sounding chord progression. These aren't laws, but general guidelines. Feel free to experiment with these rules. Feel free to break them beyond all repair. If it sounds good to you, forget the rules.

Doubling

Chord tones can be doubled without affecting the general quality of the chord. Voices that are usually doubled are tonics and fifths. Thirds are doubled less often, and extensions are rarely doubled. For most of our examples, I'll keep doubling to a minimum.

No Leaps

One of the first general rules is to avoid large interval skips from one chord tone

to the next. This is called disjunct motion.

The bass, or lowest part, can ignore this rule without harming the sound of the chord progression. For the purpose of a clear example, we'll ignore this rule for the introduction of each basic chord progression.

Keep the Common Tone

There will often be notes that two chords have in common. If at all possible, you'll want to keep these similar notes in the same voice from one chord to the next.

For example, from a C chord (C-E-G) to an F chord (F-A-C), there is a C that the chords have in common. If this C is in the top voice of the first chord, it should generally also be in the top voice of the second chord. This makes the chord change sound smooth, and is also much easier to sing or play.

Resolve Toward the Half Step

An essential component of chord progressions is the movement of half steps between chords. These are called *leading tones* (remember them from the harmonic minor scale?) and they lead our ear from one note to another. You'll see these most—and they're most important—from the V^7 to the I chord.

If there is a half step from one chord to the next, move the appropriate voice toward the half step.

For example, in the key of C, the V^7 chord (G-B-D-F) moves to the I chord (C-E-G). The third and seventh (B and F) in the V^7 chord should move to the tonic and third (C and E) in the I chord, because they are a half step apart.

Similar & Contrary Motion

Similar motion is when two or more voices move in the same direction. Contrary motion is when two or more voices move in opposite directions.

Parallel Motion

Parallel motion is a special type of similar motion in which the interval between the two parts remains the same from one chord to another. An example of parallel motion would be a Major third between the upper two voices in one chord moving down (or up) to a Major third in the top two voices of the following chord.

Most parallel motion sounds fine, but parallel fifths, fourths, and octaves are usually frowned upon by our ears and by those who adhere to the strict rules of counterpoint. Experiment with them to hear for yourself what they sound like.

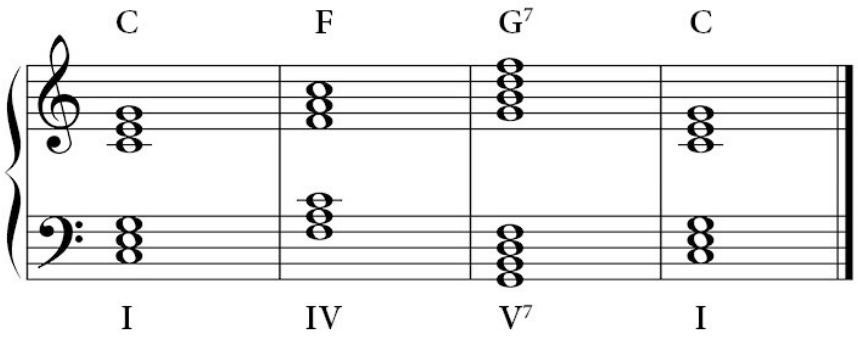
A Word on the Examples Again, to keep things simple and uncluttered, we'll use the key of C for all our examples, but these progressions can (and do!) happen in every key. The first examples you'll see will be simple chords in root position in the treble clef. Once you've been exposed to the basic chord progression I'll then subject you to a more complex version with both treble and bass clef, and chords in inverted positions. Following are a few of the most common chord progressions.

The I-IV-V^7-I Progression This progression is probably the most common of all progressions in Western music. When you hear it, you'll most likely recognize it. It can be found in nearly every style of music, and though it will appear in other parts of a piece, it's most common at the end of a song or section.

Even if you don't consider yourself a piano player, sit down at one and play through these progressions. It might take some effort (and perhaps a review of the bass or treble clef and the piano keyboard), but it'll be worth it. To understand these concepts intellectually is one thing, but to hear them is the whole point. Play them! Here's the I IV V^7 I progression in C with chords in root positions.

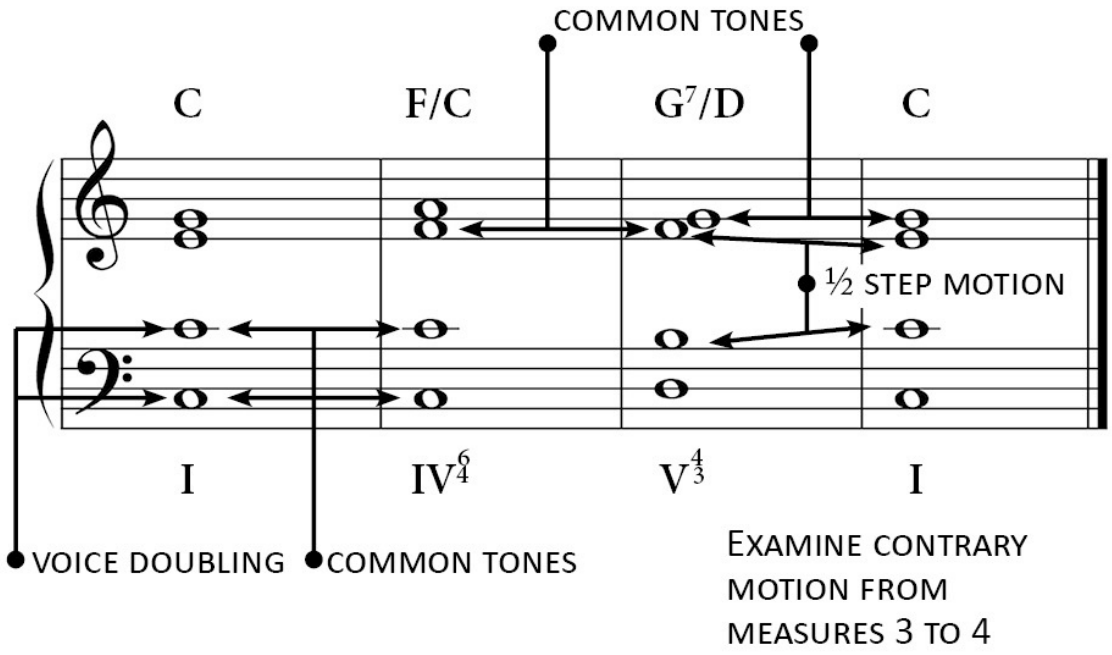
The top example follows few rules of voice leading, but is simple and clear so

you can see and hear the basic chord progression. The example that follows has the same notes as the first example, but in different voices, and some chord tones are doubled. The second version follows the rules of voice leading and sounds much smoother. Play it!

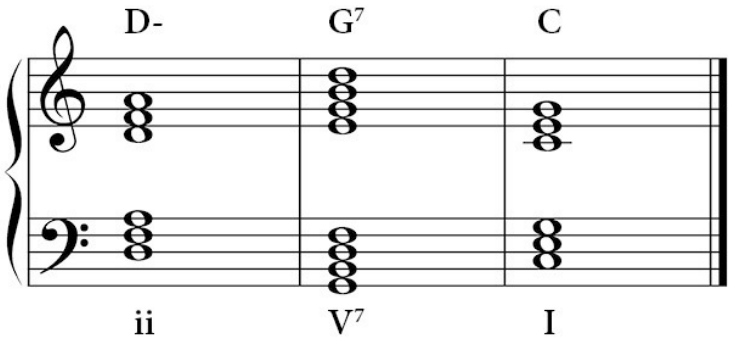


You'll probably never see/hear a chord progression this simple "in the wild." Below is a more realistic chord progression. Some things to notice, many of which I've labeled: the IV chord is in the second inversion so that the common tone—the C—remains in the bottom voice; the F remains in the same voice from the IV to the V^7. The V^7 chord is also in the second inversion so that the bottom voice only moves a whole step from chord to chord. From the V^7 to the I, the leading tones resolve toward the half step in contrary motion: the F goes down to the E, and the B in the bass clef goes up to the C. See if you can pick out some of the parallel motion, and some of the other contrary motion. It's in there.

This progression is in relatively close harmony, and is only one of many, many, many possibilities.

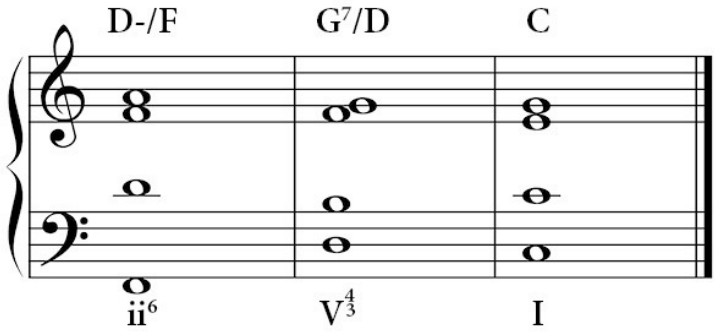


THE ii-V^7- I PROGRESSION THIS IS ANOTHER VERY COMMON CHORD PROGRESSION, USED IN EVERYTHING FROM POP SONGS, TO COUNTRY TO JAZZ AND BEYOND. THE MOVEMENT BETWEEN CHORDS IN THE FIRST EXAMPLE HERE, WITH CHORDS IN ROOT POSITION, IS AN EXCELLENT EXAMPLE OF DISJUNCT MOTION. HERE'S THE II V^7 I PROGRESSION IN THE KEY OF C, ROOT POSITION. FOCUS ON THE CLEF YOU'RE MOST COMFORTABLE WITH. NOTES ARE THE SAME IN EACH CLEF.



And now for the same progression, but following more of the guidelines for voice leading. This time, see if you can spot the voice doublings, the common chord tones, the half step motion, and the contrary motion.

As I began to write out the example here, a tune came on that caught my ear because it used the ii V I progression over and over for several measures, and it sounded good, so I figured out how it moved, transposed it to C Major, and put it below.



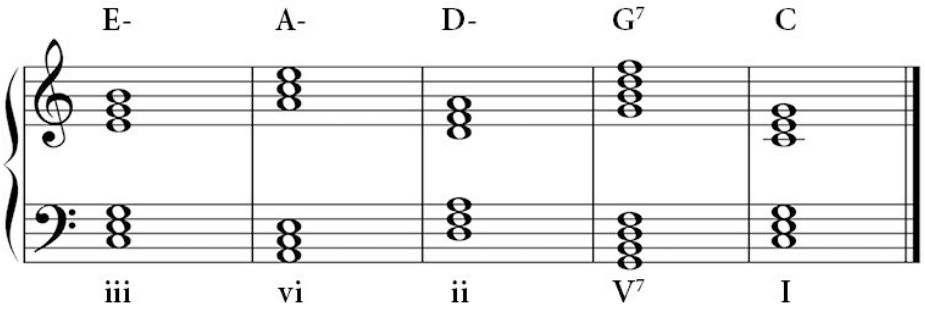
Chord progressions cannot be copyrighted. Jazz musicians (and others) took advantage of this by putting new melodies over familiar chord progressions. Thelonius Monk's *Rhythm-ning* is just one of many tunes that use the changes from *I Got Rhythm* by George and Ira Gershwin. Anyway, here's a ii V^7 I in the key of C.

Play this one on the piano too, and try it in other keys as well as with other

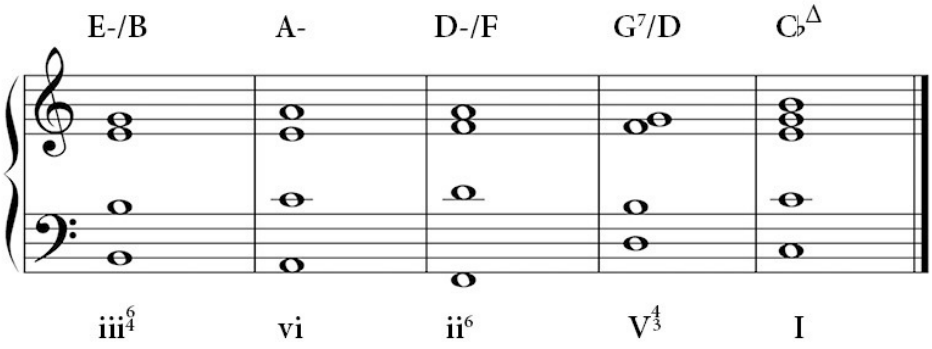
voicings and other inversions. Once you get the sound in your head, you'll recognize this progression all over the place.

The iii-vi-ii-V^7-I Progression

This is another very common chord progression similar to the ii V^7 I progression. The difference of course is the added iii and vi chords before the ii V^7 I. Here's the iii vi ii V^7 I progression in C, root position.



Again, in the following, "real-world" example, see if you can pick out the chord tones of the iii and vi chords, and all the other stuff: voice doubling, parallel and contrary motion, half step motion, and common chord tones.

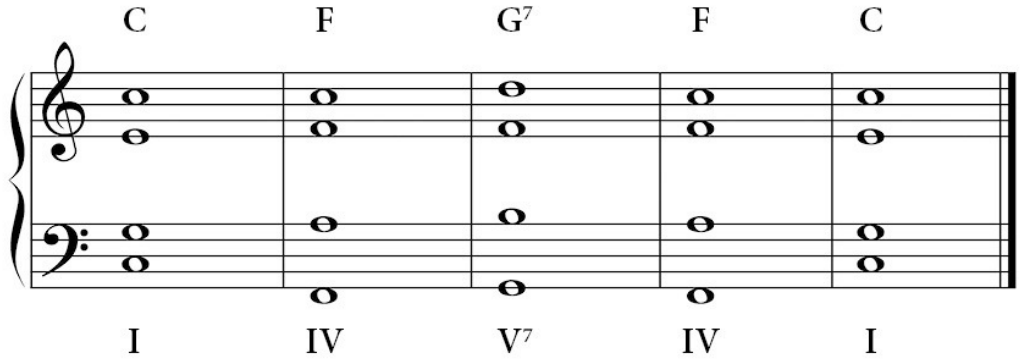


Always be aware of what instrument(s) you're writing for. The bass clef part in the example here has quite a stretch in the ii chord, something only a large-handed piano player would be capable of playing. However, if this was a score for a 4-part brass quintet, there wouldn't be a problem.

Plagal Cadences (IV-I) The progressions you've had so far all end with the V^7 chord moving to the I chord. There is another type of progression, or cadence, that uses the motion of the IV chord to the I chord.

By now there's no need to show you these chords in basic root position, so I'm going to just jump right into a "real world" example of this progression. So there. Good work!

This type of cadence is called a *plagal cadence* and has an open-ended quality to it, as though it could go on and on. Plagal cadences have a different sound and are fun to play around with. Use them if you have a song that fades away over a repeat or uses a repeating melody line.



Some plagal cadences are the I-IV-V^7-IV-I (shown above), I-ii-IV-I, and I-V^7-vi-IV-I, and the most-recognizable cadence found in the last few bars of the 12-bar blues, which you learn next.

The 12 Bar Blues Progression

Remember the blues scale? If not, take a look back at "The Blues Scale" on page 194. It's the scale that is associated with the 12 bar blues form. There have been volumes and volumes written on the blues, and if you're looking for in-depth coverage, this ain't the place. This section will give you the generic version of the 12 bar blues.

Some artists, dead and living, who play and/or sing the blues are: Buddy Guy, Muddy Waters, Robert Johnson, Stevie Ray Vaughn, B.B. King, John Lee Hooker.... The list is nearly endless and these are just a few of the big names of the blues. Jazz is based on the blues, so as you'd guess, lots of jazz artists can shred on blues tunes, people like Dizzy Gillespie, Lester Young, J.J. Johnson, and more others than can be quickly named. Many other musical artists also dabble in the blues forms, from Eric Clapton to James Taylor.

The 12 bar blues is basically a 12 measure chord progression repeated over and over for the entire song. There are variations, but 12 bars is so standard that it's safe to say 99% of blues tunes follow the 12-bar format.

Each Roman numeral below represents one measure, and if you count them, there are 12. Try playing these chords in this order, and you'll most likely recognize the sound. Here's the basic pattern of the 12 bar blues.

I^7	I^7	I^7	I^7
IV^7	IV^7	I^7	I^7
V^7	IV^7	I^7	I^7

To find the right chord, simply put the chord letter in place of the Roman numeral. In the below example, if we did it in the key of C, the chords would be $I^7 = C^7$, $IV^7 = F^7$, $V^7 = G^7$.

Blues Progression Variations There are several variations of the standard blues progression above. You can put a IV chord in the second measure. There is a minor blues progression that uses minor chords and often a 3/4 time signature. The rules for chord substitutions can be applied to the blues to give it a different flavor, too. For a stellar example, check out the changes on Charlie Parker's *Blues for Alice*.

Moving On So there you have it: four of the most common chord progressions in one easy chapter. Be sure to try all of these chord changes in as many keys as you can stomach, in as many different ways as you can think of. You'll be a much better musician for it if you do.

Coming up next, after the review for this chapter, is the review for all of Part VI.

The next Part (and the last one!) covers more information on subjects you already know, like dots after a note, faster types of notes, more accidentals, and some different meters.

Chapter 32 Study Guide

1. What is a chord progression?

The movement from one chord to another

2. What is another name for a chord progression and by whom is it used?

chord changes, or changes
used by jazz musicians

3. What is disjunct motion?

A leap of more than a 2nd

4. What is the rule about disjunct motion?

Keep it to a minimum.
Okay in the bass voice

5. What is the rule about common
tones moving from one chord to another?

Keep the common tones
in the same voice

6. What is contrary motion?

One voice goes up, the other
goes down, or vice-versa

7. What is parallel motion?

Both voices moving in the same direction
with the same interval between them

8. Which types of parallel motion should be avoided?

Parallel fourths, fifths and octaves

9. What chords are used for the
I IV V^7 I progression in the key of BB?

Bb Eb, F^7, Bb

10. Where would you be likely to find this progression?

At the end of a section or song

11. What chords are used for the ii V^7 I progression in the key of G?

12. What chords are used for the
iii vi ii V^7 I progression the key of F?

Amin, Dmin, Gmin C^7, F

13. What is a plagal cadence?

A cadence in which the IV chord
is followed by the I chord

14. What is the sound quality of a plagal cadence?

Has an unfinished, open-ended feel,
as though it could go on and on.

15. What is the basic progression for the 12 Bar Blues?

I^7 I^7 I^7 I^7
IV^7 IV^7 I^7 I^7
V^7 IV^7 I^7 I^7

16. Did you sit down at the piano and play these chords progressions?

Please say yes.

Practical Use Exercises

1. Draw a bracket around each pair of staves below like the examples in this chapter. In the key of F Major, write out an arrangement for piano, guitar, multiple voices, or instruments using the I, IV, V^7, I chord progression. Play or sing the progression as a group until it feels comfortable. Use the correct accidentals to change the progression to i, iv, V^7, i. Play the minor progression until it feels comfortable. Switch chord voicings.

2. Write out a chord progression in the key of F Major and use one of the plagal cadences mentioned in this chapter (I-IV-V-IV-I, I-V-vi-IV-I, or I-ii-V-IV-I, etc.). Play and/or sing what you've written.

3. Pick your favorite key signature. Outline the I chord by either playing or singing each chord tone. Try to hear the whole chord in your head as you do this. Do the same for the IV chord, and then the V^7. Try to do this exercise with two or more people at once. Be sure to specify a meter/beat and the length of each chord so you can change chords together..

Part Six Review

To know oneself is to study oneself in action with another person.

BRUCE LEE

WHEW! YOU MADE IT

These pages can be used to test your memory on what you've learned in Part Three, and if some of the information hasn't stuck, you should go back and check it out.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. What is the definition of a chord?

page 214

Three or more notes played simultaneously

2. What determines the quality of a chord?

page 214

The intervals within the chord

3. How are chords named?

page 214

With a Roman numeral, a letter, and a quality of Major, minor, diminished or augmented

4. What are the parts of a triad?

page 215

Root, third, fifth

5. Why are they called this?

page 215

Root is the bottom note of the chord;
third is a third above the root;
fifth is a fifth above root

6. How do you show a triad is Major?

page 216

Capital Roman numeral, or a capital letter only

7. How do you show a triad is minor?

page 217

Lower case Roman numeral,
lowercase letter, or the abbreviation
“min” next to the letter name

8. What are the intervals in a Major triad?

page 216

A note a Major third above the root and
another a Perfect fifth above the root.

9. What are the intervals in a minor triad?

page 217

A note a minor third above the root, and
another a Perfect fifth above the root

10. What are the intervals in a diminished triad?

page 218

A note a minor third above root and
another a diminished fifth above root;
or stacked minor thirds.

11. What are the intervals in an augmented triad?

page 219

A note a Major third above root and
another an augmented fifth above root;
or stacked major thirds

12. What are the basic emotional qualities of the different types of triads?

page 216, page 217, page 218, page 219

Major = happy; minor = sad;
dim = suspenseful; aug = unsettling

13. What is a chord extension?

page 222

A note that doesn’t appear in the basic triad

14. How are chord extensions notated?

page 222

With a number equal to the note’s
interval above the root. Also with a
symbol showing quality

15. What is a compound interval?

page 222

An interval greater than an octave

16. When you see a 7 to the right of a chord letter, what kind of a seventh is it?

page 224

A minor seventh above the root

17. How would you indicate a Major 7 above the root?

page 223

Δ or ^{MAJ7} or ^{M7}

18. What's another name for the V^7chord?

page 224

A dominant seventh chord

19. Why are V^7 chords so important?

page 224

They draw the ear to the tonic (I) chord, and appear in nearly all chord progressions

20. Spell the V^7 chord in the key of G.

page 224

D,F#,A,C

21. What chord tones are in a ninth chord?

page 224

Root, third, fifth, seventh, ninth

22. What chord tones are in an eleventh chord?

page 225

Root, third, fifth, seventh, ninth, eleventh

23. What is a root position chord?

page 229

A chord with the tonic of the chord as the lowest voice of the chord

24. What is close harmony?

page 230

When the notes of a chord are placed as close together as possible

25. What is open harmony?

page 230

A chord spread over more than an octave with space between chord tones

26. What is a first inversion chord?

page 230

The third of the chord is the lowest voice

27. What is the symbol for a first inversion chord?

page 230

The chord letter name followed by a slash with the root note (e.g. C/E)
Small 6 to the right of the letter or Roman numeral (e.g. C^6)

28. Why is this symbol used?

page 230

The slash chord tells you the chord name and root note. The 6 tells the interval between the third (bottom note in the inversion) and the tonic, a 6th

29. What is a second inversion chord?

page 231

A chord with the fifth as the lowest note

30. What is the symbol for a second inversion chord?

page 231

The chord letter name followed by a slash with the root note's letter (e.g. C/G) Or a small $^6_4$ next to the Roman numeral (e.g. I^6_4)

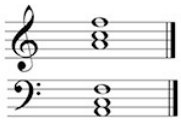
31. Why is this symbol used?

page 231

The slash chord tells you the chord name and bass note. The 6-4 tells the interval between the root and tonic (a 4th), and between the root and the fifth (a 6th)

32. What is the name and Roman numeral for this chord in the key of C Major?

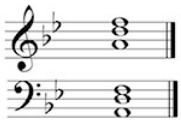
page 233



F/A, IV^6

33. What is the name and Roman numeral for this chord in the key of B flat Major?

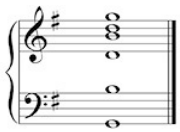
page 233



Dmin/A, iii^6_4

34. What is the name and Roman numeral for this chord in the key of G Major?

page 233



G, I

35. What is a chord progression?

page 238

The movement from one chord to another

36. What is the rule about doubling chord tones?

page 239

Doubling the octave and fifth is common; doubling the third less so; and doubling the extensions is rare

37. What is disjunct motion?

page 239

A leap of more than a second from one chord tone to the next within a voice

38. What is the rule about disjunct motion?

page 239

Keep it to a minimum. Okay in the bass voice

39. What is the rule about common tones from one chord to another?

page 239

Keep the common tones in the same voice

40. What is contrary motion?

page 239

Voices move in opposite directions from one chord to the next.

41. What is similar motion?

page 239

Two or more voices moving in the same direction from one chord to another.

42. What is parallel motion?

page 239

Both voices moving in the same direction with the same interval between them.

43. What types of parallel motion is usually avoided?

page 239

Parallel fourths, fifths and octaves

44. What are the chord names for the I IV V^7 I progression in the key of B♭ Major?

page 240

BB EB, F^7, BB

45. Where would you be likely to find this progression?

page 240

At the end of a section or song

46. What are the chord names for the ii V^7 I progression in D Major?

page 241

Emin, A^7, D

47. What are the chord names for the iii vi ii V^7 I progression in F?

page 242

Amin, Dmin, Gmin C7, F

48. What is the basic progression for the 12 Bar Blues?

page 244

I^7 I^7 I^7 I^7
IV^7 IV^7 I^7 I^7
V^7 IV^7 I^7 I^7

Moving On

Okay. This was the most complex part of the whole book, and we barely scratched the surface of chord progressions. After all, this is *Basic* music theory. Unless you're pursuing advanced levels of music teaching or performance, or composition, you're never going to need this stuff, so if you found it confusing and/or unnecessary, don't sweat it.

The last part of this book (yay!) is information you'll need, and all of it is related to things you've already learned: more kinds of rhythms, more meters, and more accidentals. Woot! You're almost done! Power through!

Part Seven

More of the Same

In This Section You Learn

Double Flats

Double Sharps

Thirty-second Notes

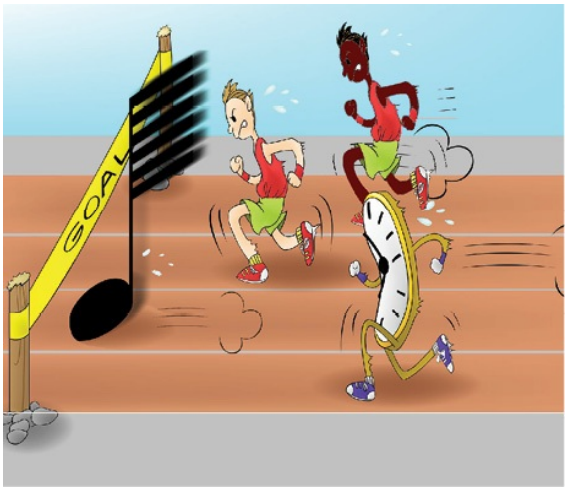
Double-dotted Notes

Alla Breve, or Cut Time

Compound Meters

Odd Meters

CHAPTER 33



The Faster and the Slower

You are the music while the music lasts.

T.S. Eliot

Shorter Notes

There are shorter notes than sixteenth notes.

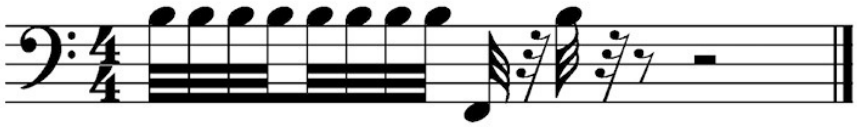
Each time a beam or flag is added to a note, it's value is cut in half. Remember when we added a flag to a quarter note? It became an eighth note, half as long as a quarter. Remember when we added another flag to the eighth? It became a sixteenth, half as long as the eighth note. As with the other notes, when there is more than one note, the flags are connected and become a beam.

Thirty-second Notes

We're going to add a flag/bar to the sixteenth note, making it a thirty-second note. Just like the name implies, there are thirty two of them in 4 beats (whole note); sixteen of them in two beats (half note); eight of them in one beat (quarter note); four of them in half of a beat (eighth note); and two of them in a fourth of a beat (sixteenth note). Phew. Notice that they're grouped in 8s, with 2 groups of four separated. As with all lengths, these can be showed with rests, too. Same

number of “barbs” on the rest as there are bars on the note.

Thirty-second notes are fairly rare, but you’ll probably run into them now and then, often as grace notes (quick notes just before the main note).

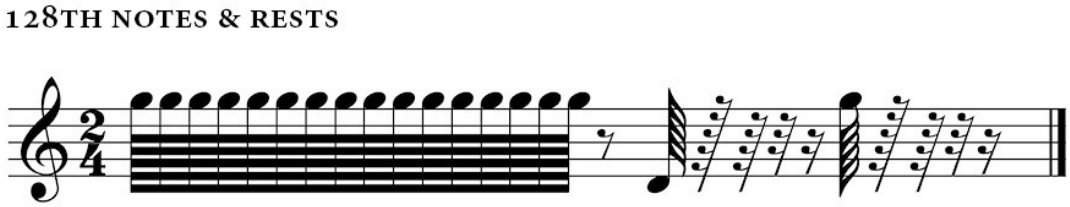


Sixty-fourth Notes and Beyond

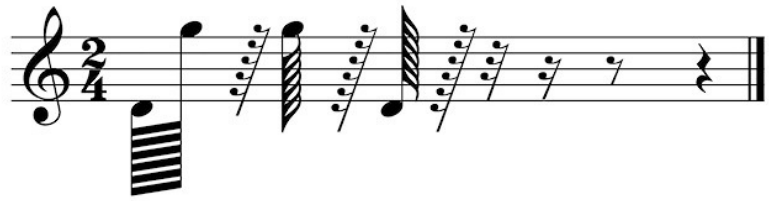
These notes are more rare, and you won’t encounter them in most written music, but I thought I’d throw them down on the next page for your enjoyment.

Same deal with the flag/beam. Add another beam to the 32nd note and it cuts the length in half. So, for sixty-fourth notes there are: 64 in a 4 beats, 32 in two beats, 16 in one beat, 8 in half of a beat, 4 in a quarter of a beat, and two in an 8th of a beat (thirty-second note).

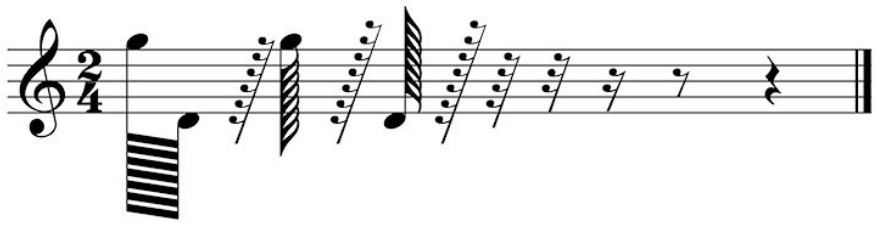
And just for kicks, here are the next few shorter notes, all the way down to 512th notes.



264TH NOTES & RESTS



512TH NOTES & RESTS



Double Dotted Notes

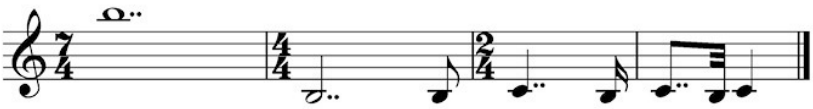
You already know that a dot lengthens the note it follows by half the amount of the original note.

Another dot after that first dot also lengthens the note, but by half the amount of the first dot.

An easier way to say this is that ***a double dot increases the length of a note or rest by ¾ of its original value***.

So a double-dotted whole note or rest is 7 beats. A double-dotted half note or rest is 3½ beats, a double-dotted quarter note or rest is 1¾ beats, and a double-dotted eighth note or rest is ⅞ of a beat. We could continue the process, but it's pretty safe to say you'll probably never see a double-dotted sixteenth, thirty-second, or sixty-fourth note. If you do, the rule for the dot is the same.

Because it sounds right and is easier to read and play, a double-dotted note will usually be paired with whatever note finishes out the beat or measure. Take a look at the examples here to see what I mean. Play them to understand more fully.



Moving On

Okay, only a few more chapters to go in the book! Use the review to make sure you've understood the details of the shorter notes and double dots.

Coming up is a very short chapter on double sharps and double flats.

Chapter 33 Study Guide

1. How do you cut the length of a note in half?

Add a flag or beam

2. What note is half the length of a sixteenth note?

thirty-second note

3. What note is one fourth the length of a sixteenth note?

sixty-fourth note

4. How many 32nd notes in one beat of 4/4 time?

5. What does a double dot do to a note?

Increases its length by ¾ of the note's original value.

6. How long is a double-dotted quarter rest?

1¾ beat

7. What note is usually paired with a double-dotted quarter note? Why?

Sixteenth note. It finishes out the beat and is easier to read and play.

Practical Use Exercises

1. Write out 4 measures of 8/4 time. Use at least two double-dotted notes per measure, but see if you can use them all. Play and sing what you've written.

2. Write out another 4 measures of 8/4 time. This 4 measures is meant to be a harmony part to what you composed in exercise 1, so don't choose the same notes, though you might use the same rhythms (hint: 3rds, 4ths, 9ths and 5ths sound good together). Find a friend and sing or play both parts together.

CHAPTER 34

Double Flats & Double Sharps If I were to begin life again, I would devote it to music. It is the only cheap and unpunished rapture on earth.

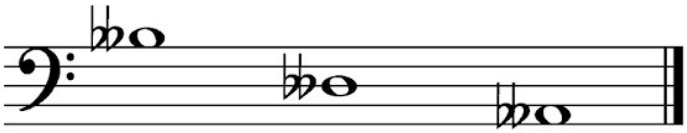
Sydney Smith

Double Your Fun Welcome to the shortest chapter of the book. You're about to learn double sharps and double flats.

Double Flats

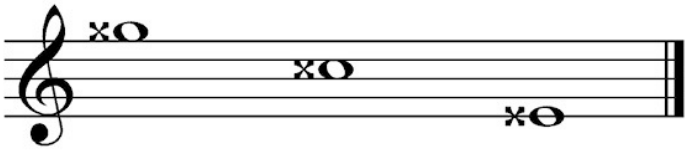
A double flat lowers a note by one whole step. You won't see them very often, but now and then double flats are necessary in order to spell a chord or an interval correctly. You'll see double flats in flat keys, usually with minor or diminished intervals. See the example of this using the DB dim chord in the next section.

Double flats are easy. Just put two flats close together before the note they alter. Here are B double-flat, E double-flat, and A double-flat:



Double Sharps

A double sharp raises a note by one whole step. You'll see a double sharp about as often as you'll see a double flat. These usually pop up when augmented intervals are needed in a sharp key (see below). Here are G double-sharp, C double-sharp, and E double-sharp.:



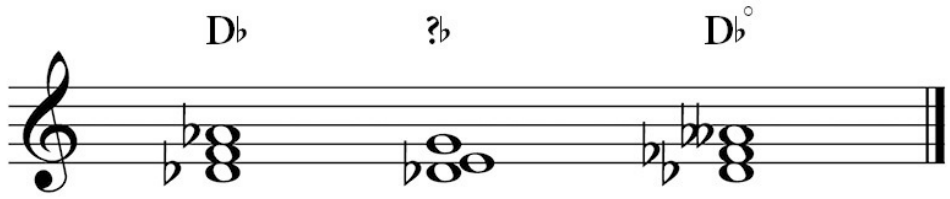
You'll be glad to hear there are no such things as double naturals, triple sharps or triple flats.

A Werd on Spelling Kords Here's why such pesky things as double sharps and flats exist. These signs help to spell some chords correctly. It's like the words two, to, and too. They all sound the same, but in context, they have different meanings. Just as you wouldn't write, "I went two the store," you wouldn't put an E in a Db diminished chord instead of an Fb. They sound the same, but when written down, it's important to get the right one. Sit at the piano to play and *hear* the following chords to understand these concepts more fully.

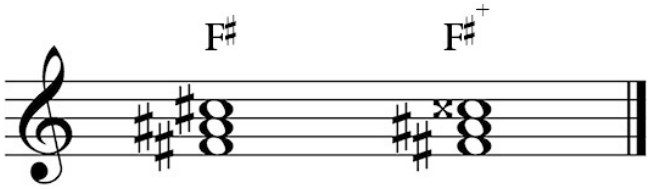
Stay with me here and refer to the example below. The Db Major triad is spelled Db, F, Ab, right? Well, for a diminished chord, the third and fifth of the chord have to be lowered a half step. A half step down from F is E, and a half step down from Ab is G, right? The sound would be correct, but written out, it would look wrong.

Even though those pitches would *sound* correct, you can't write them that way and still have a Db diminished triad. Take a look below. On the left is the Db

Major triad. In the middle is a chord that will sound exactly like the D♭ diminished triad, but the way it's written, the chord is actually an inverted E ♭^{dim7}, or something. Context would help name it better. Anyway, the correct spelling of D♭dim is on the right. Even though it makes things a little crowded, for the D♭ dim chord to be spelled correctly we have to use an F♭ and an A♭♭. I know it's weird, but I didn't make up the rules. Don't kill the messenger.



Likewise with augmented chords or other cases where you need to raise a note that already has a sharp in front of it or which has a natural half step above it (like B and E). Let's use F♯aug for our example. An augmented triad has a raised fifth, so our C# will become a C-double-sharp. It has the same pitch as D, but in order for the chord to be spelled correctly, we have to use the double-sharp. Like so:



Moving On Double sharps and double flats are pesky things you'll probably see if you continue reading music long enough, so even though you won't use them often, it's good to know what

THEY ARE, AND NOW YOU DO.

Only one lesson left! It's on meters we haven't covered yet which include 6/8 time, cut time, and some odd meters, like 7/4.

CHAPTER 34 STUDY GUIDE

1. Why are double flats and double sharps used?

   To spell certain chords and intervals correctly

2. What does a double flat do to a note?

Lowers it one whole step

3. What does a double flat look like?

Two flats close together in front of a note

4. What does a double sharp do to a note?

Raises it one whole step

5. What does a double sharp look like?

6. What does a triple flat look like?

There is no such thing

Practical Use Exercises

1. Write out the following key signatures with their Major scale: EB, AB, B, and E. One line below these scales, write the following intervals: a diminished fifth above EB, a diminished fourth above AB, an augmented fifth above B, and an augmented sixth above E. If you need help with these intervals, check out page 172 and page 173.

CHAPTER 35

More Meters

After playing violin for the famous cellist
Gregor Piatagorsky, Albert Einstein asked,
"Did I play well?"

Piatagorsky answered,
"You played relatively well."

More than Four-four

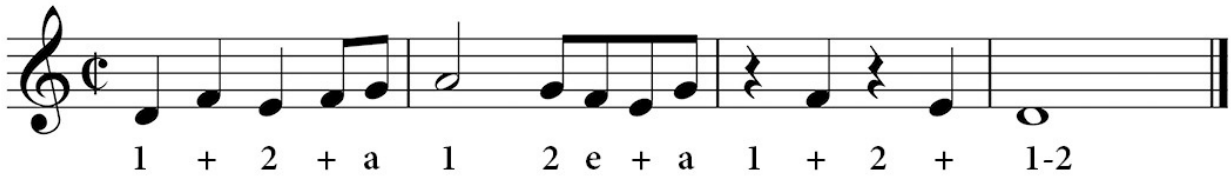
The majority of music has the quarter note as its pulse and is in a duple meter (the top number is divisible by 2), but there is a whole lot of great music out there that has a different pulse, and even some with an odd meter.

Remember way back in Chapter 6 when we went over meters for the first time? The top number tells you how many beats in a measure and the bottom number tells you which note gets one beat. For a refresher, see page 31. Let's check out some new, interesting meters.

Cut Time, Alla Breve, or $\frac{2}{2}$ Time

This is a very common meter. It's typically shown with the symbol "C," but may also be written $\frac{2}{2}$. The top number tells you there are two beats in each measure, and the bottom number tells you that the half note gets one beat. Remember, one way to show four-four time, the most common time signature, is with a capital C. That was way back on page 32. Well, the symbol for cut time is the same idea, but with a slash dividing the "C" in half. Get it?

Essentially, all note lengths in cut time are cut in half. The beat is now represented by the half note, not the quarter note as in standard four-four time. Whole notes act like half notes (2 beats); half notes act like quarters (1 beat); quarters act like eighths (½ beat), *etc.* Because of this, the counting is a little different, but the foot tap is the same. In the example here, your foot hits the floor on the numbers, as usual.



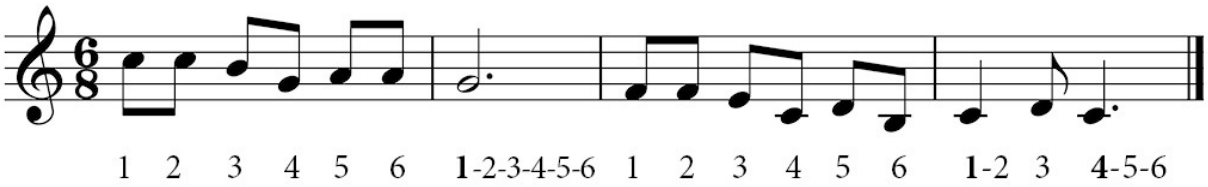
$\frac{6}{8}$ Time

Six-Eight time is fairly common and one of the more confusing basic time signatures, but I'll break it down for you so it's easy to understand. First of all, from the top number, you know that there will be six beats per measure. And the bottom number tells you that the eighth note gets one beat.

It's the eighth note getting the beat that is confusing. This throws everything out of whack from what you're used to. Eighth notes get one beat, quarter notes get two beats, dotted quarters get three, half notes get four, and dotted half notes get six. No whole notes in this time signature; they're too long.

In this meter, changing how the eighth notes are barred is an option that will quickly convey the pattern. In the example above, I've grouped the eighth notes

in twos. Below, they're grouped in threes. The musical example above is a slight variation on what is probably a familiar melody. Count it. Sing it. Play it.



SIMPLE $\frac{6}{8}$ VERSUS COMPOUND $\frac{6}{8}$

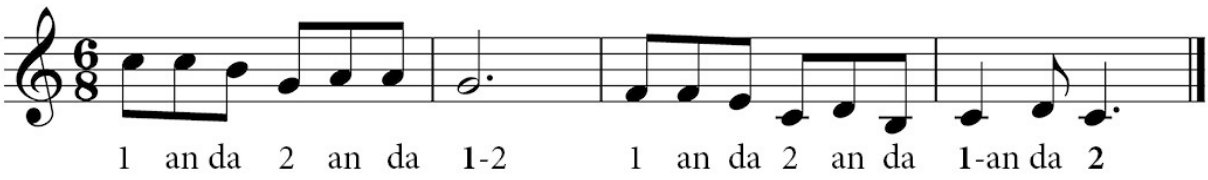
If that's all there was to six-eight time, it would be much easier to understand, but there's more. The example above is in simple six-eight time, also called slow six-eight time. What you see in simple six-eight is what you get, the 8th note gets one beat and there are six beats per measure.

Compound six-eight, or fast six-eight, is counted differently and has a different feel. In compound six-eight, the beat is the dotted quarter note. To get this feel, try the following: say the numbers 1-6 at a quick, rhythmic pace and give emphasis to the numbers 1 and 4. Like this: **1** 2 3 **4** 5 6, **1** 2 3 **4** 5 6, *etc.*

So, in fast or compound six-eight time, there are only two beats per measure and they fall on eighth notes one and four, making each beat subdivided into three eighth notes. They sound like triplets. Remember triplets from page 48? Six-eight time is counted with the following syllables: 1 an da 2 an da, 1 an da 2 an da, *etc.* It sounds like triplets, because the beats are each divided into 3 parts. Your foot hits the floor on the numbers. Dotted quarter notes get one beat each.

Let's use our same example, but this time it will go much more quickly, the eighth notes will be grouped in threes, and it will be counted differently. Since you know the melody from the above example, notice how changing the grouping and metric feel alters the nature of the melody. Pretty cool, right?

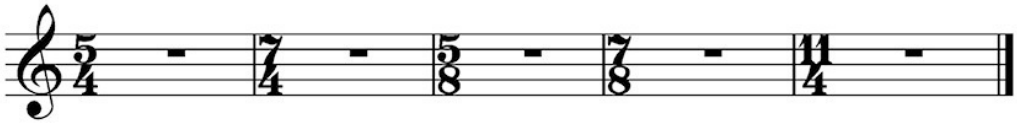
Compound six-eight has a triplet feel. Your foot taps down with the numbers, and remember that the pulse is now a dotted quarter note. Try counting it out loud, first at a comfortable tempo, then speed it up. Sing it. Play it.



Odd Meters

Occasionally you'll hear or see music in an odd meter. When you listen to it, the clue is that it's difficult to find the pulse, and when you do find the beat, the beginning of the musical phrase seems to shift around. Odd meter pieces can be difficult to tap your foot with even if you know the meter.

An odd meter has an odd number greater than 3 as the top number of the time signature. Here are some examples of the more common odd meters, except for that last one. The first four are the most common odd meters, but that shouldn't stop you from understanding or writing a piece in 11/8 or 13/4, or whatever.

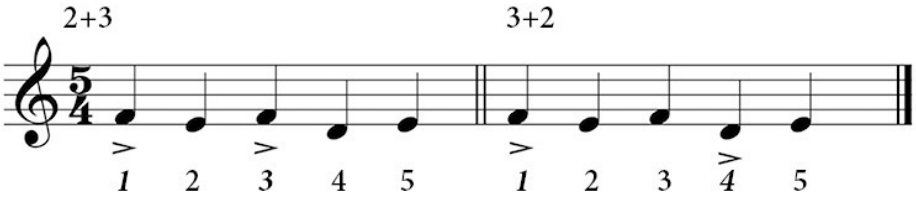


The counting for odd meters is the same as more familiar meters, but with a different number of beats per measure. And just as six-eight time has a compound version, most odd meters also have strong and weak beats. The cool thing is that, because the number of beats in the measure is odd, these meters have a wonderfully less regular feel than you're used to hearing.

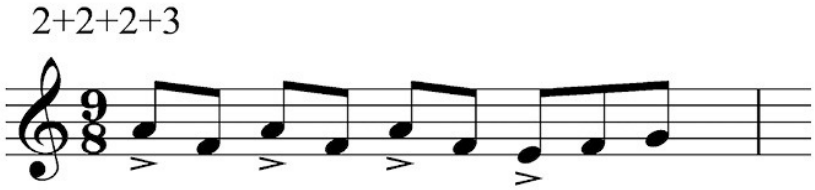
Most odd meters are grouped in 2s and 3s, and often there will be directions above the meter (or in the meter itself) telling you what this grouping is, as in the examples on this page.

For example: a meter with a 5 on top (five-four, or five-eight) can be grouped as 2 + 3 (counted **1** 2 **3** 4 5), or grouped as 3 + 2 (counted **1** 2 3 **4** 5). See the example to the right for both counts.

A meter with a 7 on top (7/4 or 7/8) can be grouped 2 + 2 + 3 (counted **1** 2 **3** 4 **5** 6 7) or 3 + 2 + 2 (counted **1** 2 3 **4** 5 **6** 7), or even 2 + 3 + 2 (counted **1** 2 **3** 4 5 **6** 7), though this last version I've never seen.



To hear a master of odd meters, listen to some Dave Brubek, especially the tunes *Take 5*, in straight five-four time, or *Blue Rondo alla Turk*, in compound nine-eight time, grouped 1-2, 1-2, 1-2, 1-2-3 as you can easily see below.



One technique that makes this tune so cool is that, in the last measure of the 8-bar phrase, the grouping changes to 3 groups of 3: 1-2-3, 4-5-6, 7-8-9. Follow the link to listen to a sample of the tune in which you can hear this quite clearly. It's a great tune. In fact, the whole album is perfect for this chapter, because on it the musicians experiment with odd time signatures. Find it on the web at: http://is.gd/jejehu

Moving On

Congratulations! After you complete the final reviews, you're done! And in a sense, you've just gotten started. It's been a long haul, and don't be surprised if you forget a lot of what you learned—that's perfectly normal. If you do forget, now you know where to go to find the answers you need. The more you use this information, the more it will stick in your memory.

The only thing left is the final review for this Part. It's a short one.

Chapter 35 Study Guide

1. What is the numerical time signature for cut time?

2/2

2. How many beats does a whole note get in cut time?

2

3. How many eighth notes in one beat of cut time?

4

4. How would 4 quarter notes be counted in cut time?

1 + 2 +

5. What note gets one beat in slow six-eight time?

eighth note

6. How many beats are in each measure of slow six-eight time?

6

7. How many beats do quarter notes get in slow six-eight time?

2

8. How many beats do dotted half rests get in slow six-eight time?

6

9. How many pulses are in a measure of complex, or fast six-eight time?

2

10. What rhythm gets one beat in fast six-eight time?

dotted quarter

11. What is the counting for a measure of
eighth notes in fast six-eight?

1 an da 2 an da

12. How are the beats in 5/4 time grouped?

2+3 or 3+2

13. How are the beats in 7/8 time grouped?

2+2+3 or 3+2+2 or 2+3+2

14. How do you tell if a song is in an odd meter?

Can't easily tap your foot to it, or there is an odd number greater than 3 as the top number of the time signature.

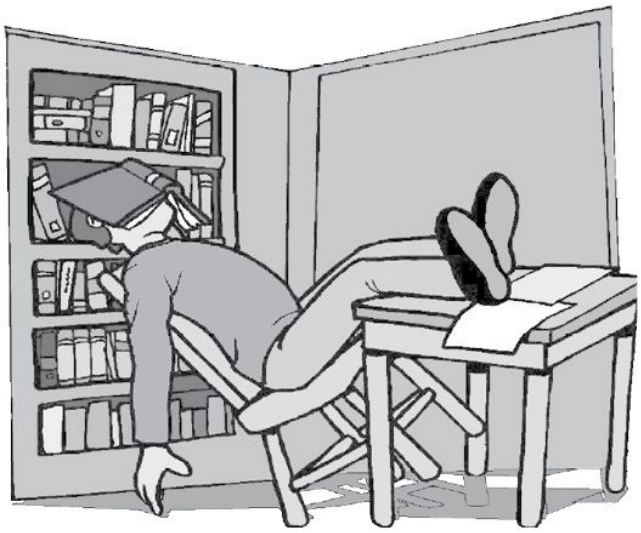
Practical Use Exercises

1. Write out an 8 measure melody in 5/4 time. You can either make one up, or transcribe one, like Dave Brubeck's *Take 5*. Get the mp3 on the Web at http://is.gd/yigaja

2. Charles Ives, a ground-breaking composer from the United States, often used two meters at once in a piece of music. Write a 10 measure harmony part to number one, but use 4/4 time (10 measures of 4/4 = 8 measures of 5/4). Find a friend and sing/play what you've written.

3. Think of another combination of meters like 2/4 and 3/4 (or whatever) and compose another piece that will begin and end at the same time. Print blank staves from http://is.gd/guhuga if you need some..

Part Seven Review



To acquire knowledge, one must study;
but to acquire wisdom, one must observe.

MARILYN VOS SAVANT

WHEW! YOU MADE IT!

These pages can be used to test your memory on what you've learned in Part Seven, and if some of the information hasn't stuck, you should go back and check it out.

As with the chapter reviews, use your keyboard from the back of the book to cover up the answers while you test yourself. Find the free printable version at http://is.gd/guhuga.

1. How do you cut the length of a note in half?

page 255

Add a flag or beam

2. What note is half the length of a sixteenth note?

page 255

thirtysecond note

3. What note is one fourth the length of a sixteenth note?

page 255

sixtyfourth note

4. How many 32nd notes in one beat of 4/4 time?

page 255

8

5. What does a double dot do?

page 257

Adds 3/4 the length of the rest/note it follows

6. How long is a double-dotted quarter rest?

page 257

1 ¾ beat

7. What note is usually paired with a double-dotted quarter note? Why?

page 257

sixteenth note. It finishes out the beat, is easier to read and play.

8. Why are double flats and double sharps used?

page 259

Spelling chords and intervals correctly

9. What does a double flat do to a note?

page 259

Lowers it one whole step

10. What does a double flat look like?

page 259

Two flats close together in front of a note

11. What does a double sharp do to a note?

page 260

Raises it one whole step

12. What does a double sharp look like?

page 260

An X

13. What does a triple flat look like?

page 260

No such thing

14. What is the numerical time signature for cut time?

page 263

2/2

15. How many beats does a whole note get in cut time?

page 263

2

16. How many eighth notes in one beat of cut time?

page 263

4

17. How would 4 quarter notes be counted in cut time?
page 263

1 + 2 +

18. What note gets one beat in simple 6/8 time?
page 264

eighth note

19. How many beats in each measure of simple 6/8 time?
page 264

6

20. How many beats do quarter notes get in simple, or slow 6/8 time?
page 264

2

21. How many beats do dotted half rests get in slow 6/8?
page 264

6

22. How many beats are in a measure of complex, or fast 6/8 time?
page 264

2

23. What's the count for a measure of 8th notes in fast 6/8?
page 264

1 an da 2 an da

24. Which note gets one beat in fast 6/8 time?
page 264

dotted quarter

25. How are the beats in 5/4 time grouped?
page 265

2+3 or 3+2

26. How are the beats in 7/8 time grouped?
page 265

2+2+3 or 3+2+2 or 2+3+2

27. How do you tell if a song is in an odd meter?
page 265

Can't easily tap your foot to it, or
there is an odd number greater than
3 as the top number of the time signature.

MOVING ON OKAY. ONCE YOU HAVE THIS INFORMATION STORED IN YOUR LITTLE GRAY CELLS, YOU'RE DONE WITH THE BOOK! WELL,

FOR NOW, AT LEAST. AS YOU BEGIN TO READ MORE WRITTEN MUSIC, YOU'LL PROBABLY HAVE TO REFRESH YOUR MEMORY OF SOME OF THE MORE ESOTERIC ASPECTS OF WRITTEN MUSIC, BUT YOU'VE GOT A GREAT FOUNDATION. I HOPE YOU HAD FUN WITH IT. GREAT JOB!

CHAPTER 36

Take a Bow

Too many pieces finish too long after the end.

Igor Stravinsky You Did It!

Congratulations for getting through a huge load of information! Because there is so much that you've learned, don't be surprised if you forget parts of it (or all of it!), and feel free to go back and review anything you need to review. It's normal.

Even though you've taken in a great deal of information, there is much, much more left to be learned if you're willing to learn it. Things like more advanced chord progressions, more chord extensions, transposing from one part to another, arranging music, composing music, and on and on and on.

It's exciting how much there is to learn; several lifetime's worth, really.

Take Your Music-Reading Skills to the Next Level Just like with any language, becoming fluent in the reading, writing, and hearing of music takes time and steady effort. There is not magical, mythical genetically endowed skill for reading music, so just keep at it and you'll get better and better. There are several ways you can push your skills to new levels. Here are a couple: Sight-Reading

Sight-reading is the practice of reading something cold, without prior study. No big deal. You're doing nearly the exact same thing right now with the written word. Think about all the practice you've had reading, both out loud and silently in your head. If you practice reading music as diligently as you practiced

learning to read, you'll be fluent in no time. Do some sight-reading every day to keep yourself moving forward.

Also, don't forget to *say* something when you sight read, by which I mean, make it expressive. You might blaze through an unfamiliar passage and nail all the pitches and rhythms, but if it's not musical, you missed the most important part. Go slowly enough to get the notes and rhythms *and* the expression right.

Transcription

Transcribing music means you're writing down what you hear. For most of us, in order to do this, we need an instrument to figure out the pitches. Piano works the best, in my experience, but anything will work. The reason piano is so great is that it's simple and straightforward and you won't tire easily. When I transcribe using my trumpet, I have to take breaks or my lips will fall off.

Start with simple melodies that you know really well and can sing from memory. Once you know the pitches, determine the rhythmic relationships and write it all down. It sounds simple, and it is, but at first you'll find this challenging. So what? Everything worthwhile is challenging. Just keep at it.

Transposition

Transposing is the act of moving the notes in a piece by the same interval. Orchestral brass players do this all the time, as do any jazz musicians who play with vocalists. For example, on trumpet, if you're looking at a part that is marked for "C trumpet," you have to play all the notes one whole step higher than written. This is just one of many transpositions, perhaps the most useful one for trumpeters, clarinetists, and tenor saxophonists, because we often have to read parts in C, like lead sheets in jazz, or piano parts. It's a bit challenging at first, but with some practice it becomes automatic.

Move Beyond the Page into the Real Music

Keep in mind that music theory is only one of many tools to be used to become a better musician. This system for writing down sounds came about *long* after Music itself. *Reading* music is not necessary for *making* music! It takes a while for all these concepts and systems to make sense, so don't let any confusion you may feel about written music get in the way of making music, of actually playing and exploring sound. The quest for a better performance of the music is the whole reason for this factual, rule-based method of writing down the sounds. Don't be a slave to written music! Use your ears!

With so many rules and regulations in music theory, it can be easy to get away from the ultimate goal of music theory, which is to enable you to express yourself musically, so keep making music, with all your heart and all your brains. Chip away at the areas of music, whether that is music theory, improvisation, or anything else that is unfamiliar to you and you won't be disappointed. Persistence is more important than "talent."

Free Stuff

To help conserve paper, I've made many of the files in the first editions of this book available for free online. These include hundreds of scales, practice sheets, exercise tracking information and a whole host of other handy tools to help you progress with your music. Check them out, and all of the other extras supporting this book.
On the Web at http://is.gd/guhuga . See you online!

Drop Me A Note (pun intended) Without the kind and generous support from readers like you, this book would not be as good as it is. Several people over the past 10 years have contributed to this improved text by pointing out errors as well as other approaches and tricks. Special thanks to Brady Frey for pointing out the deplorable layout in the first Kindle version, and to the generous input from Aaron Rosenberg for this 4th edition! If you notice problems or inconsistencies or downright mistakes, you have my sincerest apologies. Please let me know so I can make this a better

BOOK IN FUTURE EDITIONS.

If you're totally stumped and can't find answers anywhere else, drop me an E-mail and maybe I can guide you. And of course, if you liked the book and it helped you, I'd love to hear about it. You can reach me through the Sol Ut Press web site at www.sol-ut.com.

Thanks, and the best of everything to you!

Jon

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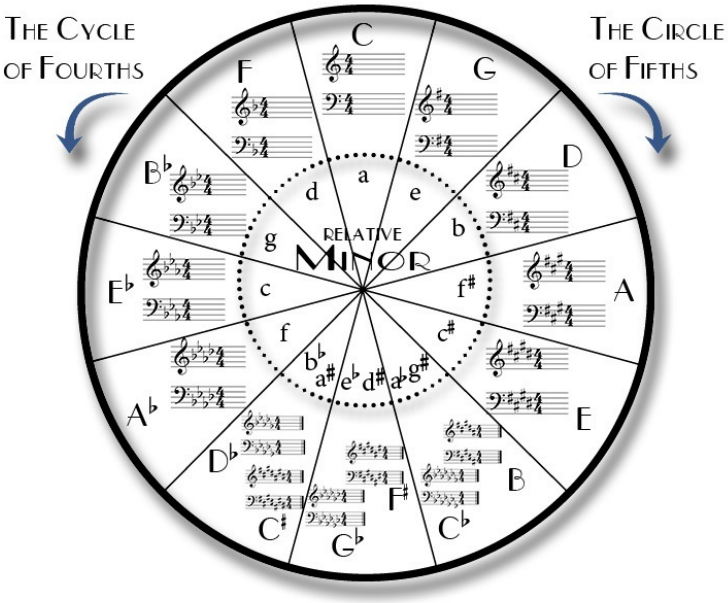


Important Terms

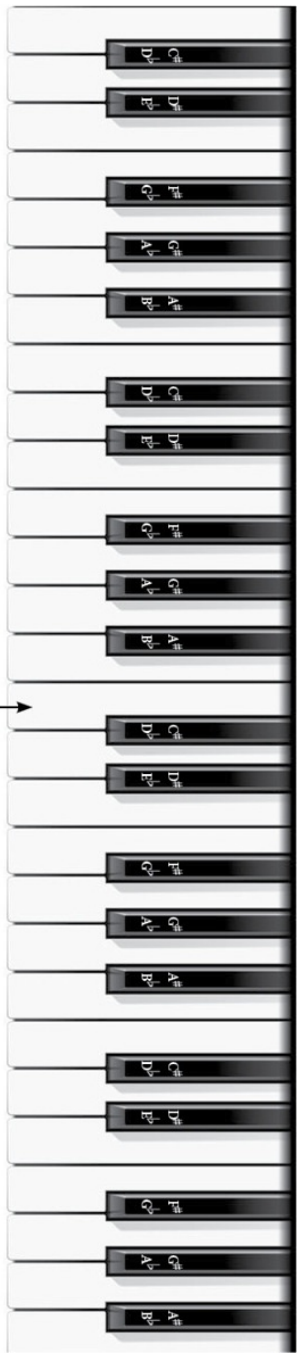
flat (♭): lowers notes ½ step.
sharp (♯): raises notes ½ step.
natural (♮): cancels the effect of a sharp or flat.
order of flats: BEADGCF
order of sharps: FCGDAEB
half step: the smallest interval in Western music. Two adjacent keys on a piano. Two adjacent frets on the same string of a guitar.
whole step: two half steps.
natural half step: half steps without using accidentals. Between E-F and B-C.

Note Length in 4/4

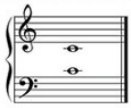
whole (𝅝): 4 beats
half (𝅗𝅥): 2 beats
quarter (♩): 1 beat
eighth (♪): ½ beat
sixteenth (𝅘𝅥𝅯): ¼ beat

Dotted Notes

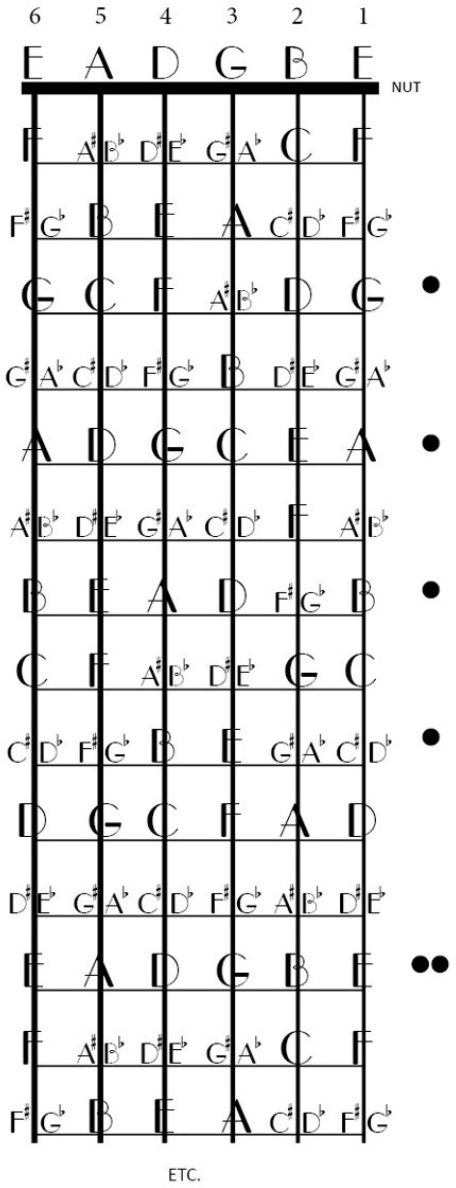
whole (𝅝.): 6 beats
half (𝅗𝅥.): 3 beats
quarter (♩.): 1½ beat
eighth (♪.): ¾ beat, (usually followed by a sixteenth note).



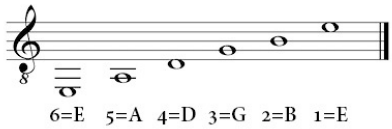
MIDDLE C IS FOUND IN THE MIDDLE OF YOUR KEYBOARD AND IS WRITTEN LIKE THIS (TREBLE AND BASS CLEF):



Guitar Fretboard



Guitar String Notes



Tempi (bpm)

Largo: 40-60
Larghetto: 60-66
Adagio: 66-76
Andante: 76-108
Moderato: 108-120
Allegro: 120-168
Presto: 168-200
Prestissimo: 200-208+

Dynamics

pianissimo (***pp***): very quiet
piano (***p***): quiet
mezzo piano (***mp***): medium soft
mezzo forte (***mf***): medium loud.
forte(***f***): loud.
fortissimo (***ff***) very loud.
fortississimo (***fff***): super loud.
blastissimo (***fffffffff***) your ears are bleeding

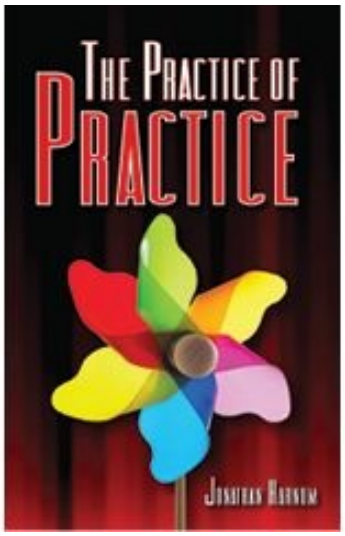
Note Length in 𝄵

whole (𝅝): 2 beats
half (𝅗𝅥): 1 beats
quarter (♩): ½ beat
eighth (♪): ¼ beat
sixteenth (𝅘𝅥𝅯): ⅛ beat

Dotted Notes

whole (𝅝.): 3 beats
half (𝅗𝅥.): 1½ beats
quarter (♩.): ¾ beat

Other Books by Jonathan Harnum



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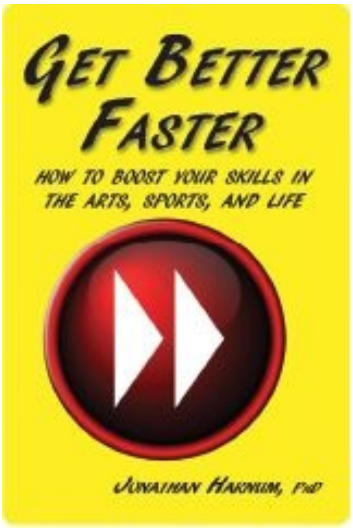

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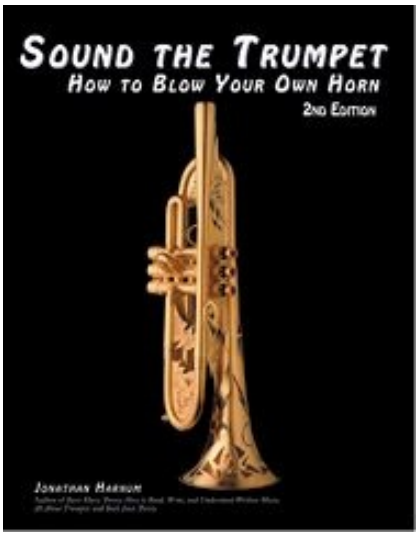

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