

4TH EDITION



BASIC
MUSIC THEORY

HOW TO READ, WRITE, AND
UNDERSTAND WRITTEN MUSIC

JONATHAN HARNUM, PHD

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

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 instructors 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.

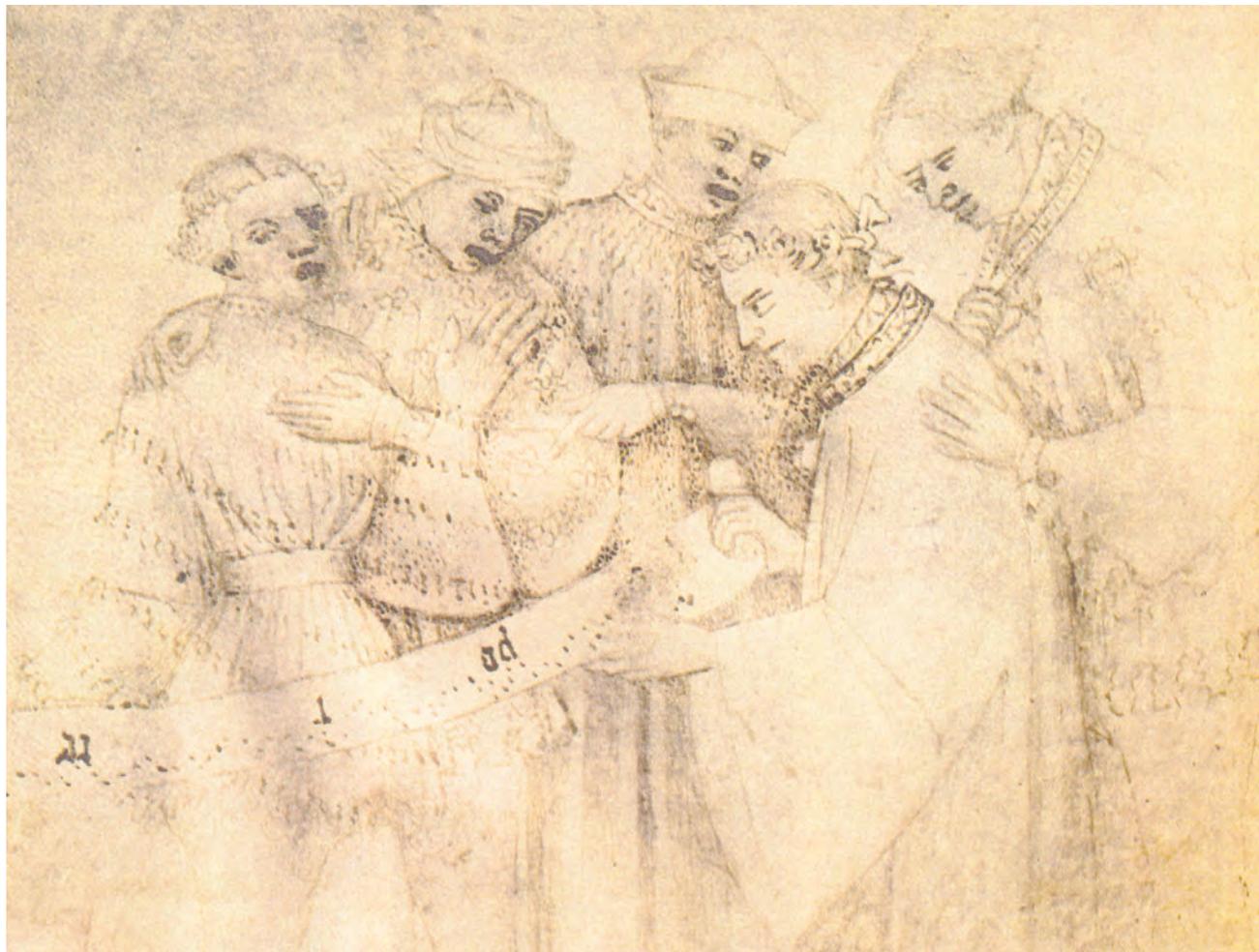
Reasons for the inclusion of music and music education in one’s life has nothing to do with larger brains, better social skills, or better math skills, even if these benefits actually exist. The reason for including music in one’s education is that music is a source of authentic and meaningful personal 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.



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.

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BASIC MUSIC THEORY

HOW TO READ, WRITE, AND UNDERSTAND WRITTEN MUSIC

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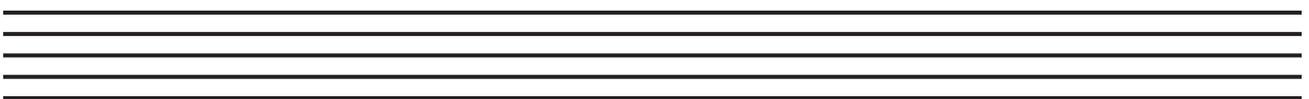
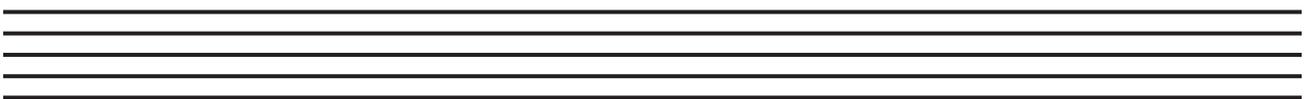
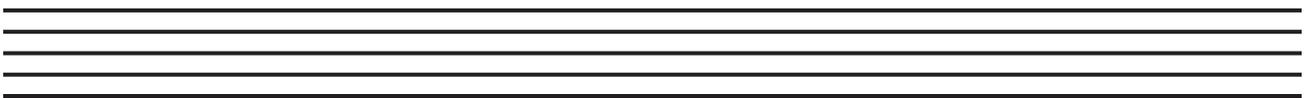
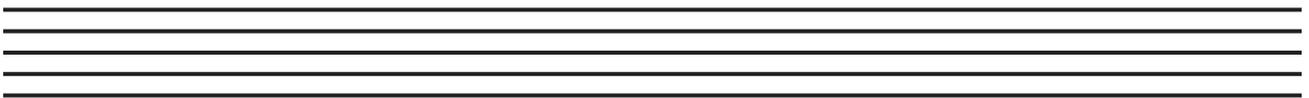
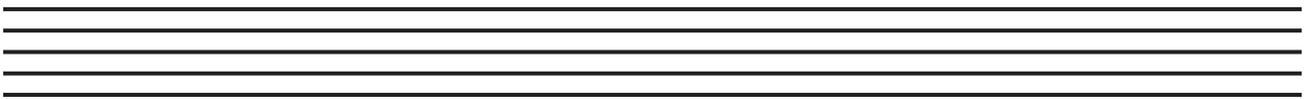
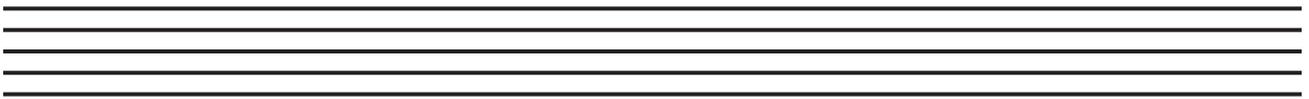
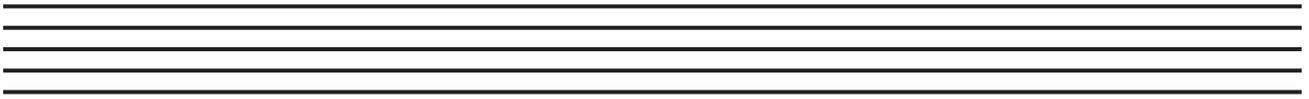
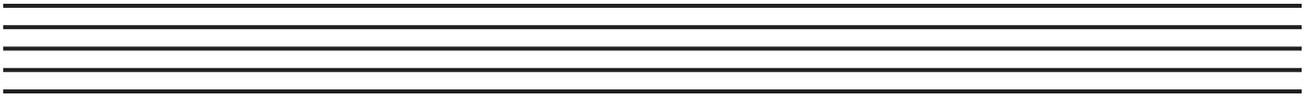
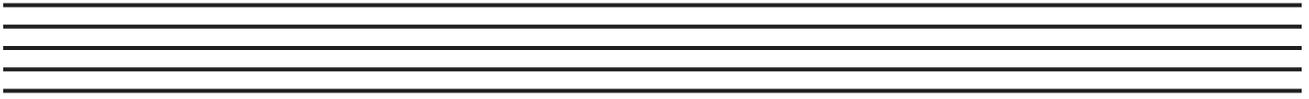
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Blank sheet of music paper with ten sets of five-line staves.







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 complete a master's and a PhD 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 Guillaume 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, pignout 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/utitiq>



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 NOTICE

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 like those you see here.

With a smart phone and a QR reader, you can see, hear, and read more. *Scan* is a great free QR reader you can get online at <http://is.gd/puzuwa>. If you have another kind of QR scanner, you should give *Scan* a try. It's cleanly designed and easy to use. Its QR code is to the right.



Fire up the app, focus on the code, and you'll go to this book's online page, where you'll find all kinds of extras: videos, pictures, and links to cool related stuff. Whenever there is a relevant link to share, you'll see one of these QR codes. Don't want to hassle with the smart phone? Written links in the PDF and e-book will also take you to the associated page. 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 book is a piano keyboard on one side and a guitar fretboard on the other, 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. If you're borrowing this book, please help keep the book useful for everyone and photocopy the keyboard instead of tearing it out. You can also print the guide from the web site. Here's the address again: <http://www.is.gd/utitiq>



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

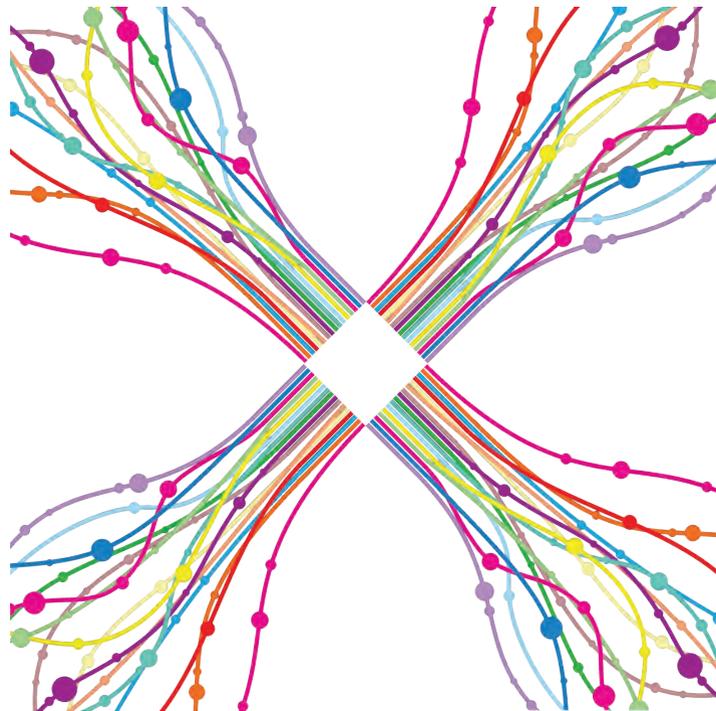
BAR LINES

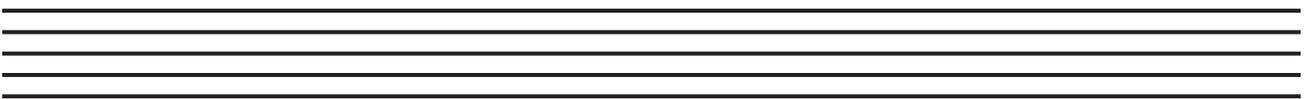
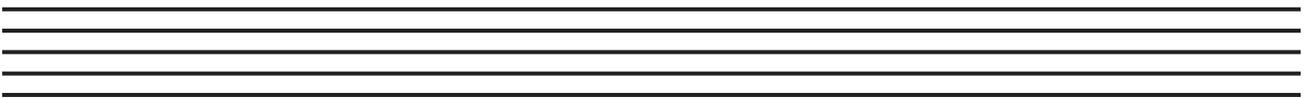
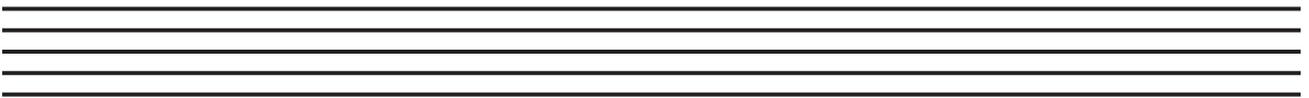
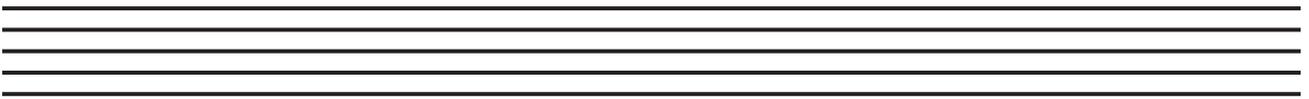
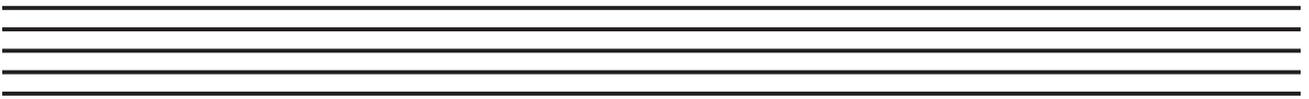
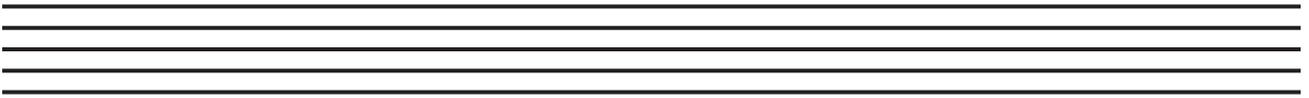
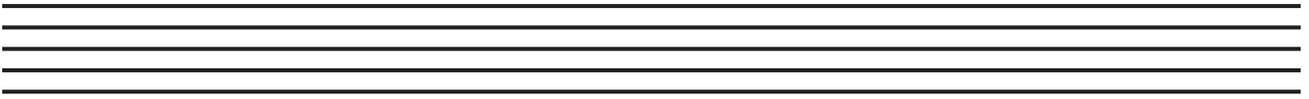
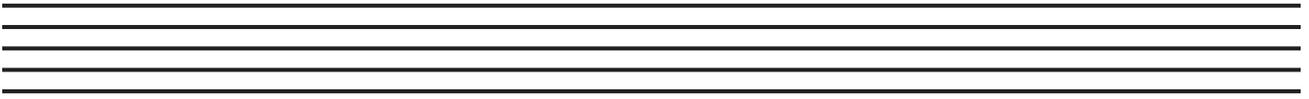
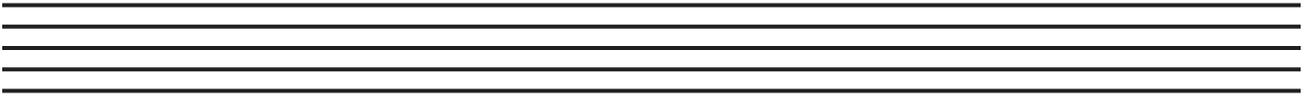
MEASURES

THE BEAT

NOTE LENGTHS

RESTS





EXPLORE EXTRA MATERIAL AT
WWW.SOL-UT.COM

A BRIEF HISTORY OF MUSICAL NOTATION



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

MARK TWAIN

HEAR, THERE, EVERYWHERE

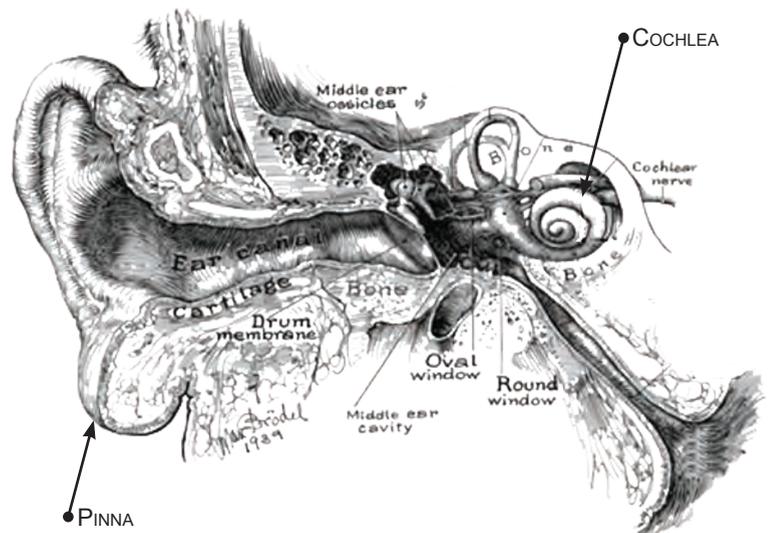


When you hear something you like, thank a fish. About five hundred million years ago fish began to develop the ability to sense vibrations, but not with anything we would call an ear. Amphibians improved on the fishy system with sack-like organs containing clumps of neurons devoted only to sensing vibrations, 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 appear to be at least 40,000 years old.



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.

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. 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



DAVID & SAUL, BY REMBRANDT, C.1658

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.



To the left is a picture of 35,000 year old mastodon bones with markings for resonance points (places where it sounds really good to hit). This bone xylophone was found with two bone flutes.

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.

After a while, neumes began to be written on, above, or below a single line. The line represented a

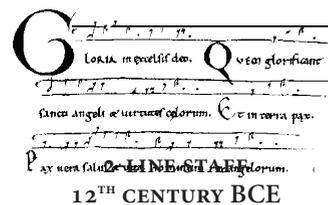
specific pitch. A neume written above the line was higher in pitch than a neume written below the line. Around 1,000 CE, many innovations in written music came about, but it isn't exactly clear who invented them. Guido di Arezzo is given most of the credit. He was a Benedictine monk who was thrown out 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.

We're lucky he got kicked out of the monastery because it caused his ideas to be spread more widely. 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 picture to the left 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*.



9TH CENTURY MANUSCRIPT WITH NEUMES WRITTEN ABOVE THE LATIN TEXT

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.



4-LINE STAFF

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 on the next page, *Belle, bone, sage*, written by Baude Cordier in the 15th century. You can't see it in the print 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.

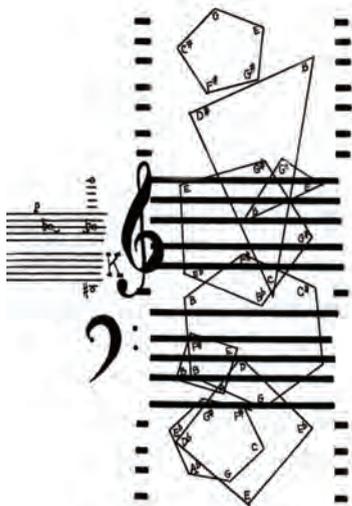
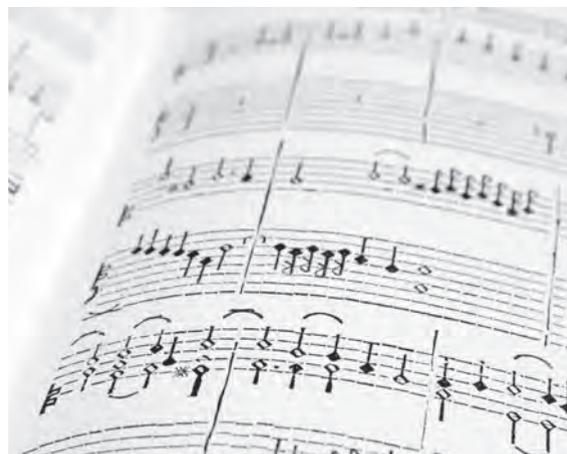


Experimentation also included an 8-line staff, like the one shown below, paired with a four-line staff. By about 1500 we arrived at the system (no pun intended) that has remained nearly unchanged until today.

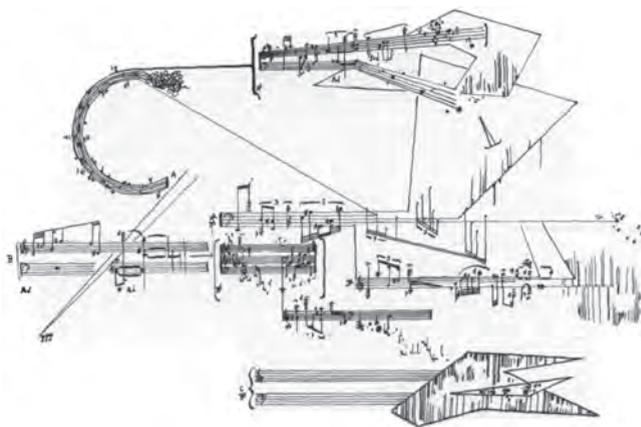
The spirit of experimentation with written music still exists. Modern composers like John Cage, William Maginnis or Stephen Reich use notation that is radically different from what you'll learn in this

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.

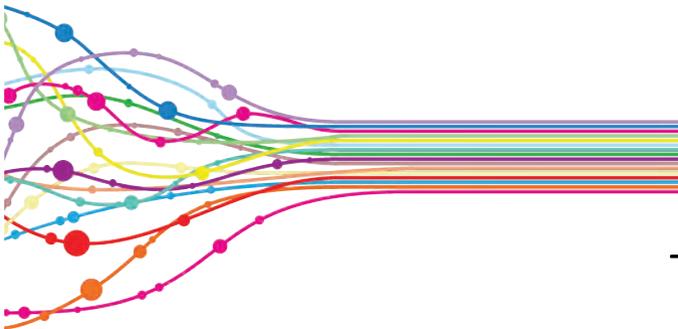
Music, like any language, evolves over time. Maybe in another thousand years we'll be reading music based on smells. Who knows? What do you think music will look like and sound like in another thousand years?



PORTION OF JOHN CAGE'S
PIANO CONCERTO



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



LINES, LINES, EVERYWHERE THERE'S LINES

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

LOUIS ARMSTRONG

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.

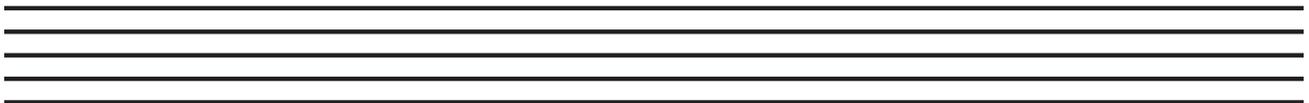
THE STAFF

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.

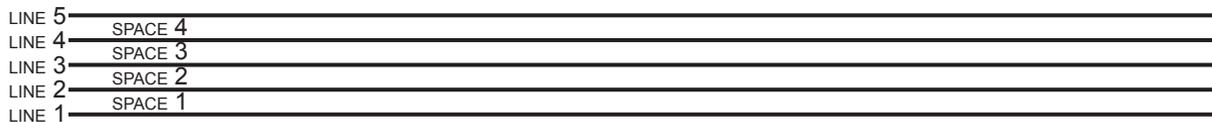
HERE'S THE ONE LINE STAFF. NOT TOO TOUGH, IS IT?

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 line 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.

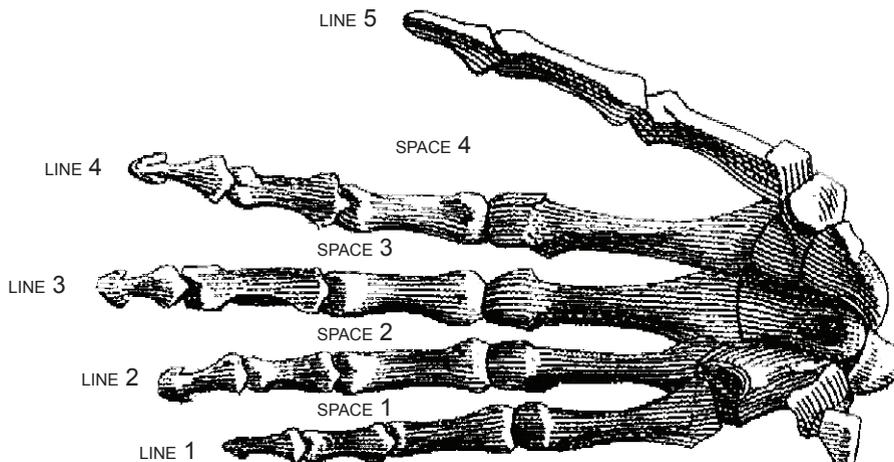
MEMORY TIP

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.



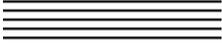
MOVING ON

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.

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? | 1. Easier to read |
| 2. How many lines make up regular musical staff? | 2. 5 |
| 3. How many spaces in the regular musical staff? | 3. 4 |
| 4. Using a separate sheet of paper and a pencil, draw a five line musical staff. | 4. Should look something like this: |
| |  |
| 5. What is the number of the bottom line? | 5. One |
| 6. What is the number of the top line? | 6. Five |
| 7. What is the number of the bottom space? | 7. One |
| 8. What is the number of the top space? | 8. Four |
| 9. What types of instruments use the one line staff? | 9. Non-pitched instruments like 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://www.is.gd/utitiq>) 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.



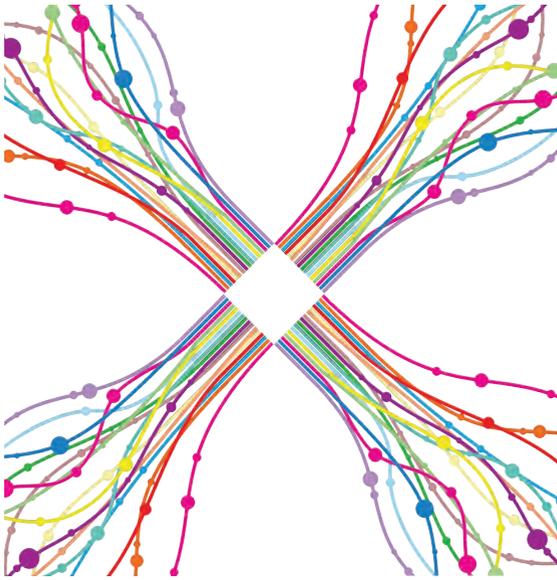
Blank musical staves for practice, consisting of multiple sets of five horizontal lines.

CHAPTER 3

MORE LINES

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

CHARLIE PARKER



BAR LINES AND DOUBLE BAR LINES

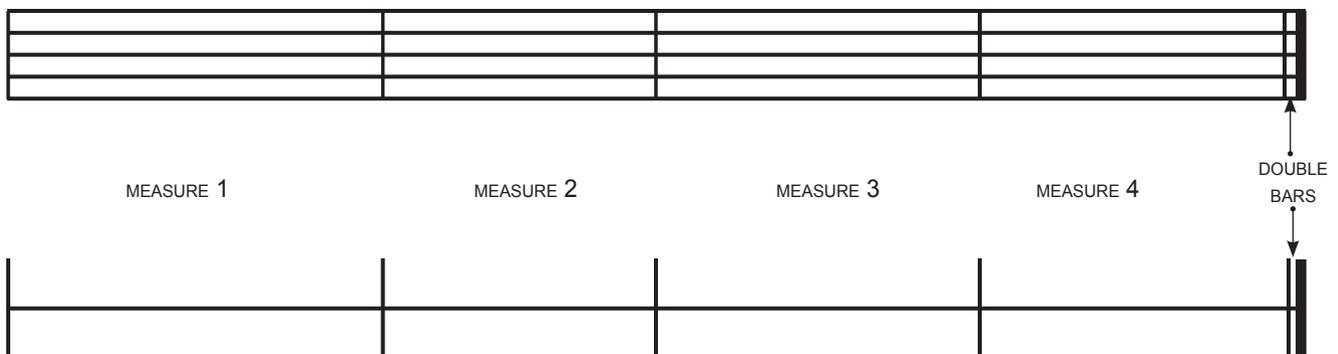
To make music easier to read, the staff is divided into sections by vertical lines called bar lines. There are two types of bar lines. The single bar line is a thin line perpendicular to the lines of the staff and goes from the top line to the bottom line. Bar lines simply divide up the staff into small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

The 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.





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:
4 BEATS EACH



HALF NOTES:
2 BEATS EACH



QUARTER NOTES:
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.

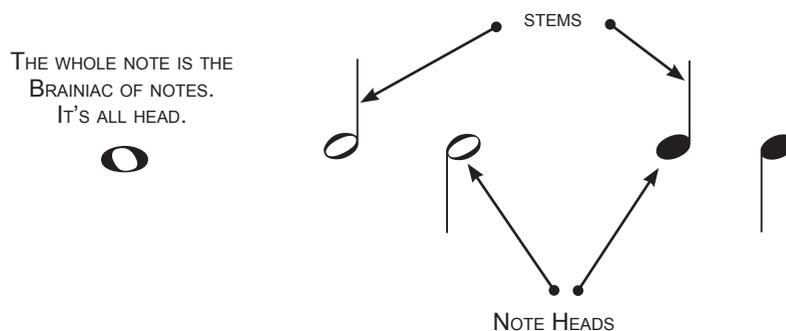
SIZE DOESN'T MATTER

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.

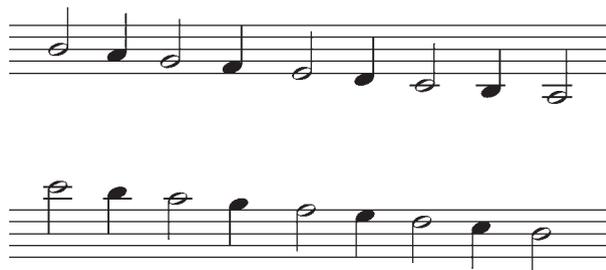


PUT YOUR STEMS UP, PUT YOUR STEMS DOWN

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 68.

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:

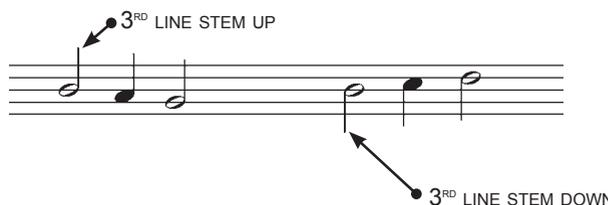


THIRD LINE NOTES ARE CONFORMISTS

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.

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? | 1. A steady pulse; what makes your toe tap |
| 2. Name the notes you learned from shortest to longest. | 2. Quarter, half, whole |
| 3. Which notes have stems? | 3. Quarter and half notes |
| 4. How many beats does a whole note get? | 4. Four |
| 5. How many beats does a half note get? | 5. Two |
| 6. How many beats does a quarter note get? | 6. 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.

The page contains 10 musical staves for practice. The first four staves are single-line staves. The next six staves are five-line staves. Each five-line staff is composed of five horizontal lines.

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.

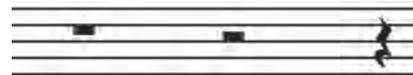
DRAWING A QUARTER REST

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.

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? | 1. Silence |
| 2. What three rests did you learn? | 2. Whole rest, half rest, quarter rest |
| 3. How many beats does a quarter rest get? | 3. One |
| 4. How many beats does a half rest get? | 4. Two |
| 5. How many beats does a whole rest get? | 5. Four |
| 6. What line does the whole rest hang from? | 6. Fourth line |
| 7. What line does the half rest sit on? | 7. Third line |

PRACTICAL USE EXERCISES

- 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.
- 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.*

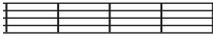
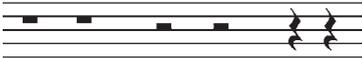
PLATO

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.

1. How many lines make up the musical staff?
page 14 1. five
2. How many spaces in the musical staff?
page 14 2. four
3. Using a separate sheet of paper and a pencil, draw a musical staff like the one below. 3. 
4. What is the number of the bottom line? Write it on the staff you just created.
page 14 4. one
5. What is the number of the top line? Label it, too.
page 14 5. five
6. What's the number of the bottom space? Label it.
page 14 6. one
7. What is the number of the top space?
page 14 7. four
8. What is a bar line used for?
page 18 8. Divides the staff into measures.
9. Where is a double bar used?
page 18 9. The end of a section or song.

10. On your separate piece of paper draw another staff.
Make it a fairly long one.
page 14
11. Divide the staff into four measures.
page 18
12. What is the beat, in music?
page 20
13. Name the notes you learned from shortest to longest.
page 20
14. Which notes have stems?
page 21
15. How many beats does a whole note get?
page 21
16. How many beats does a half note get?
page 21
17. How many beats does a quarter note get?
page 21
18. What does a rest show?
page 24
19. Which three rests did you learn?
page 24
20. How many beats does a quarter rest get?
page 24
21. How many beats does a half rest get?
page 24
22. How many beats does a whole rest get?
page 24
23. Which line does the whole rest hang from?
page 25
24. Which line does the half rest sit on?
page 25
25. On a 5-line staff, draw 2 whole rests, 2 half rests, and 2 quarter rests.
page 25
10. 
11. 
12. A steady pulse; what makes your toe tap.
13. quarter note, half note, whole note
14. quarter and half notes
15. four
16. two
17. one
18. silence
19. whole rest, half rest, quarter rest
20. one
21. two
22. four
23. fourth line
24. third line
25. 

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



PART THREE

CLEF NOTES

IN THIS SECTION YOU LEARN

PITCH

NOTE NAMES

CLEFS IN GENERAL

TREBLE CLEF

BASS CLEF

RHYTHM CLEF

C CLEF



PART FOUR

SEE SHARP

OR BE FLAT

IN THIS SECTION YOU LEARN

SHARPS, FLATS, & NATURALS

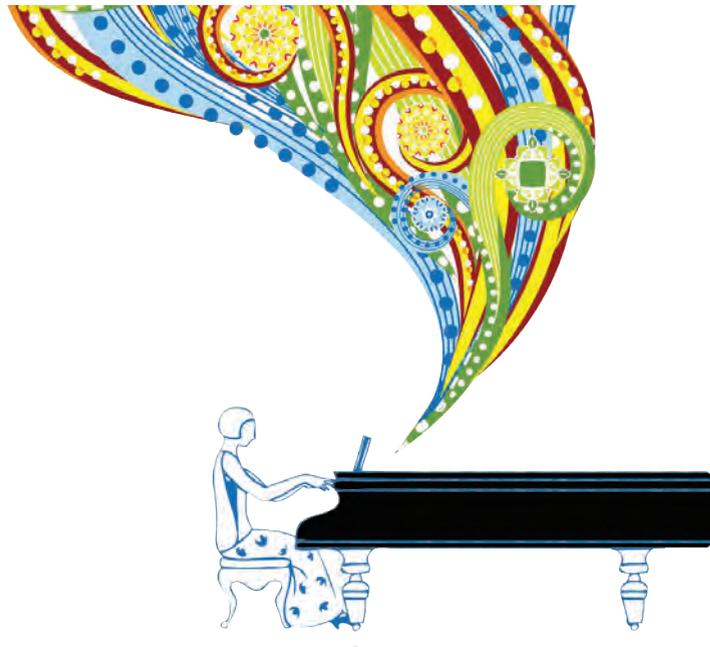
NOTE NAMES

THE PIANO KEYBOARD

THE GUITAR FINGERBOARD

WHOLE STEPS & HALF STEPS

MAJOR SCALES & KEY SIGNATURES



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



PART SIX

STRIKE A CHORD

IN THIS SECTION YOU LEARN

TRIADS

MAJOR CHORDS

MINOR CHORDS

CHORD INVERSIONS

CHORD EXTENSIONS

CHORD SYMBOLS

SOME CHORD PROGRESSIONS



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

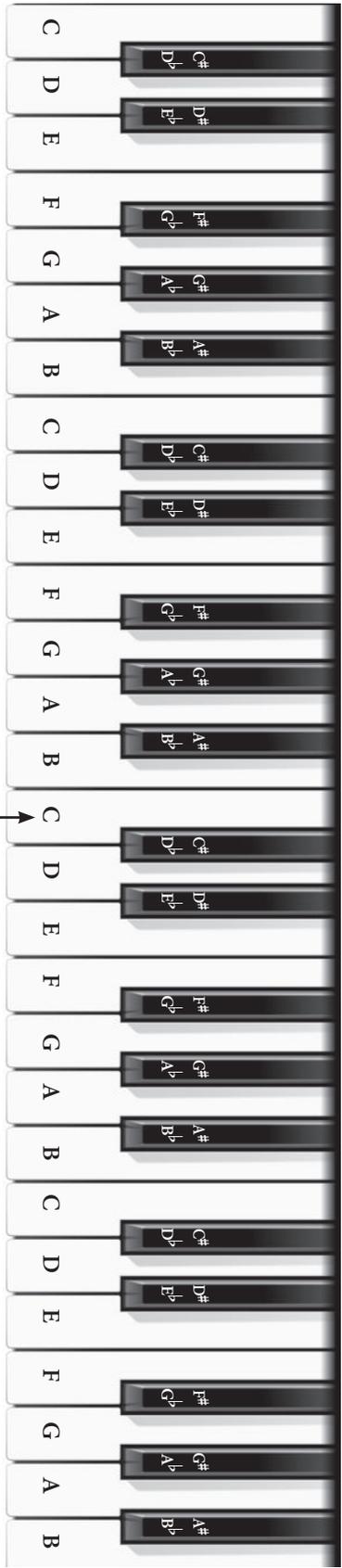
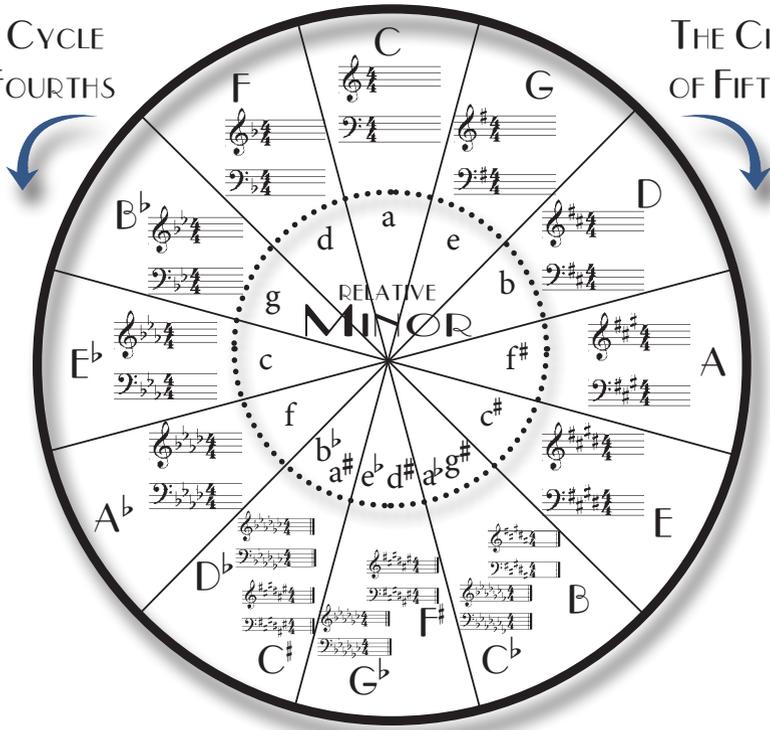
COMPOUND METERS

ODD METERS



THE CYCLE OF FOURTHS

THE CIRCLE OF FIFTHS



IMPORTANT TERMS

- flat (b):** lowers notes 1/2 step.
- sharp (#):** raises notes 1/2 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 (♮):** 1/2 beat
- sixteenth (♯):** 1/4 beat

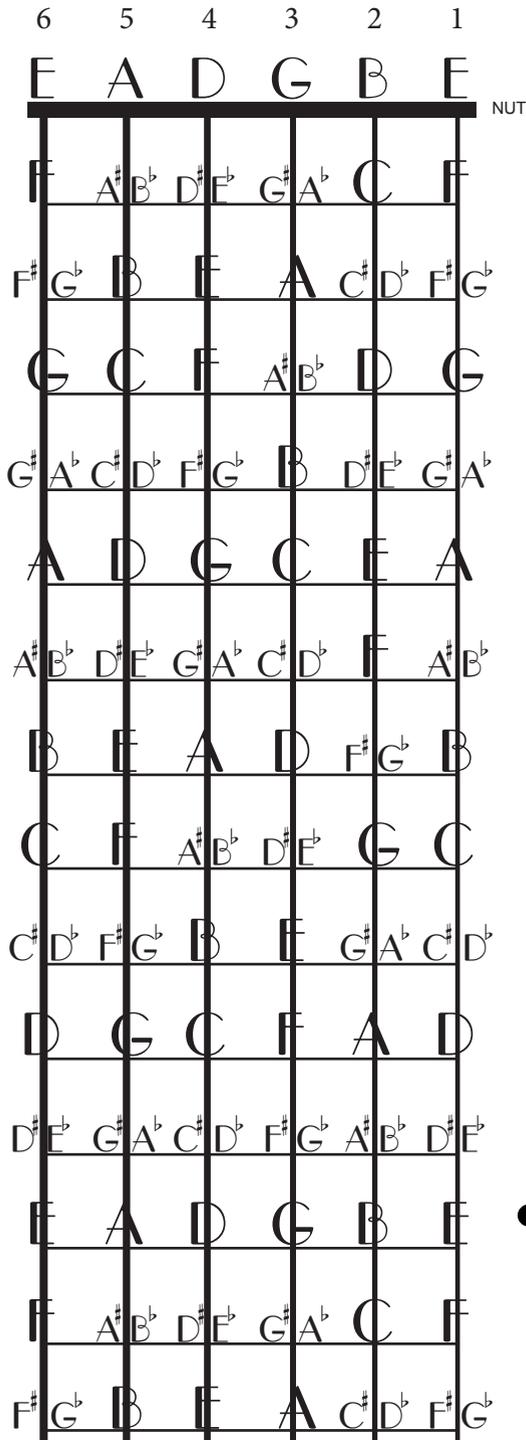
DOTTED NOTES

- whole (♩):** 6 beats
- half (♪):** 3 beats
- quarter (♫):** 1 1/2 beat
- eighth (♮):** 3/4 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



ETC.

GUITAR STRING NOTES



6=E 5=A 4=D 3=G 2=B 1=E

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+

NOTE LENGTH IN C

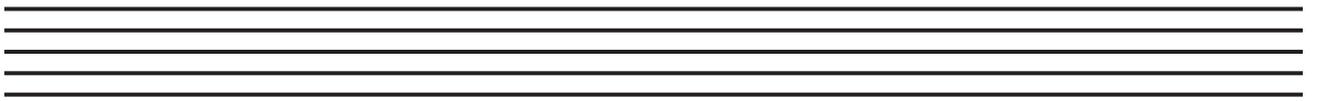
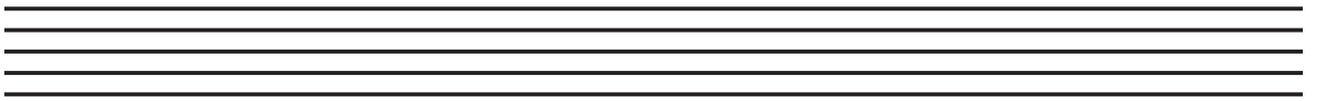
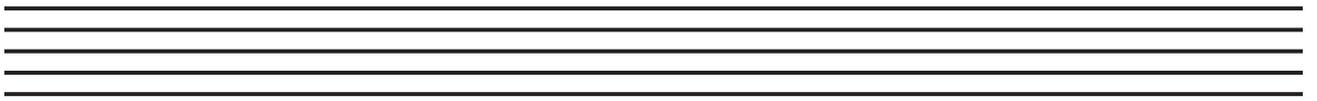
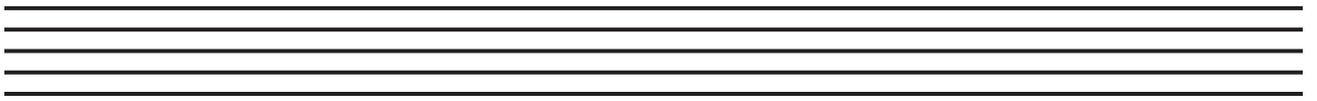
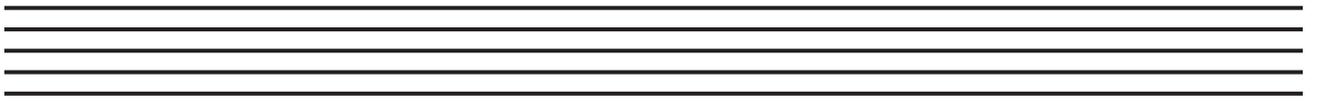
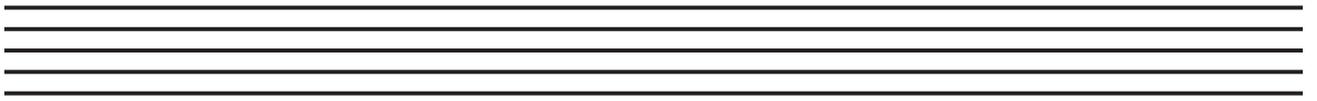
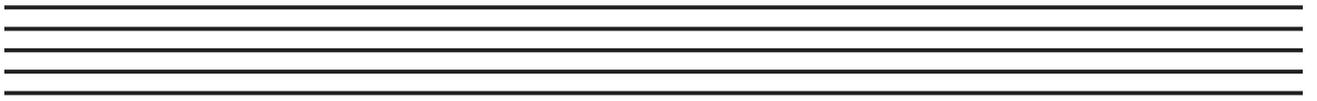
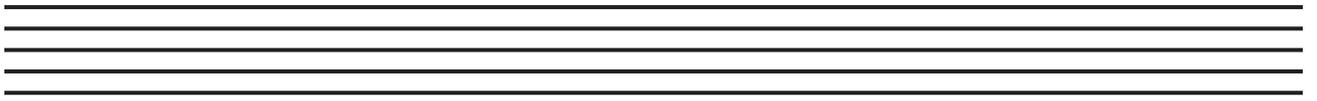
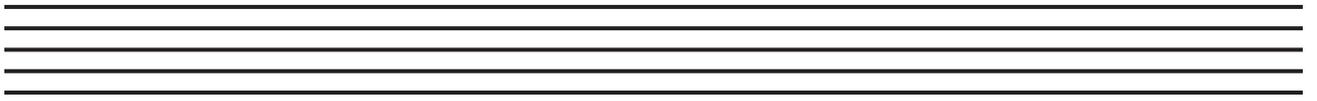
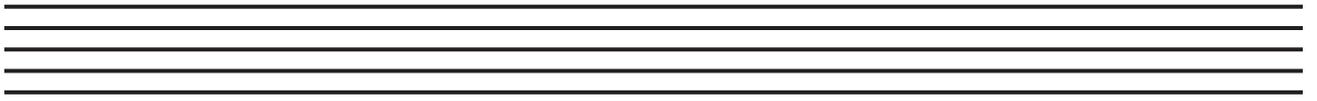
whole (♩): 2 beats
 half (♪): 1 beats
 quarter (♫): ½ beat
 eighth (♬): ¼ beat
 sixteenth (♭): ⅛ beat

DYNAMICS

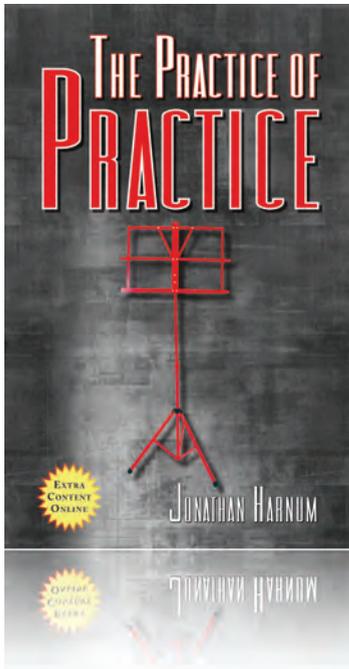
pianissimo (**pp**): very quiet
piano (**p**): quiet
mezzo piano (**mp**): medium soft
mezzo forte (**mf**): medium loud.
forte (**f**): loud.
fortissimo (**ff**): very loud.
fortississimo (**fff**): super loud.
blastissimo (**ffffff**): your ears are bleeding

DOTTED NOTES

whole (♩): 3 beats
 half (♪): 1½ beats
 quarter (♫): ¾ beat



BE A BETTER MUSICIAN. DON'T PRACTICE LONGER, PRACTICE SMARTER.



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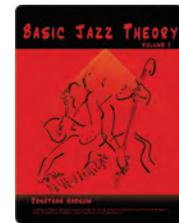
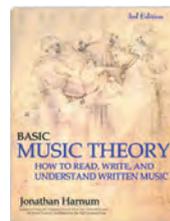
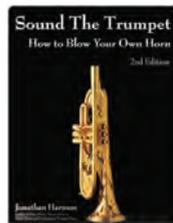
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- » **WHY:** Motivation is crucial. Learn ways of keeping the flame lit in this section
- » **WHO:** A lot of people including yourself will impact your practice. Learn to use them to your advantage.
- » **WHEN:** This section covers how much, and what times of the day are best for practice, & more.
- » **WHERE:** Where you practice matters, & more.
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- ✓ Ultra-brief history of music notation.

SPECIAL FEATURES:

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- ✓ Chapter & Section reviews
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JONATHAN HARNUM is a multi-instrumentalist with over 30 years of experience practicing, performing, and teaching music. Harnum earned a PhD in music education from Northwestern University, and is the author of *All About Trumpet*, *Basic Jazz Theory*, *Sound the Trumpet: How to Blow Your Own Horn*, and *The Practice of Practice*.



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