Name: _____

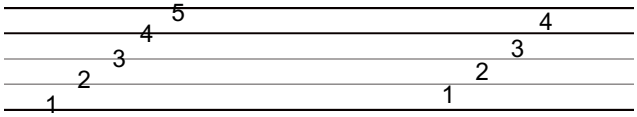
Unit: _____

Cadet Music Theory Workbook

Level Basic

Treble and Bass Clef

This is a **staff**. It has 5 lines and 4 spaces.

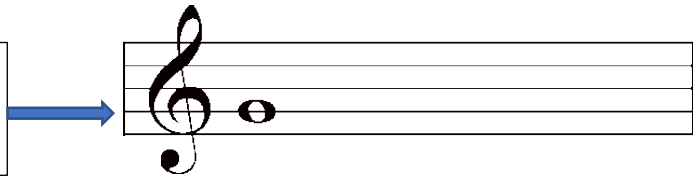


Almost all music is written on a staff. The staff helps us know what pitch we are supposed to play, but it needs something else for us to really know what pitch is supposed to be played: a **clef**.

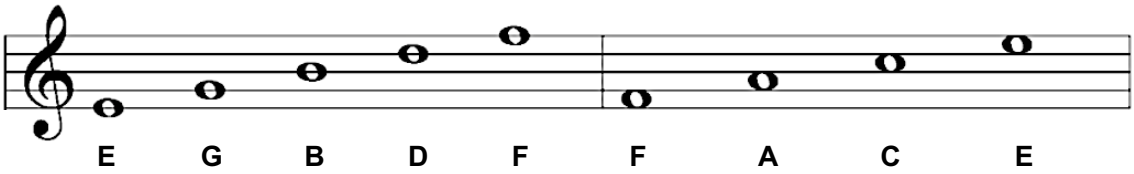
The clef tells us what pitches each line and space on the staff represent. There are many different clefs that exist, but the most common two that we will be looking at are the **treble clef** and the **bass clef**.

This is a **treble clef**. It is also known as the G clef, because the loop in the treble clef goes around the note G.

The treble clef loops around the G line. If it doesn't loop here, it is not a treble clef.



These are the lines and spaces in the treble clef:



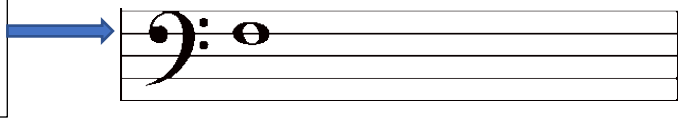
Every **G**ood **B**oy **D**eserves **F**udge

FACE in the space

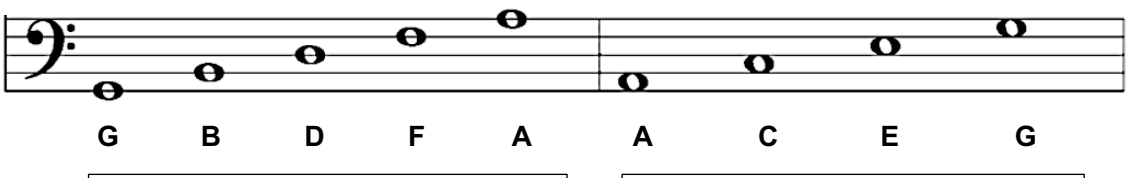
(these are phrases we can use to remember the lines and spaces in the treble clef)

This is a **bass clef**. It is also known as the F clef, because the two dots in the bass clef go around the note F.

The bass clef dots go around the F line. If the dots don't go here, it is not a bass clef.



These are the lines and spaces in the bass clef:



Good **B**oys **D**eserve **F**udge **A**lways

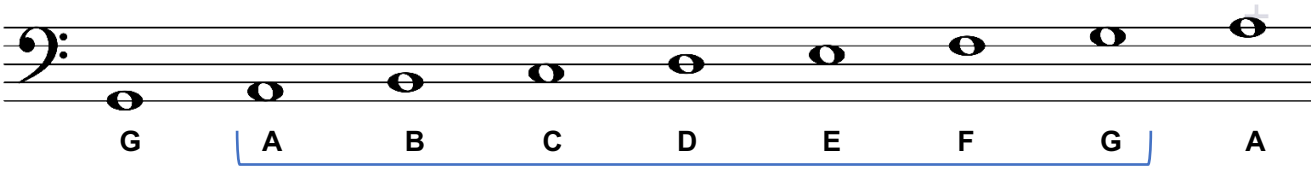
All **C**ows **E**at **G**rass

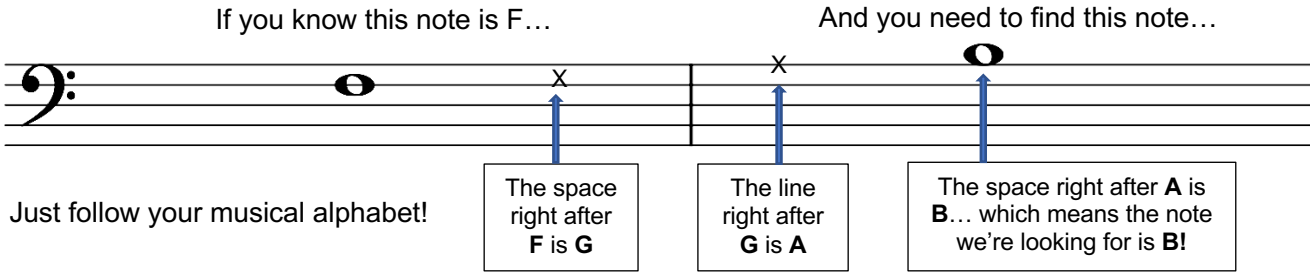
(these are phrases we can use to remember the lines and spaces in the bass clef)

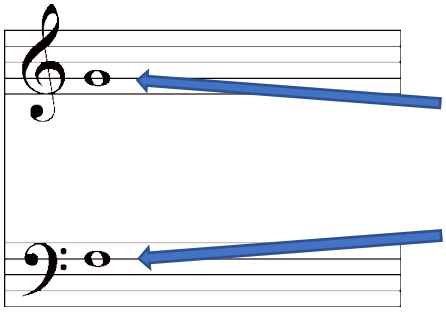
Ideally, we want to memorize all of the notes in the treble and bass clefs so we can look at a note and immediately know which pitch to play. If you're having trouble memorizing, there is something you can do to help you:

Find a pitch you know and follow the musical alphabet.

The musical alphabet *always* goes A B C D E F G A B C D E F G… this repeats forever. If you go line-space-line-space in any clef, it will always follow the musical alphabet.







If you memorize:

G in the treble clef

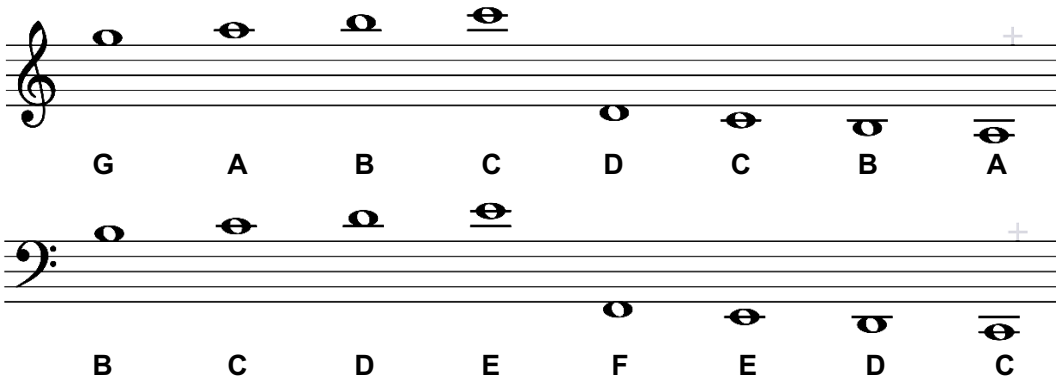
and

F in the bass clef,

You will be able to find any note!

Note: this works going in the other direction too, you just have to go backwards in the musical alphabet.

There are also notes that exist outside of the 5 lines and 4 spaces of a staff. We use what are called **ledger lines** to identify these and make them easy to read. Ledger lines look like this:



To find notes on ledger lines, use the method mentioned above: find a note that you know, and follow the musical alphabet up or down!

Apply Treble and Bass Clef Knowledge

A) What are the phrases we can use to remember:

1) The lines in the treble clef?

_____

2) The spaces in the treble clef?

_____

3) The lines in the bass clef?

_____

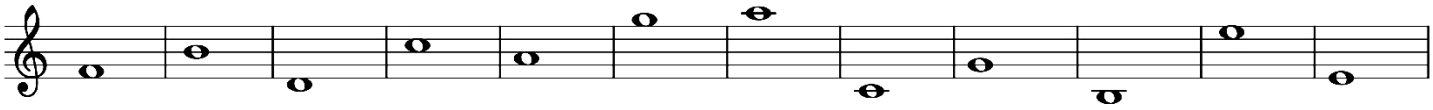
4) The spaces in the bass clef?

_____

B) Draw 4 treble clefs on the staff:

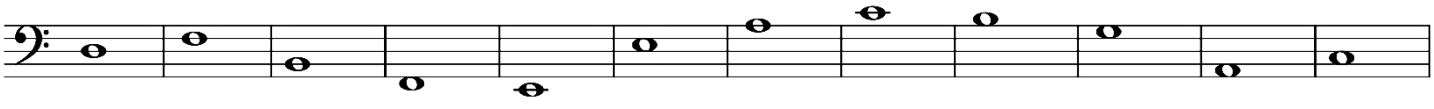
C) Draw 4 bass clefs on the staff:

D) Name the following notes in the treble clef:



_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

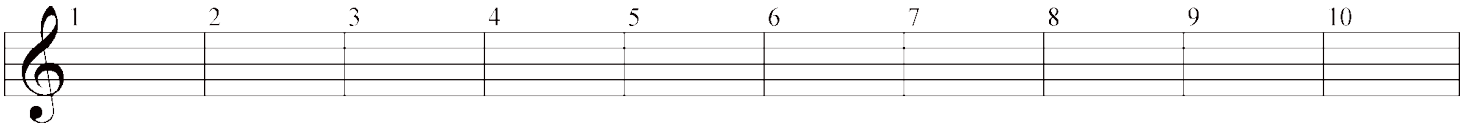
E) Name the following notes in the bass clef:



_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

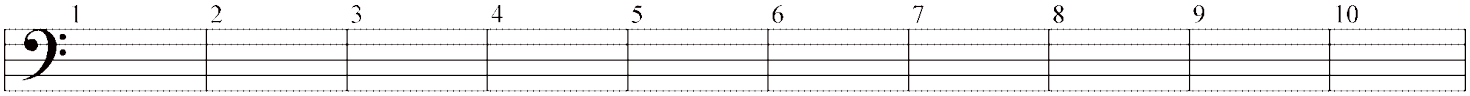
F) Write the following notes in the treble clef:

1) G on a line
2) F on a line
3) F in a space
4) B on a line
5) G in a space
6) E in a space
7) C in a space
8) E on a line
9) A in a space
10) D on a line



G) Write the following notes in the bass clef:

1) D on a line
2) G in a space
3) F on a line
4) B on a line
5) A on a line
6) A in a space
7) G on a line
8) E in a space
9) C in a space
10) B in a space



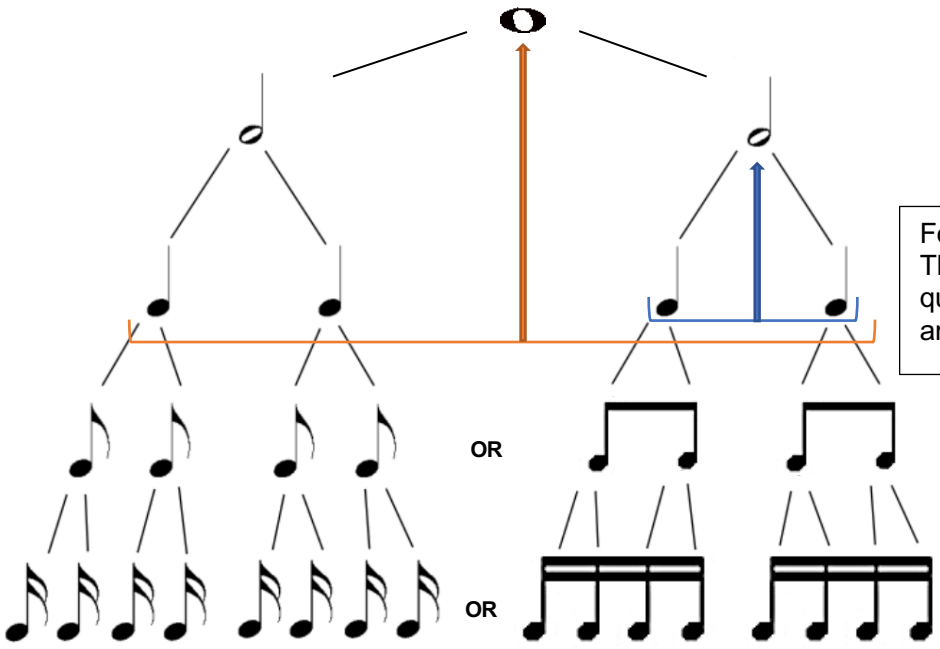
Note Values

We have just learned that the placement of the note on the staff tells us what pitch needs to be played – now, we will learn about how the type of note used tells us how long the note needs to be played for.

There are many different types of music notes, and they all have different lengths. We will be looking at 5 of them:

Symbol	Name	Length	
	Whole note	4 beats	
	Half note	2 beats	
	Quarter note	1 beat	
	Eighth note	½ of a beat	
	Sixteenth note	¼ of a beat	

This is a note tree. It shows us how all of the notes are related to each other.

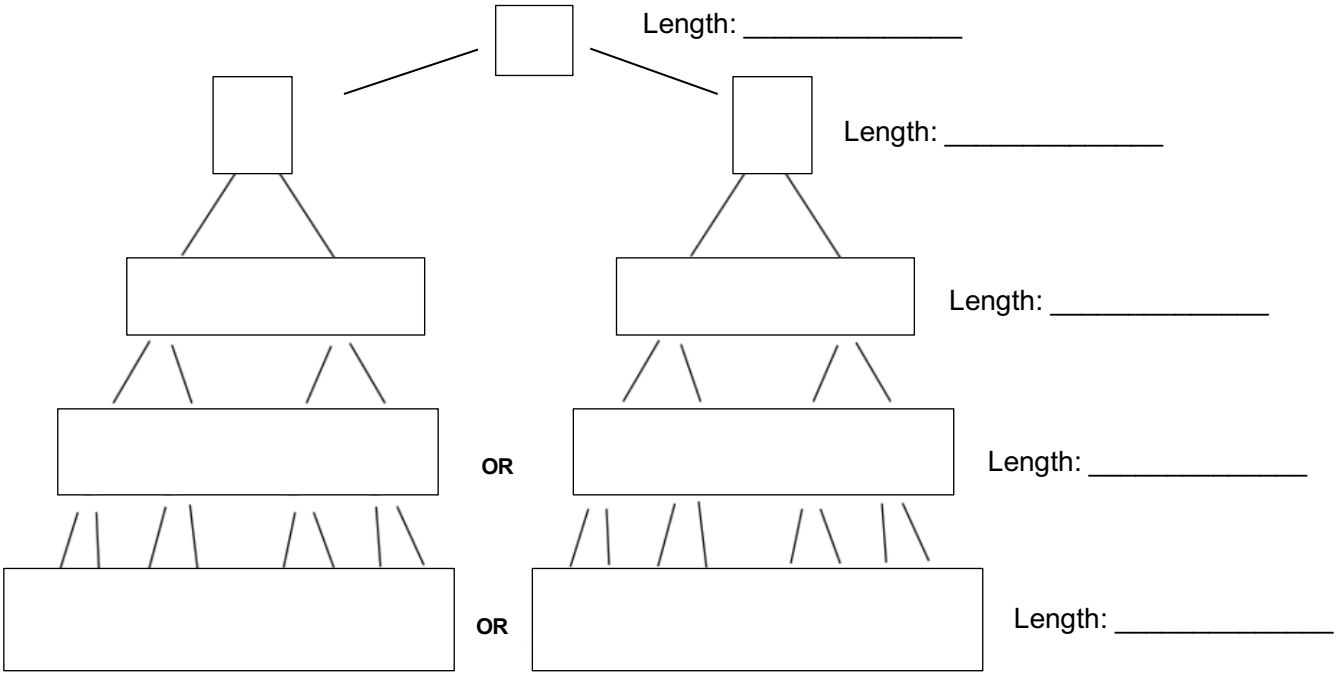


For example:
This shows us that there are 2 quarter notes in a half note, and there are 4 quarter notes in a whole note.

Eighth notes and sixteenth notes can be shown with tails (left) or with beams (right). They look different, but they are played exactly the same.

Apply Note Value Knowledge

A) Fill in the blank note tree, and write the length (# of beats) of each note:



B) How many beats do the following notes add up to?

1)  = _____
2)  = _____
3)  = _____
4)  = _____
5)  = _____
6)  = _____

C) Complete the following sentences:

1) There are ____ half notes in a whole note.
2) There are ____ quarter notes in a whole note.
3) There are ____ quarter notes in a half note.
4) There are ____ sixteenth notes in a whole note.
5) There are ____ eighth notes in a quarter note.
6) There are ____ eighth notes in a half note.
7) There are ____ eighth notes in a whole note.
8) There are ____ sixteenth notes in a quarter note.

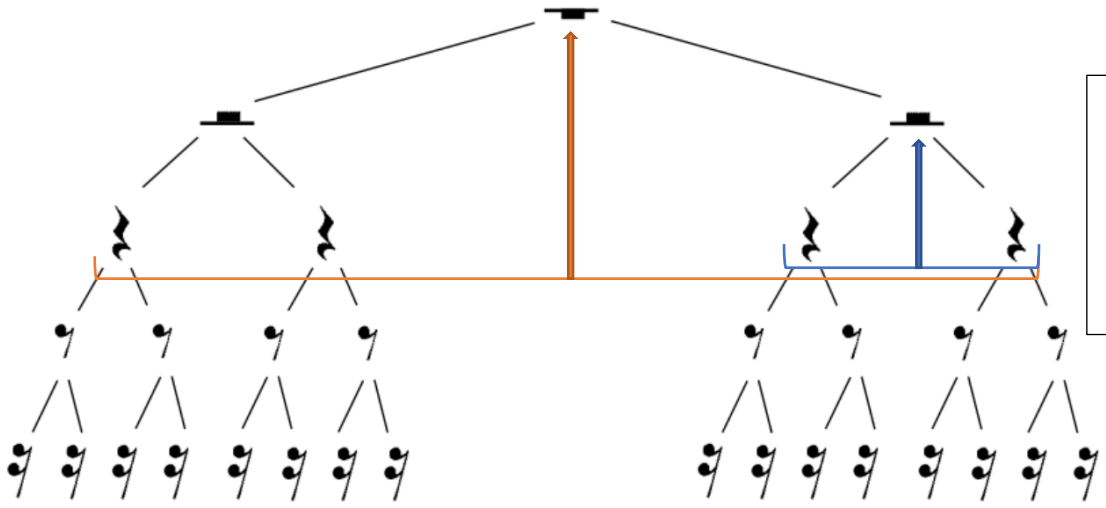
Rest Values

We have just learned about note values. Now, we are going to learn about rest values. Rests show us where to be silent when we're playing music, and rests have specific lengths just like notes do.

There are many different lengths of rests. We are going to be looking at 5 of them. Compare this table to the note lengths table: notice that they have the same lengths as the notes with the same names.

Symbol	Name	Length	
𝄻	Whole rest	4 beats	
𝄼	Half rest	2 beats	
𝄽	Quarter rest	1 beat	
𝄾	Eighth rest	½ of a beat	
𝄿	Sixteenth rest	¼ of a beat	

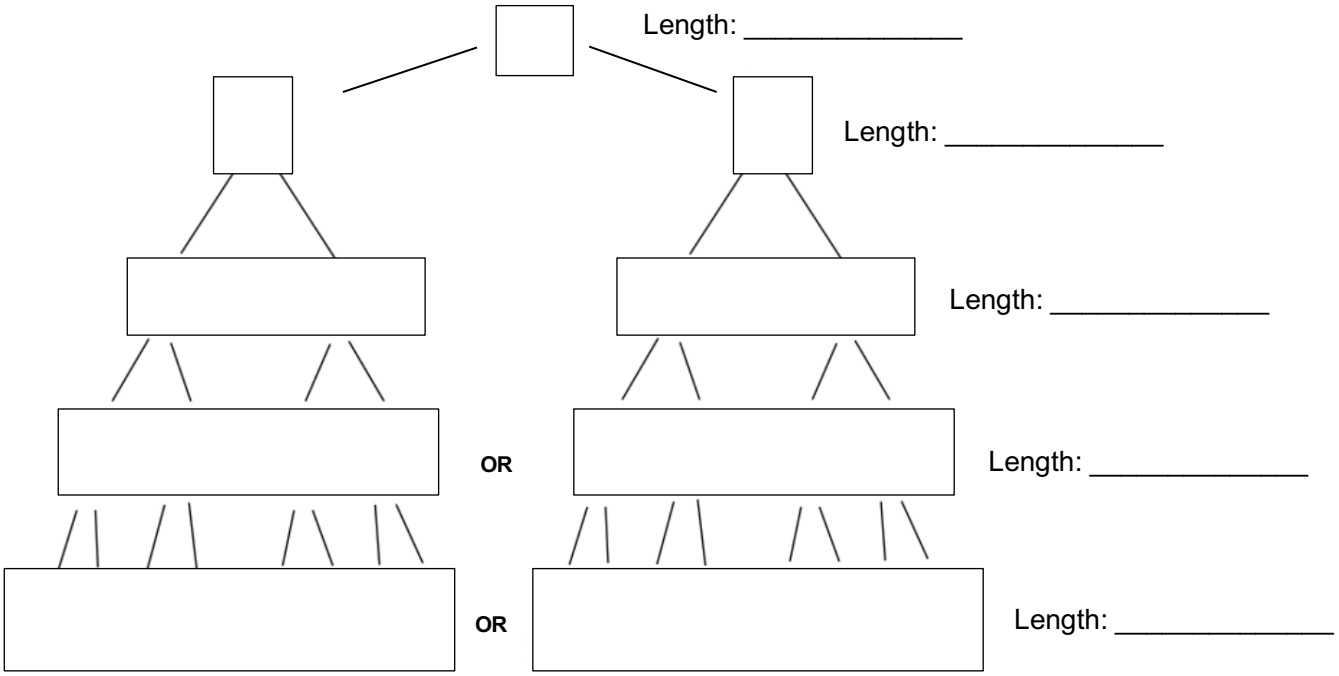
This is a rest tree. Just like the note tree, it shows us how all the rests are related to each other.



Just like the note tree, this shows us that there are 2 quarter rests in a half rest, and there are 4 quarter rests in a whole rest.

Apply Rest Value Knowledge

A) Fill in the blank rest tree, and write the length (# of beats) of each note.



B) How many beats do the following rests add up to?

1)  = _____
2)  = _____
3) = _____
4)  = _____
5) = _____
6)  = _____

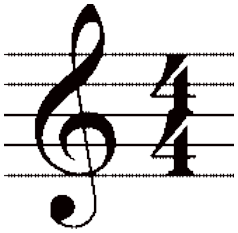
C) Complete the following sentences:

1) There are ____ quarter rests in a whole rest.
2) There are ____ half rests in a whole rest.
3) There are ____ sixteenth rests in a quarter rest.
4) There are ____ eighth rests in a quarter rest.
5) There are ____ quarter rests in a half rest.
6) There are ____ sixteenth rests in a half rest.
7) There are ____ eighth rests in a half rest.
8) There are ____ sixteenth rests in a whole rest.

Time Signatures

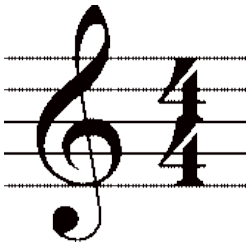
Almost every piece of music has a set of numbers at the beginning of the piece called a **time signature**. The time signature tells us how to count the music.

A time signature looks like this:

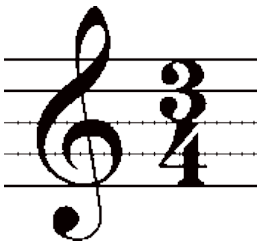


Every time signature has a top number and a bottom number, and they each tell us something different about the music.

Let's start with the top number. The top number tells us **how many beats are in each measure**.

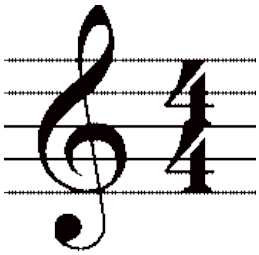


In this time signature, there is a 4 on top, so there are 4 beats in each measure.



In this time signature, there is a 3 on top, so there are 3 beats in each measure.

The bottom number tells us **what type of note equals 1 beat.** Understanding this takes a few more steps.



In this time signature, there is a 4 on the bottom. The easiest way to find out what type of note this represents is to compare it to fractions:

$\frac{1}{4}$

This type of fraction has a 4 on the bottom and is called a "quarter." In a time signature with a 4 on the bottom, the **quarter note** equals 1 beat.

This method works for all time signatures.

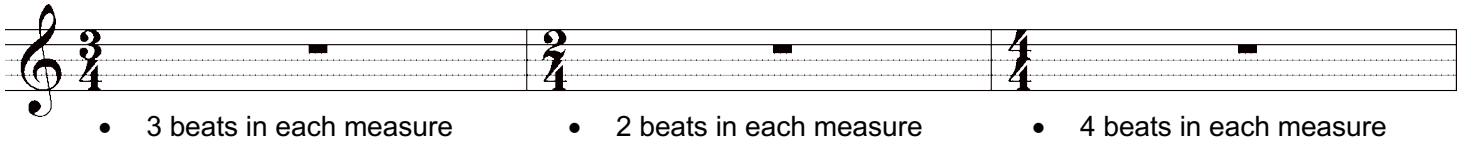
$\frac{1}{2}$

This type of fraction is called a "half." In this time signature, the **half note** equals 1 beat.

$\frac{1}{8}$

This type of fraction is called an "eighth." In this time signature, the eighth note equals 1 beat.

If we follow the above rules, we can see that in the following time signatures:



- 3 beats in each measure
- Quarter note equals 1 beat

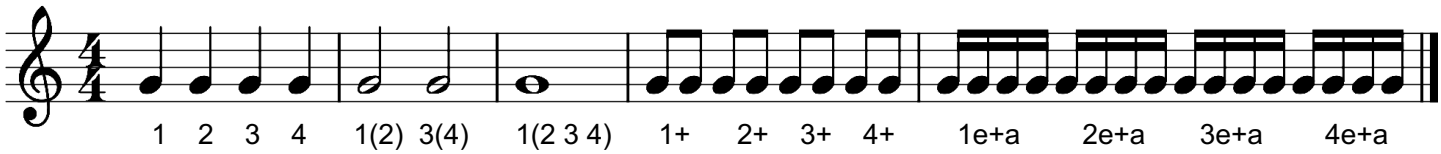
- 2 beats in each measure
- Quarter note equals 1 beat

- 4 beats in each measure
- Quarter note equals 1 beat

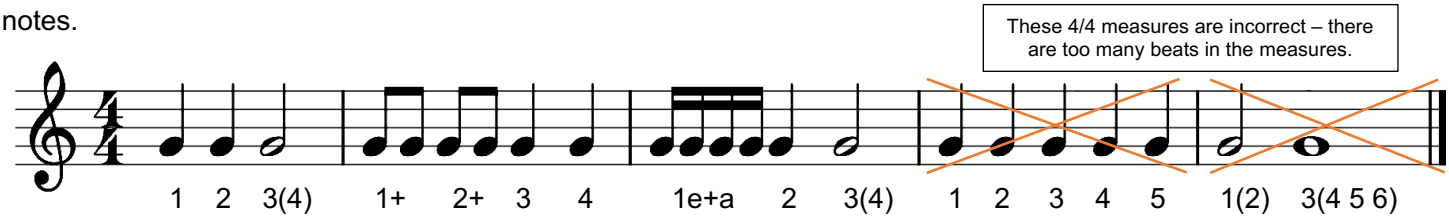
Fun fact! 4/4 time has another name: **common time**.

It looks like this and it acts exactly the same way 4/4 does:

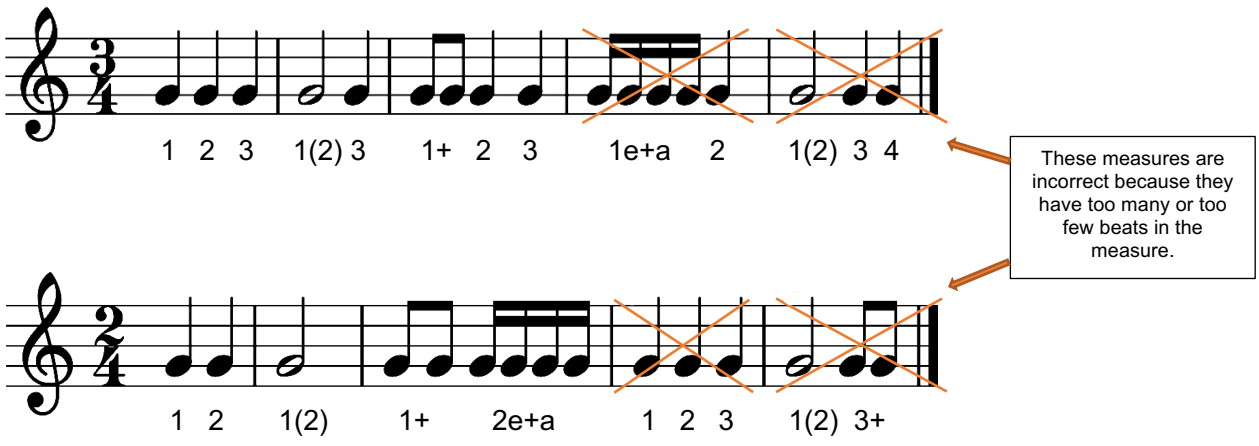
These three time signatures are the only ones you have to know in Level Basic. In future levels you will learn more. Let's look at 4/4 time, or common time. In 4/4 time, you can have many types of notes in a bar, as long as they all add up to the equivalent of 4 quarter notes.



You can also have different combinations of notes – again, as long as they all add up to the equivalent of 4 quarter notes.

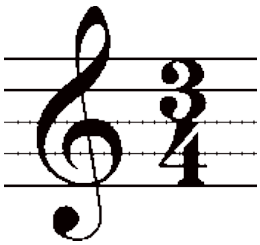


The same applies to 2/4 and 3/4.



Apply Time Signature Knowledge

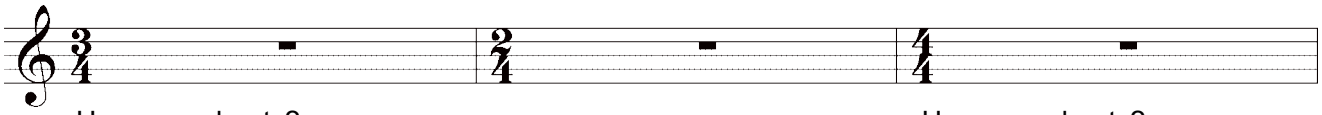
A) Explain what the top and bottom numbers mean in the following time signature:



Top number:

Bottom number:

B) Explain how many beats are in each of the following measures and what type of note equals 1 beat:



How many beats?

What type of note?

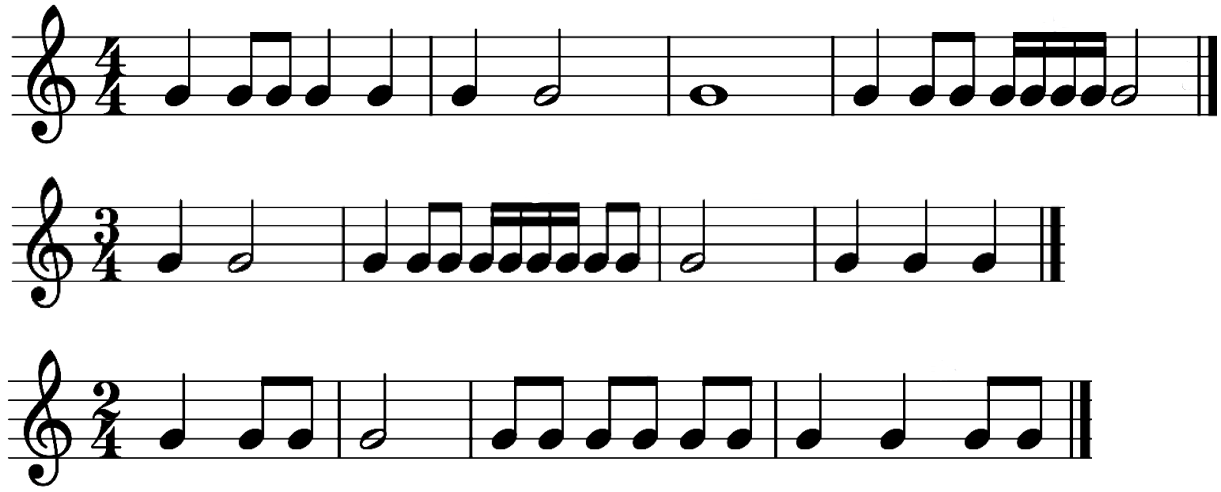
How many beats?

What type of note?

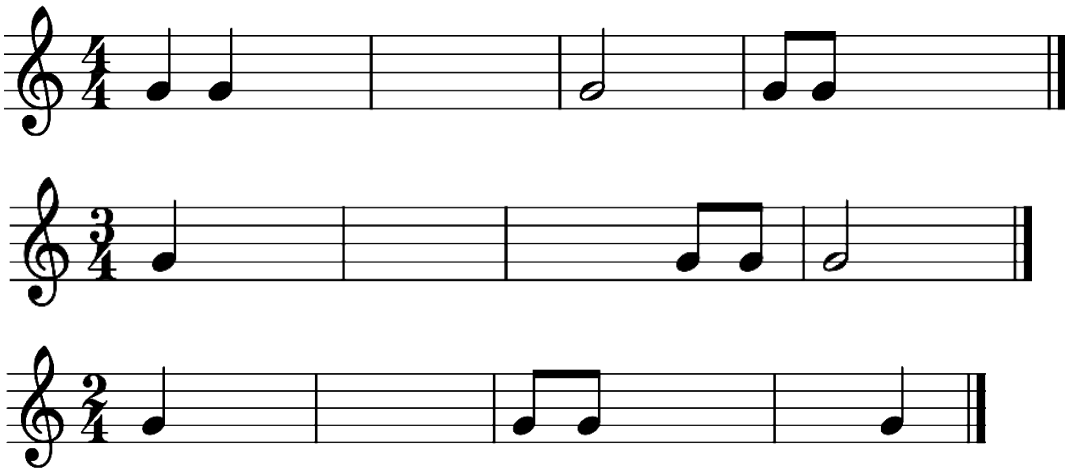
How many beats?

What type of note?

C) Circle the incorrect measures:



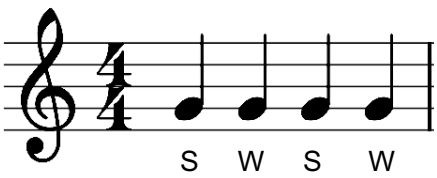
D) Add notes or rests to make the following measures correct:

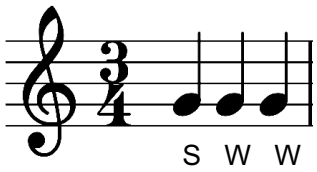


Strong and Weak Beats

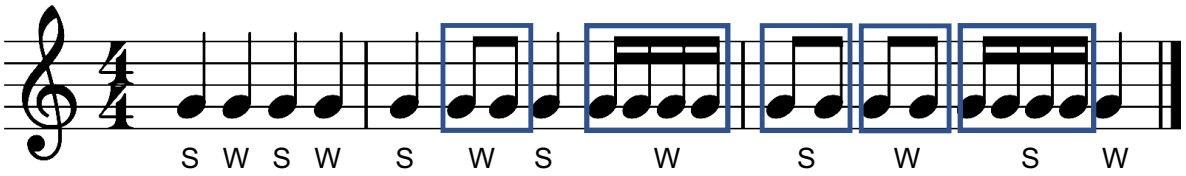
In every time signature, there is a pattern of strong and weak beats in every measure.

In the time signatures we have to know for Level Basic, the patterns go like this (S = strong, W = weak):



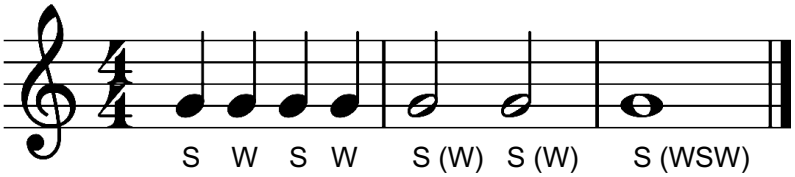


This pattern repeats in every measure. Remember, to identify the strong and weak beats in a measure we are looking at **beats** not **notes** – there may be a lot of notes in a measure, but there are still only the number of beats shown above. This applies to all time signatures. For example:



These measures contain many **notes,** but the number of **beats** remains the same.

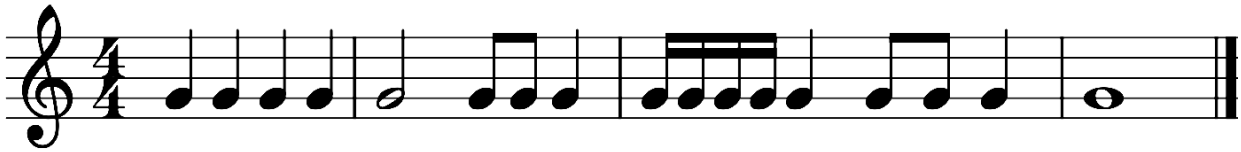
There may also be very few notes in a measure, but again, there are the same number of beats. A beat is still there even if it is hidden by a longer note (like a half note). This applies to all time signatures. For example:

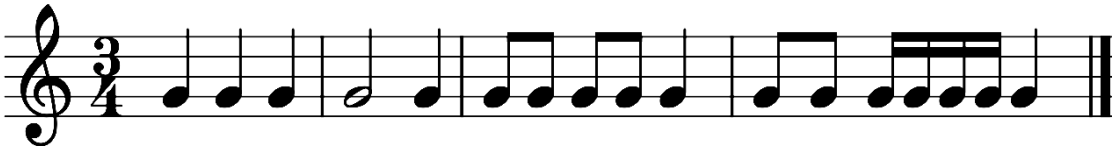


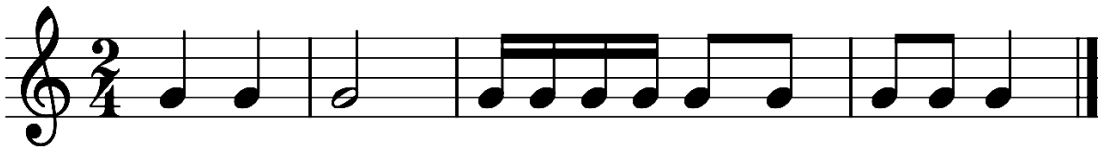
These measures contain very few **notes**, but the number of **beats** remains the same.

Apply Strong and Weak Beat Knowledge

A) Label the strong and weak beats in the following measures:



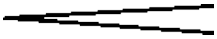
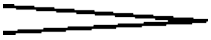




Dynamics

In music, we have markings called dynamics that tell us what volume the music needs to be played at.

There are many dynamic markings that exist. In Level Basic, we need to know eight.

Symbol	Name	Definition
pp	Pianissimo	Very soft
p	Piano	Soft
mp	Mezzo-piano	Moderately soft
mf	Mezzo-forte	Moderately strong
f	Forte	Strong
ff	Fortissimo	Very strong
 or ***cresc.***	Crescendo	Gradually get stronger
 or ***dim.***	Diminuendo or Decrescendo	Gradually get softer

Apply Dynamics Knowledge

A) Place the following dynamics in order from softest to strongest:

f ***mp*** ***ff*** ***pp*** ***p*** ***f***

_____ _____ _____ _____ _____ _____

B) Define the following dynamics and draw their symbols:

Pianissimo _____ _____

Piano _____ _____

Mezzo-Piano _____ _____

Mezzo-Forte _____ _____

Forte _____ _____

Fortissimo _____ _____

Crescendo _____ _____

Decrescendo _____ _____

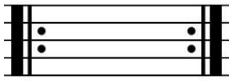
Roadmaps

Some pieces of music are played from beginning to end, and some are not. In some pieces of music, we have markings that tell us specific ways to move around the piece. Sometimes we call this the “roadmap” of the piece. This is often seen when there are large repeated sections in a piece.

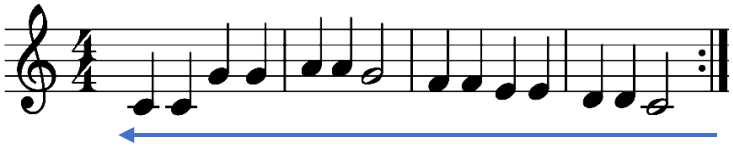
For Level Basic, there are a few of these markings that we need to learn.

Repeat signs look like this.

They tell us to repeat a section of music.

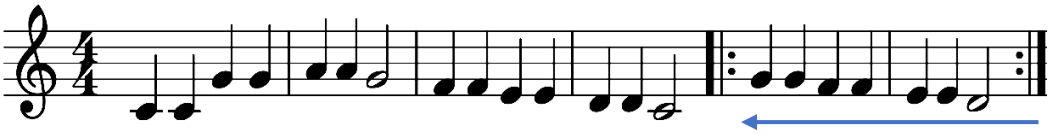


If there is only one repeat sign in a piece, it tells us to go back to the beginning and repeat.



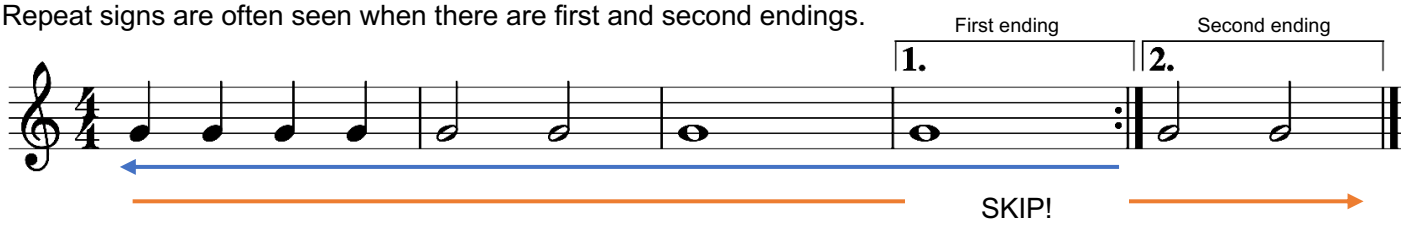
This repeat sign tells us to go back to the beginning.

If there are two repeat signs facing each other, that tells us to go back to the other repeat sign, not the beginning.



This repeat sign tells us to go back to the other repeat sign.

Repeat signs are often seen when there are first and second endings.



In this passage, we play until the repeat sign in the first ending then go back to the beginning. The second time we play it, we skip the first ending and go to the second ending instead.

D.S., D.C., al Fine, al Coda:

D.S. stands for dal segno. “Segno” means “sign,” and it is always paired with a sign that looks like this: 𝄋.

A **D.S.** in music tells us to **go to the sign.**

D.C. stands for da capo. “Capo” means “top.” A **D.C.** in music tells us to **go to the top** (the beginning).

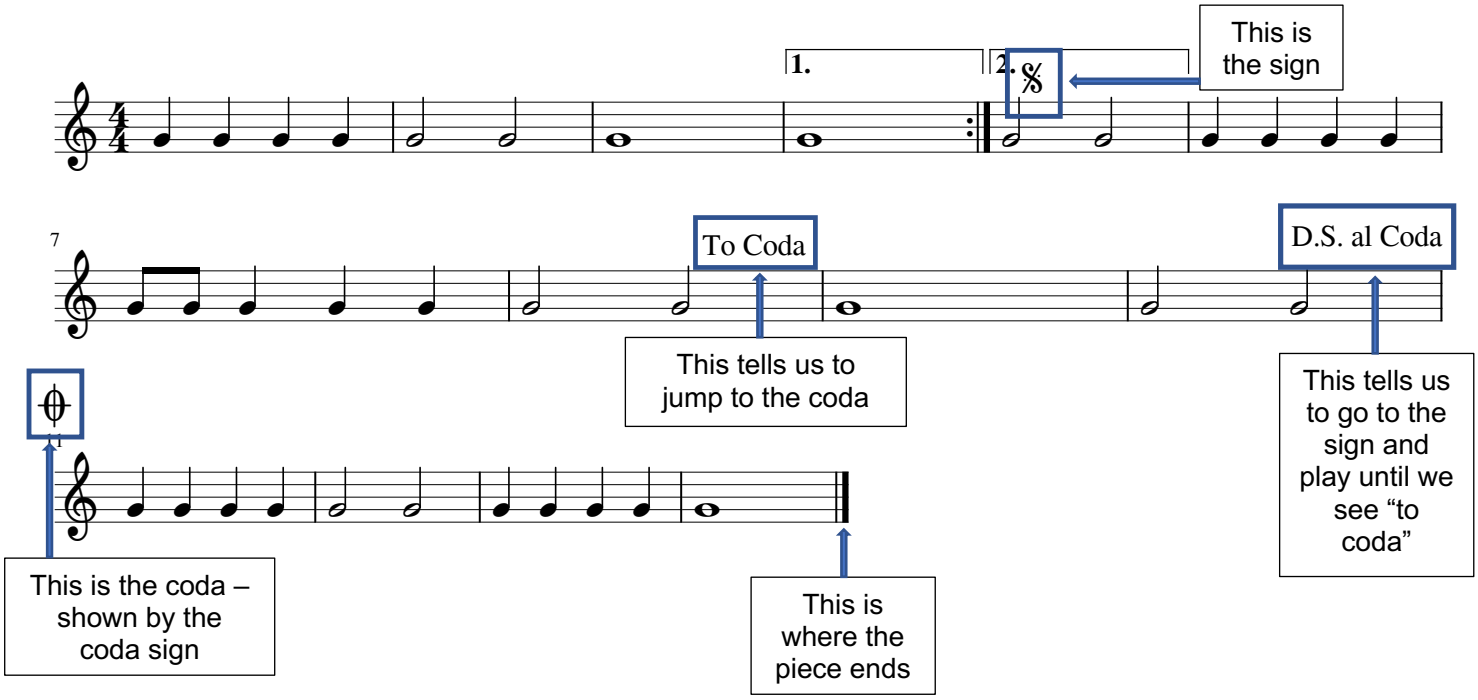
D.C. and D.S. are always paired with either:

al Fine means “to the end.” It is always paired with a **fine.** It tells us to play until we see **fine,** which is the end of the piece.

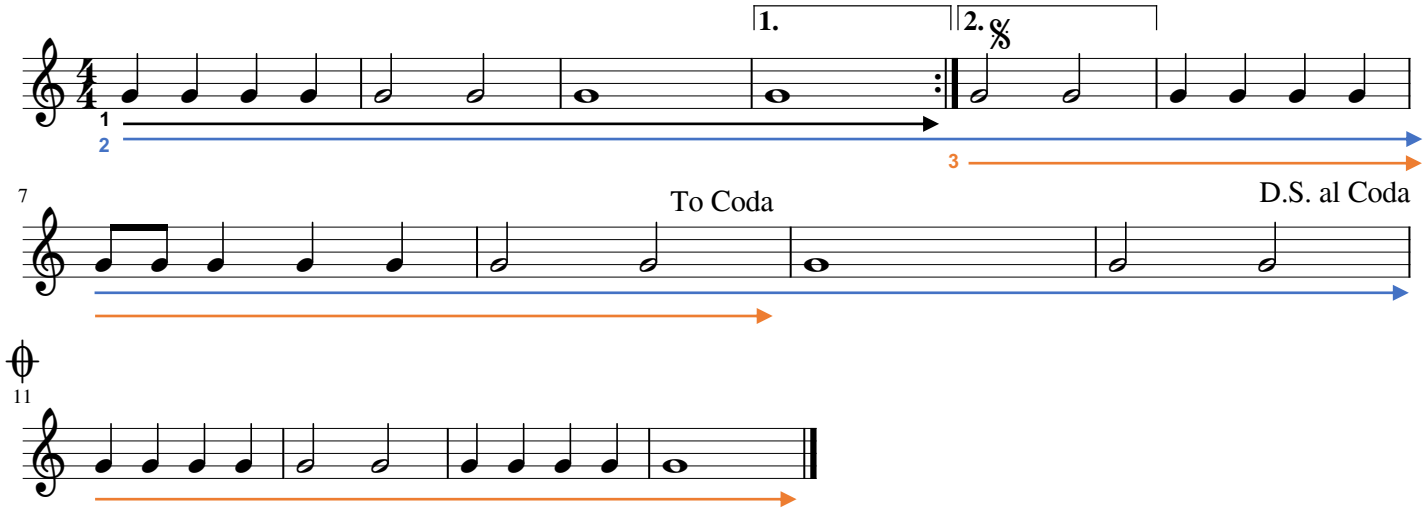
al Coda means “to the coda.” It is always paired with a **to Coda**, as well as a Coda sign that looks like this: 𝄌.

al Coda tells us to play until we see **to Coda**, then jump to the Coda which is marked with the Coda sign (the Coda is usually about 8 bars of music at the very bottom of a piece).

Let's look at an example.



Here is the same piece, with arrows showing how it is played.



Apply Roadmap Knowledge

A) Explain in your own words what the following terms mean in a piece of music:

1) D.C. al Coda

_____

2) D.S. al Coda

_____

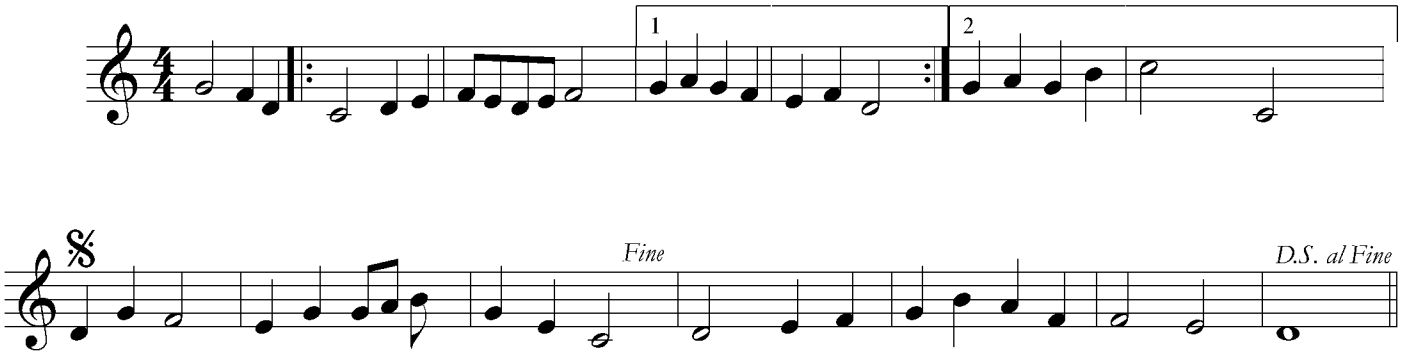
3) D.C. al Fine

_____

4) D.S. al Fine

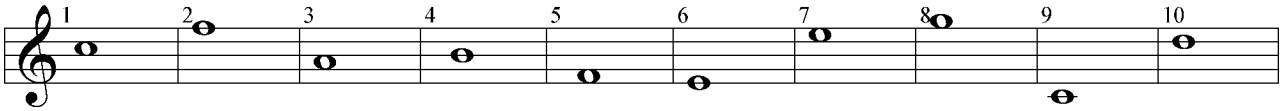
_____

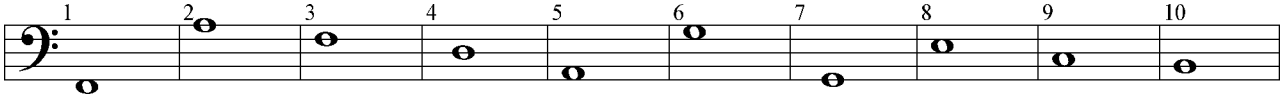
B) Use arrows to show how the following passage is played:



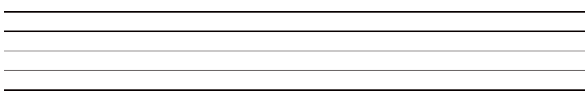
Practice Test

A) Name the following notes in the treble and bass clefs:

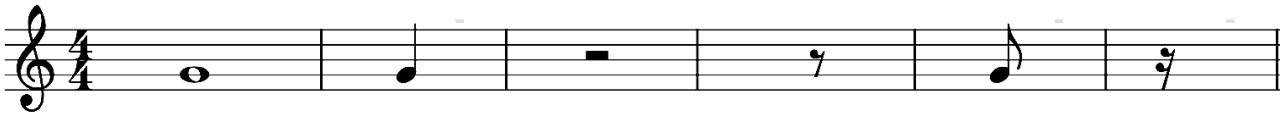




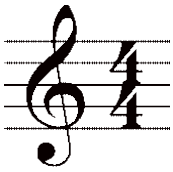
B) Draw the treble clef and the bass clef:



C) How many beats do the following notes and rests equal?



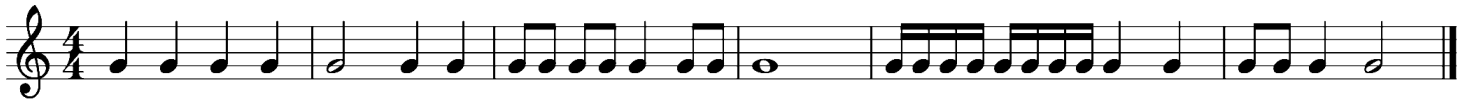
D) Explain what the top and bottom numbers mean in the following time signature:



Top number:

Bottom number:

E) Label the strong and weak beats in the following passage:



F) Define the following dynamics and draw their symbols:

Pianissimo	_____	_____
Piano	_____	_____
Mezzo-Piano	_____	_____
Mezzo-Forte	_____	_____
Forte	_____	_____
Fortissimo	_____	_____
Crescendo	_____	_____
Decrescendo	_____	_____

G) Analyze the following passage by answering the questions below:

1) When you reach measure 4, you go back to measure _____. Why do you do this?

   _____

2) When you play from measure 1 the second time, you skip measure _____.

3) When you reach measure 16, you find the symbol _____. What does this symbol tell you to do?

   _____

4) The “segno” or sign is at measure _____.

5) The piece ends at measure _____ where you see the symbol _____.