



Unit 5

Cracking the Code: Reading Rhythms

Become a Rhythm Wizard! Tackle music notation basics, such as bar lines, time signatures, and note values—eighth notes, whole notes, and everything in between! Use Gino’s Music Decoder, a guide to the parts of a measure.

Authors

Kirstin Anderson
Richard Mannoia

Contributing Editors

James Blachly
Sue Landis
Audrey Sherer
Marte Siebenhar
Nina Stern

Design

David Silva

Illustration

Sophie Hogarth

Associate

Managing Editor
Lora Dunn

Audio Production

Leszek Wojcik

© 2009 The Carnegie Hall Corporation. All rights reserved.

ACKNOWLEDGMENTS

“A Simple Melody,” music and lyrics by Nick Scarim, © 2000 Nick Scarim, © 2008 Carnegie Hall. Performed by Sue Landis and Michael Mizrahi.

“Tideo,” traditional American song. Performed by Sue Landis and Shane Schag.

“De Colores,” traditional Mexican song. Performed by Sue Landis and Shane Schag.

“Ode to Joy” by Ludwig van Beethoven. Adapted by John Whitney. Performed by Sue Landis and Shane Schag.

“Au Claire de la lune” by Claude Debussy. Arranged by Richard Mannoia. Performed by Sue Landis.

“Hot Cross Buns,” traditional American song. Performed by Sue Landis.

All songs © © 2009 Carnegie Hall, except where noted.



LinkUP! is funded, in part, by a grant from the National Endowment for the Arts.

LinkUP! is made possible through the generous annual support of The Marie Baier Foundation, Wachovia, The Rose M. Badgeley Residuary Charitable Trust, The Seth Sprague Educational and Charitable Foundation, and The Barker Welfare Foundation.

Unit 5: Cracking the Code: Reading Rhythms



Elvis: I think I'm on a roll—teach us more! Hey, what's this?

Composer: That's Gino's Music Decoder! Let's take a look. We can use Gino's Music Decoder any time we forget the parts of a measure. In the meantime, let's look at some more rhythms and clap them as we did before. But this time, let's say "one" and "two" as we clap. Remember, the "one" will feel stronger than the "two."



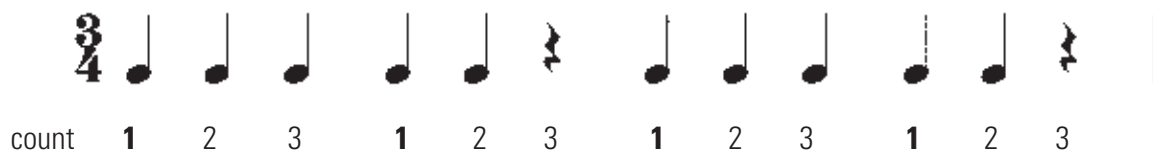
listen to **Track 19**





Violet: I like having the lines in the music to separate the patterns. It makes it easier for me to keep my place.

Composer: That's true, but these "bar lines" also change the way the music sounds and feels. Let's look at our rhythm again. What's different?



Elvis: I see the same quarter notes and rests from the last example, but now they're in groups of three.

Composer: That's right, Elvis. It's "in three" instead of "in two." We use the word **meter** to refer to the different groupings of beats. Now try the same quarter notes and quarter rests in 4/4 meter.



How do the meters 2/4, 3/4, and 4/4 **sound** and **feel** different?
How would you move or dance to each of these patterns?
[US 5, 6, 8; NYC 2, 3]

lesson **extension**



A **time signature** is found at the beginning of a measure and indicates the meter of the piece of music. The top number indicates how many beats are in a measure, and the bottom number indicates the particular type of note that gets the beat. See my Music Decoder for additional help.

Now it's time for you to "measure" up—use the empty measures below to make up your own music. Remember to include the time signature, notes, and rests in each measure. Don't forget, you can look at Gino's Music Decoder if you need help remembering something.

$\overline{4}$ | | ||

$\overline{4}$ | | ||

$\overline{4}$ | | ||

Elvis: Learning about meter and beats is great, but I want to do even more with rhythm now. What can we do to spice things up?

Composer: Let's go back inside Carnegie Hall to hear the percussionists in the orchestra play. They're musicians who play percussion instruments, and they're Rhythm Wizards!



listen to **Track 20**

Violet: Listen to those rhythms. They sound more complicated than what we've heard.

Elvis: But they are easy to clap. Try it!

Composer: Wow, you've picked that up quickly! Now take a look at the musical symbol for these faster notes. They're called **eighth notes**:



Violet: They're so cute! They look like twin notes, because they're stuck together.

Composer: Yes, they usually are together like that. But just so you know, sometimes an eighth note can stand alone, and when it does, it looks like this:



Elvis: All right, I'm ready to crack some eighth note codes!



listen to **Track 21**

Composer: Together, two eighth notes equal one quarter note, or one beat. In the time signature 4/4, we can have four quarter notes in one measure, counting “one, two, three, four.” In 4/4, we can also have eight eighth notes in one measure, counting “one-and, two-and, three-and, four-and.” The “one” and the “and” each represent one eighth note, or one half of a beat. Listen first and then clap and count along.



listen to **Track 22**

Violet: That’s a little trickier, but I think I get it. I just count eighth notes the same way I always count the quarter notes, but I add “and” after each number for the second eighth note.

Composer: That’s right, Violet. Now let’s try some music that has eighth notes and quarter notes mixed together.



listen to **Track 23**



listen to **Track 24**

Terrific! Now how about some eighth rests?

Elvis: There are eighth rests?

teacher **tip**

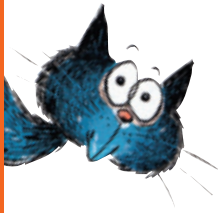
You can come up with different ways to say rhythms, such as “one” or “ta” for quarter notes or “one-and” or “ti-ti” for two eighth notes.

Composer: Sure there are! Here's what they look like:



Violet: Those look cool! I think we're ready for any challenge now.

Composer: Yes, you're doing great! But to really show that you're a Rhythm Wizard, you'll have to make up some rhythms yourselves.



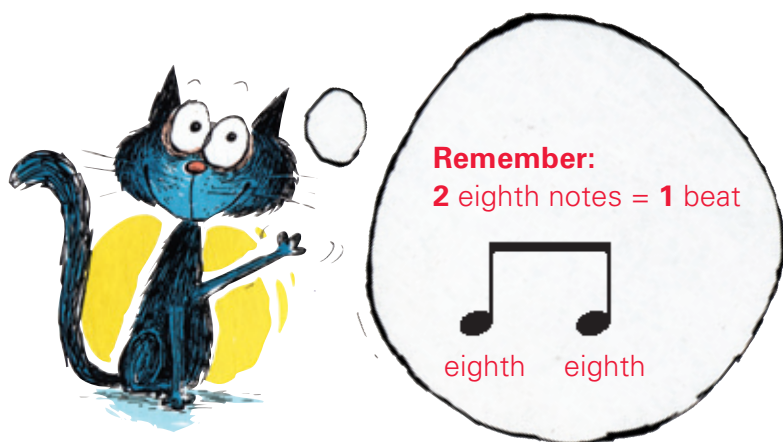
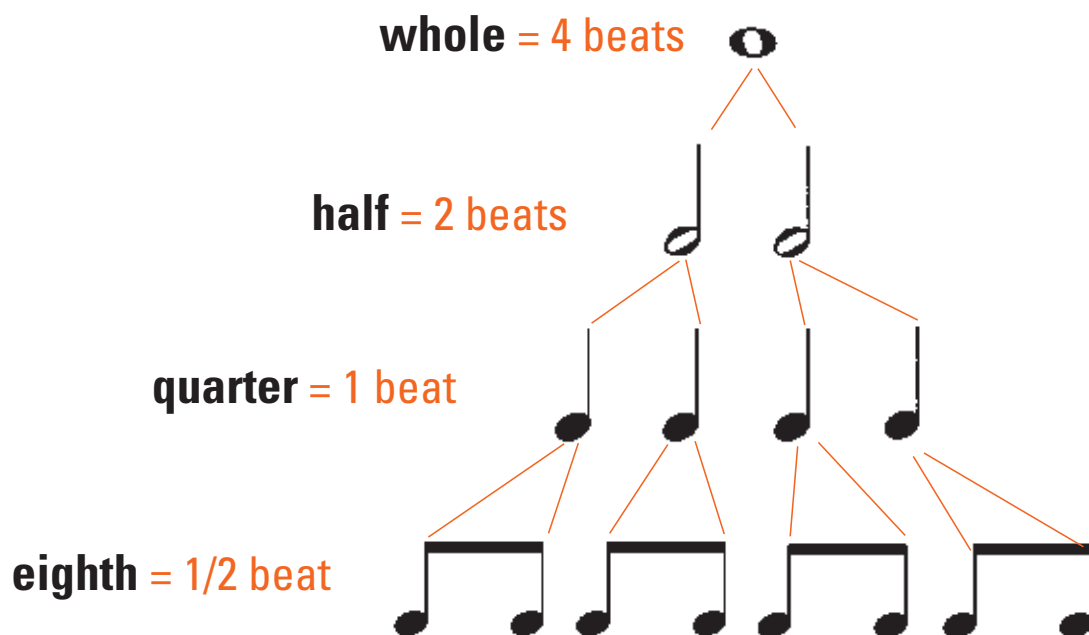
Help Elvis and Violet become Rhythm Wizards. Write and clap patterns of quarter notes and eighth notes. Don't forget to add the time signature and bar lines. Look at my Music Decoder if you need help.

There are lots of free resources available online for teaching rhythm and meter. You might start by experimenting with an online metronome!

teacher **tip**

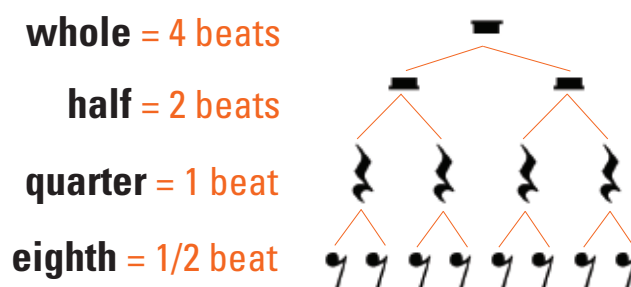
Composer: Take a look at this rhythm tree that shows all the notes we'll use in LinkUP!

Gino's rhythm tree







teacher **note**

Here is Gino's rest tree:



Violet: Cool! Let's see if we can fill in these musical math puzzles.

Key:  = 1 beat  = 1 beat  = 2 beats  = 4 beats

$$\text{half note} + \text{whole note} + \text{half note} - \text{half note} + \text{whole note} = \underline{9} \text{ beats}$$

$$\text{quarter note} + \text{quarter note} + \text{whole note} + \text{whole note} - \text{quarter note} - \text{quarter note} - \text{quarter note} = \underline{6} \text{ beats}$$

$$\text{half note} + \text{half note} - \text{whole note} + \text{quarter note} + \text{quarter note} + \text{quarter note} + \text{quarter note} + \text{half note} + \text{whole note} + \text{half note} = \underline{12} \text{ beats}$$

Elvis: Okay, that was fun! How do all these notes sound?

Composer: Well, let's listen to some of our orchestra members play them first and then let's try clapping and counting along.



listen to **Track 25**



listen to **Track 26**



listen to **Track 27**



Have your students make up their own musical math puzzles. Share and solve in small groups or as a class. [US 5, 8; NYC 1, 2, 3]

lesson **extension**

Violet: Wow, that was amazing! We know so much about rhythms and reading music now.

Composer: Yes, you're really cracking the musical code! Now it's time to start writing your own music. You're on your way to becoming composers like me!

now ... Your teacher will lead a composition activity.

reflective writing

How did you decide what to compose?

What was the most challenging part of this activity?

What advice would you give to a student who hasn't done this activity?

What would you like to compose next?

do **now**

Composition Activity

Have students, as a class or in groups, create short rhythmic pieces using eighth, quarter, half, and whole notes, and quarter rests.
[US 2, 4, 5; NYC 1, 2]

Composer: You've got it! Now let's spice things up a bit. You know about quarter notes and quarter rests. There's also a rhythm called a **half note**. It lasts twice as long as a quarter note.



Violet: So, if a quarter note gets one beat and a half note lasts twice as long as a quarter note, then a half note gets two beats. I get it—just like in math, two quarters make a half!

Composer: Exactly! Now, let's read some rhythms using quarter notes and half notes.



listen to **Track 28**

Now that you've got the half notes, how many beats do you think a **half rest** gets?



Consider

- time signatures: symbols at the beginning of lines of music that indicate the meter
- tempo
- having a conductor
- instrumentation: using instruments or different body-percussion and vocal sounds
- harmony: creating two or more parts to be played at once so that they sound good together (for example, duets or multi-layered pieces)
- creating a title
- using outside concepts or places to inspire and focus composition (moods, seasons, Times Square, Central Park, to name a few examples)
- performing and recording the pieces
- having other groups perform the pieces

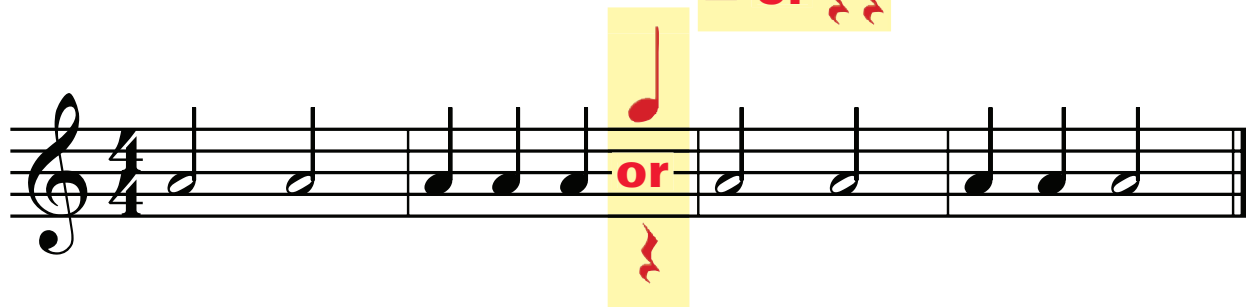
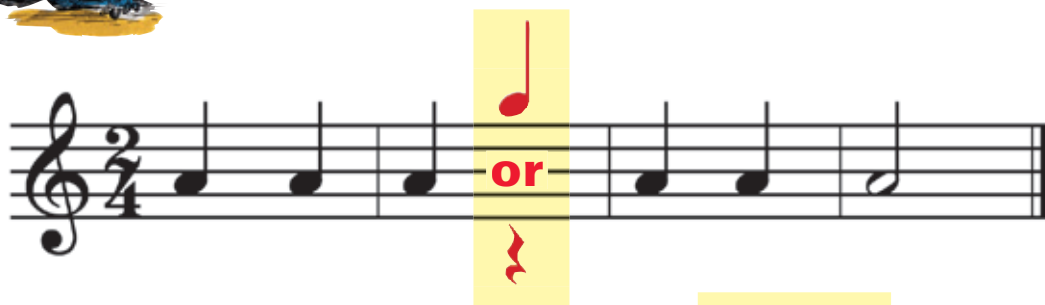
Elvis: A quarter note gets one beat of sound and a quarter rest gets one beat of silence. A half note gets two beats of sound, so a half rest should get two beats of silence.

Composer: Great job, Elvis! You're really thinking like a musician now.

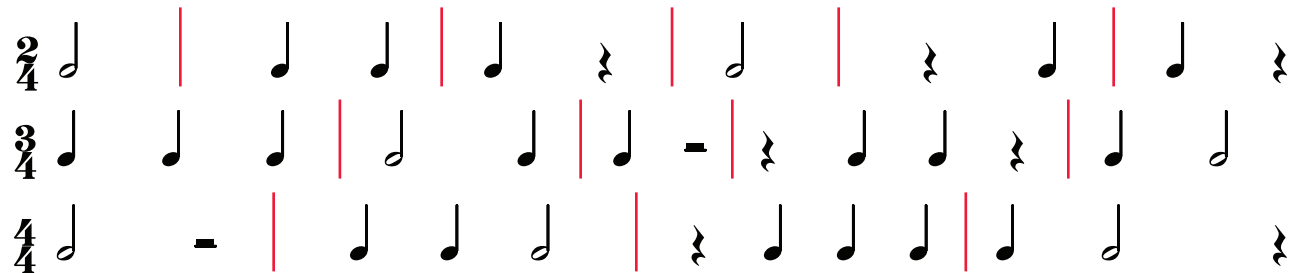
Help Elvis and Violet with this Rhythm Wizard assignment.



Each rhythm below has one missing part. With a partner, look carefully at the time signature, and then write the note or rest that will complete the measure. Make sure each measure ends up with the appropriate number of beats. And don't forget that the top number in the time signature tells you how many beats are in each measure!



Composer: Great job! Now let's do something more challenging. If you look at the rhythms below, you'll see that the bar lines are missing. See if you can put them in the right places. Remember to look at the time signature to see how many beats should be in each measure.



Elvis: I can't believe how many rhythms we can read! Is there anything else a Rhythm Wizard should know?

Composer: Well ... if you **really** want, I can teach you just a few other Rhythm Wizard tricks. Here's another kind of note—a whole note, which looks like this:

 **whole note**

Violet: Hey! I remember seeing that before. It lasts for four beats.

Elvis: Oh yeah! Go Violet, you Rhythm Wizard! Is there such a thing as a whole rest?

Composer: Yes, there is. The whole rest looks really similar to the half rest, so look very carefully and you'll see that the whole rest hangs below the line:

 **whole rest**

Elvis: So if this is called a **whole** rest, it gets four beats like a whole note, right? That would be a long time with just silence.

Composer: Now you're thinking like a Rhythm Wizard! Yes, four beats of silence. Try this:

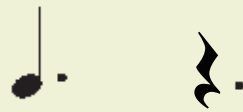


Violet: Are there more Rhythm Wizard tricks we can learn?



listen to **Track 29**

Composer: I've got something else I want to show you. See this little dot? It can go next to a note or rest like this:



Composer: This is a super-wizard trick that requires a little bit of math ... a dot means that you add on **half the value of the note before it**. A whole note gets four beats, so if you see a dot next to the whole note, you take half of four, which is two beats, and add that to the four-beat whole note. All together, the dotted whole note is worth six beats. Take a look:

$$\begin{array}{ccccc} \bigcirc & + & \cdot & = & \bigcirc \\ \bigcirc & + & \text{half note} & = & \bigcirc \cdot \\ 4 & + & 2 & = & 6 \end{array}$$

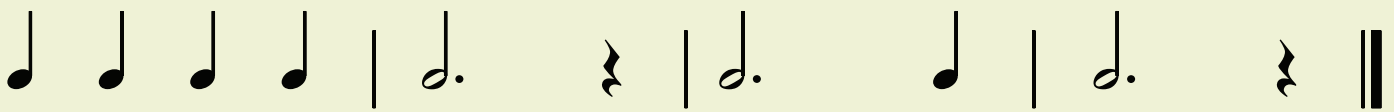
Violet: So, that makes a dotted half note three beats, right?

teacher tip

Dotted rhythms of quarter and eighth notes are challenging and are best suited for older or more advanced students. A solid understanding of beat subdivision will be most useful in performing these rhythms.

$$\left[\begin{array}{ccc} \text{half note} & + & \text{quarter note} = \text{dotted half note} \\ \text{half note} & + & \text{half note} = \text{dotted half note} \\ 2 & + & 1 = 3 \end{array} \right]$$

Composer: Yes, that's right! A dotted half note is pretty common. Listen to this and then try clapping along:



listen to **Track 30**

Elvis: So what about a dotted quarter note? That seems tricky ...

Composer: Just use your math again and you'll see that it's worth one-and-a-half beats.

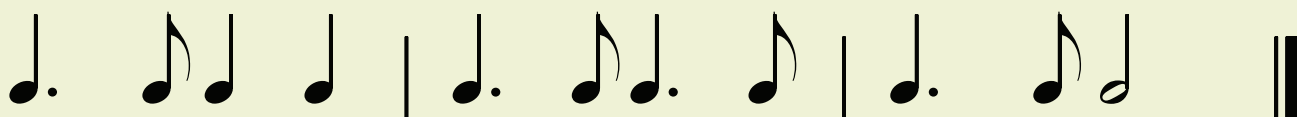
$$\left[\begin{array}{ccc} \text{quarter note} & + & \text{quarter note} = \text{dotted quarter note} \\ \text{quarter note} & + & \text{eighth note} = \text{dotted quarter note} \\ 1 & + & 1/2 = 1 1/2 \end{array} \right]$$

teacher tip

When you see a dot after a note, the dot adds one half of the note's length to the note. For example, a dotted half note is worth three beats and a dotted whole note is worth six beats.

$$\text{quarter note} + \text{quarter note} = \text{half note} \quad | \quad \text{whole note} + \text{half note} = \text{dotted whole note}$$

Composer: What's really cool is how this rhythm sounds when it's with an eighth note. Listen to this and then try clapping along:



listen to **Track 31**

Violet: Wow, it's getting pretty complicated with all that math!

Help Elvis and Violet compose some rhythms with dotted notes and rests.



Composer: Great job, you two! Now you really are Rhythm Wizards!

unit **summary**



What have you learned about rhythm?

Why do you think rhythm is an important part of music?

How do musicians read music?

How does meter, or different groupings of beats, affect the sound or feeling of music?

Gino's Music Decoder

Measure

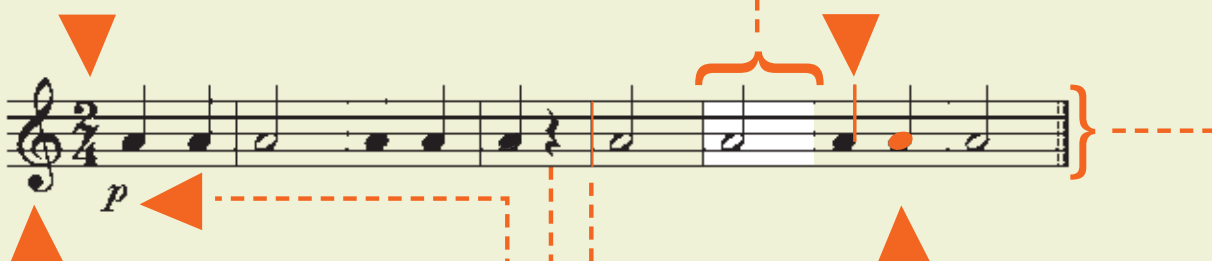
This is a grouping of beats framed by bar lines on a staff. Measures are also called **bars**.

2/4 Time signature

This indicates **meter**. The top number shows how many beats are in each measure, and the number below shows what kind of note gets the beat. Here, there are **two** beats per measure and the **quarter note** gets the beat.

Note stems

They are found on half, quarter, and eighth notes, and can point up or down.



Clef

A clef is the musical symbol found at the beginning of a staff that determines the names of the notes on the staff. This is a treble clef, or G clef.

Note heads

They tell you what notes or pitches to sing or play.

Bar lines

These vertical lines divide the measures.

Rests

These rhythmic symbols represent silence.

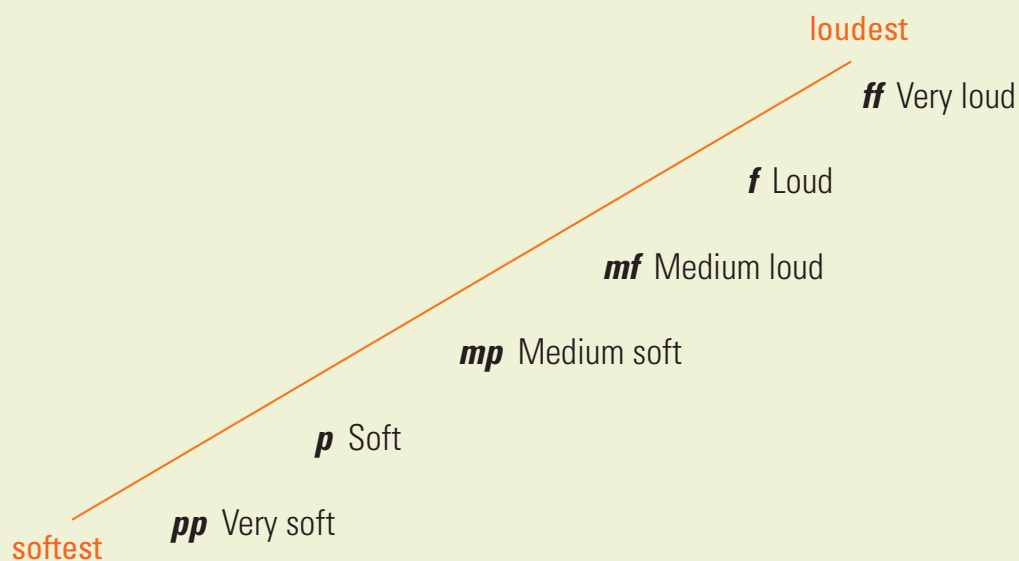
teacher **note**

What you see here in Gino's Music Decoder is a music example in 2/4 time. **Bar lines** divide the rhythm into **measures**. Each measure includes the number of beats indicated by the top number in the time signature. Here, it's two beats, which means we know to count "one-two" in each measure. The bottom number tells us the value of the note that gets the beat. Quarter notes are indicated by the number four. We use those most often, so you'll almost always see "4" on the bottom of the time signature.



Staff

This set of five lines and four spaces is where pitches are written, or **notated**.



Dynamics

They tell you how loud or soft to sing or play.

Above is a chart showing the range of dynamics, from very soft to very loud.