AP Music Theory Summer Packet

2019-2020 School Year

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Review the following packet regarding the Fundamentals of Pitch. This is the equivalent of Chapter 1 in our textbook. Some of the information will be review for you, but *you are responsible for ALL of the material in this packet.*

Here is a website to assist with the understanding of much of the material listed in this packet:

https://www.musictheory.net/exercises

Relevant exercises are the note identification, key signature identification, scale identification, and interval identification. You can customize the exercises by going to the gear icon at the top right corner of the webpage.

Day 1 of class will be going over the syllabus for the school year, in addition to review of the material in this packet. There will be a test on this material at the end of the class.

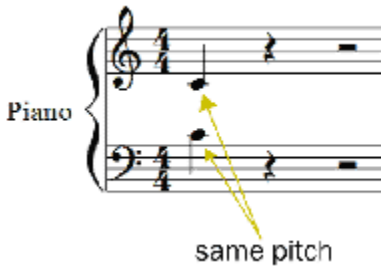
If you have questions over the summer, please feel free to email me at the email listed above and I will get back to you as soon as possible.

I look forward to seeing all of you in the fall! Have a great summer.

Mr. Wilson

The Grand Staff

This is the grand staff. It includes the treble clef and bass clef.



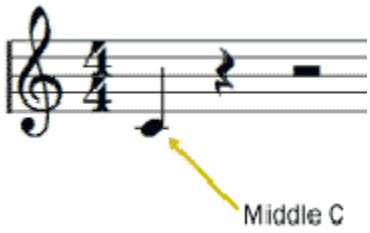
Note that the two notes shown above are the exact same pitch. Each is called "middle C."

Clefs in Relation to Middle C

Middle C is the note exactly between the bass and treble clefs, as noted in the image above. Middle C is located in a different spot for each clef, but it remains the exact same pitch. To show how each clef is related, here are images of each clef with middle C. Yes, this means that the clefs overlap each other.

Treble Clef

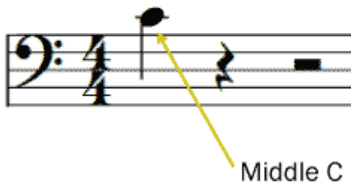
The treble clef is known as the "G clef." The easiest way to remember this is seeing that the clef circles the note G (second line from the bottom).



The image above shows where middle C is located on this clef.

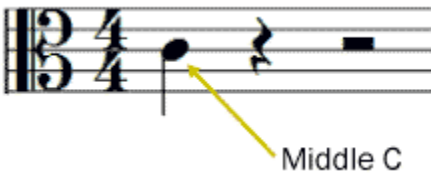
Bass Clef

This clef is known as the "F clef." One way to remember this is that the line between the two dots is F (second line from the top).



Middle C is located on the first ledger line above the staff of the bass clef.

Alto Clef



On the alto clef, middle C is located on the middle line of the staff.

The alto clef is known as a "C clef." Notice that middle C is located at the middle line of that clef.

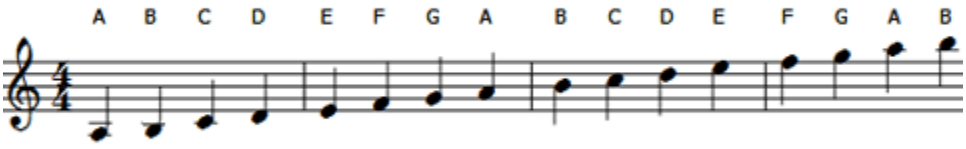
Why all of the clefs?

Each instrument has a range of notes that it can play. If every instrument read from the treble clef, for example, there would be many ledger lines for lower instruments, which would make the music very difficult to read. Different clefs are assigned to different instruments based on the notes each instrument is able to play.

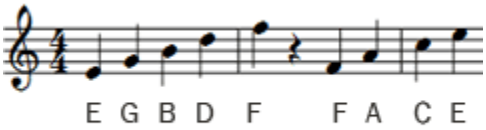
Notes of the Staff

The notes are named from A to G and then repeat. Different clefs have the notes in different places, but the A to G pattern remains the same.

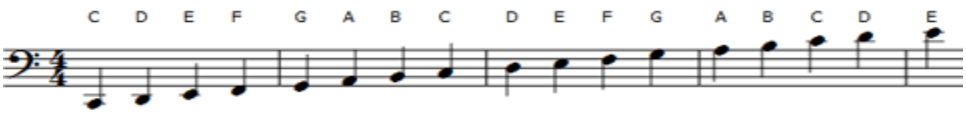
Treble Clef



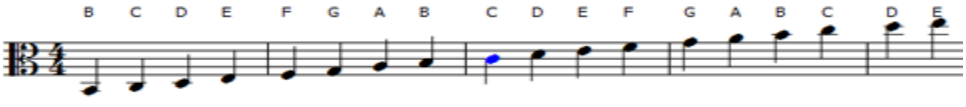
One way to remember the notes is to make up an acronym. The notes on the lines create the phrase “Every Good Boy Deserves Fudge.” The notes on the spaces form the word "FACE."



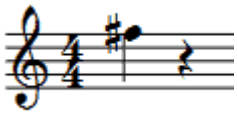
Bass Clef



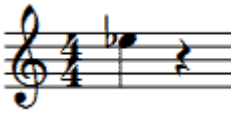
Alto Clef



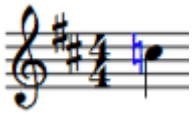
Sharps, Flats, & Naturals



This is a sharp. It raises the note in pitch by half step.

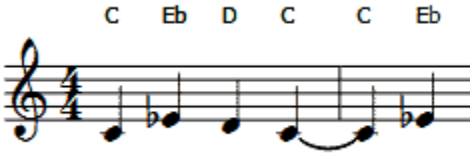


A flat lowers the pitch by half step.



This is a natural sign.

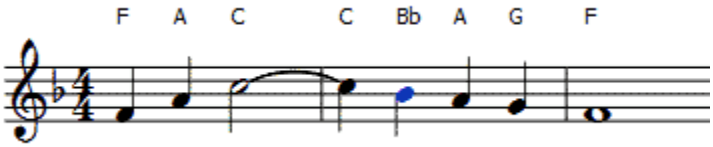
Accidentals



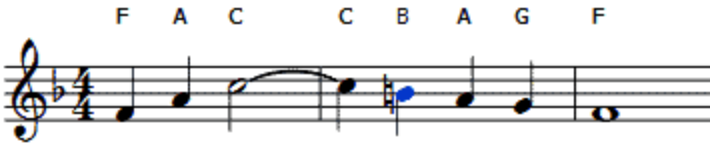
Accidentals are notes that are not included in the key signature. For now, just know that the key of C has no naturally occurring sharps or flats, so if you see a sharp or a flat in this key you know it's an accidental.

Key Signatures & Notes

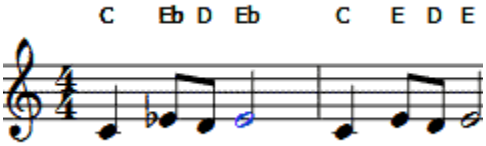
Some notes are automatically sharp or flat because of the key signature. For example, the key of F has one flat (B flat). All of the B notes are automatically flat because of the key signature. There is no need to write a flat next to those notes.



The natural sign allows us to turn the naturally occurring flat or sharp back into the regular note name. For example, in the key of F we could change the naturally occurring B flat into a B by using the natural sign.



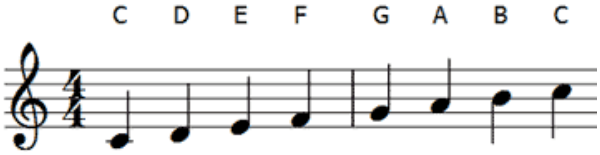
If an accidental is used, it applies to the rest of the measure.



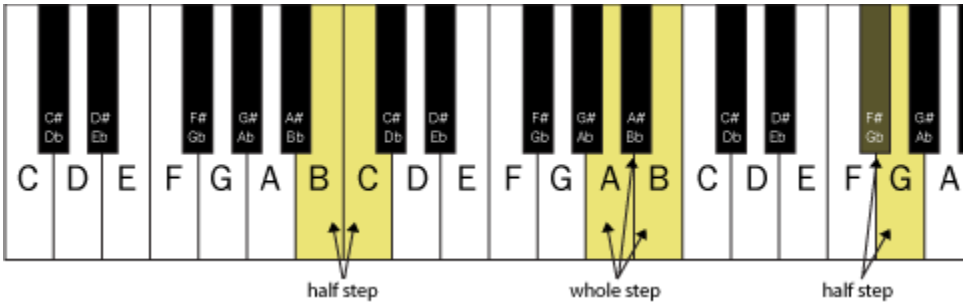
Intervals: Whole & Half Steps

An interval is the distance between two notes. In this lesson, we will only learn about the **half and whole step intervals**. Since we haven't learned key signatures yet, we'll relate them to the key of C Major, which has no sharps or flats. The C Major scale starts from C and ends at C.

This is a major scale in the key of C Major.

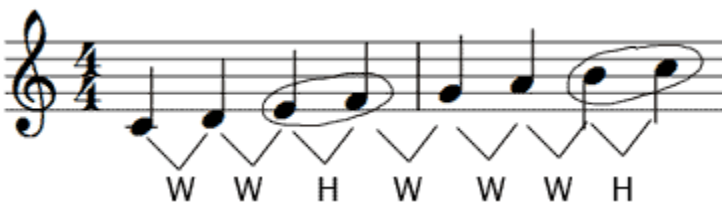


Imagine a piano. The distance from B to C is a half-step because no other notes fall between them. The distance from A to B, however, is a whole step because it consists of two half steps.

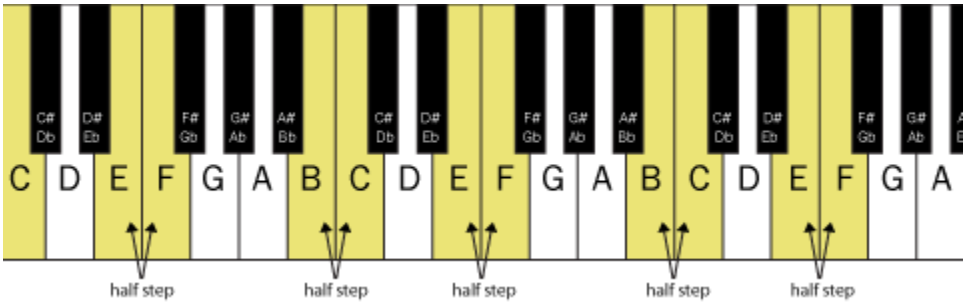


Naturally Occurring Half Steps

Each note is a certain distance apart from the next, and they form a pattern that repeats. All Major scales follow this exact pattern: **W W H W W W H** (whole, whole, half, whole, whole, whole, half). The distance between the first two notes in a Major scale is a whole step. The distance between the 3rd and 4th notes and the 7th and 8th notes are half steps. Those are the two naturally occurring half steps in a major scale.

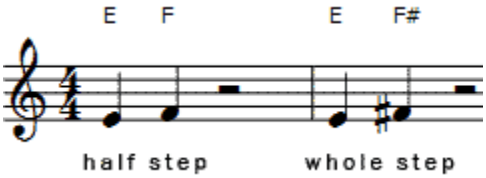


In a major scale, there are two naturally occurring half steps. In the key of C Major, those two half steps are between B & C and E & F.

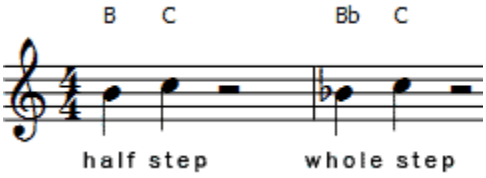


Adding Accidentals

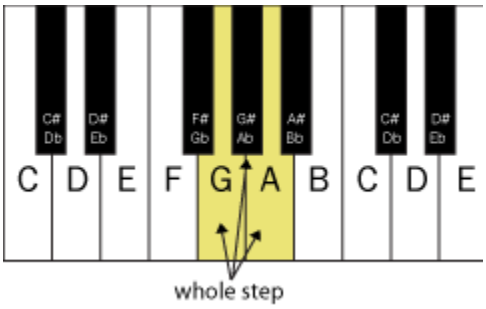
Remember from the last lesson that accidentals raise or lower notes by half steps. The interval between E and F is a naturally occurring half step, but if we raised F to F#, we then make the distance further apart. The distance between E and F# is now a whole step because it consists of two half steps (E to F and F to F#).



The interval between B and C is also a naturally occurring half step. If we lower the B to B flat, we make the interval larger by increasing the distance between the two notes by half step, which now makes the interval a whole step.



The interval between G and A is a whole step because it consists of two half steps (G to A flat and A flat to A).



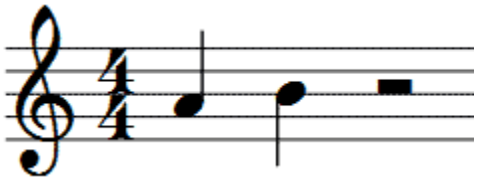
Same Pitch, Different Note Name

Several notes share the same pitch but have different names. For example, A flat is the same pitch as G sharp, and C sharp is the same pitch as D flat. Typically, you would call the half step between C and D a C sharp if there is a C sharp in the key signature or a D flat if there is a D flat in the key signature.

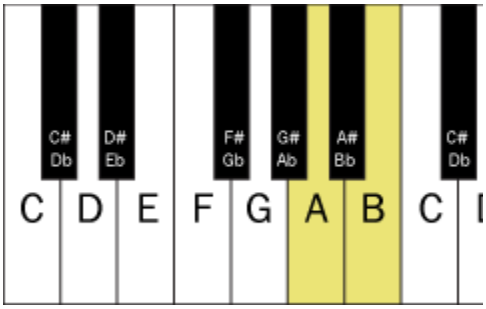
More Examples

Here are a few examples, just to help the concept sink in. Remember that the naturally occurring half steps are between B & C and E & F.

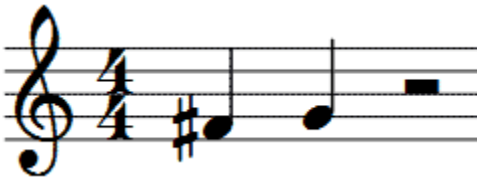
A to B



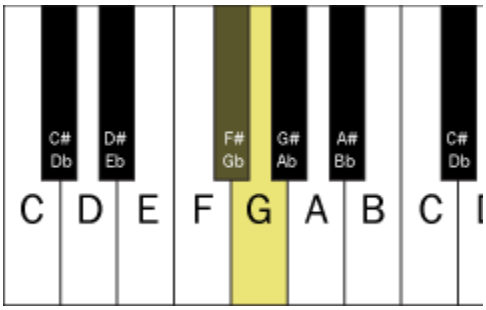
This is a whole step. Why? Because it consists of two half steps. If you look at a keyboard, you can see that there is a note in between these two notes.



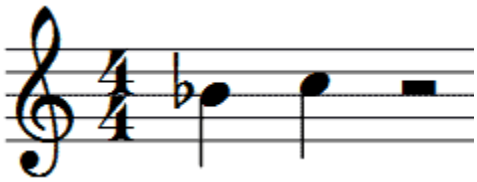
F# to G



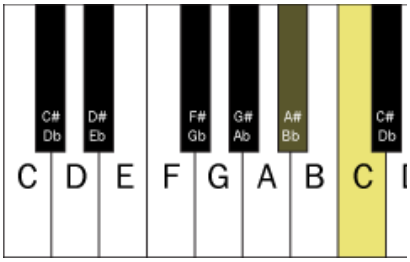
This interval is a half-step. Why? The distance from F to G is a whole step, but raising the F to F# makes the interval smaller, which turns it into a half step. Here is how it looks on the keyboard:



B flat to C

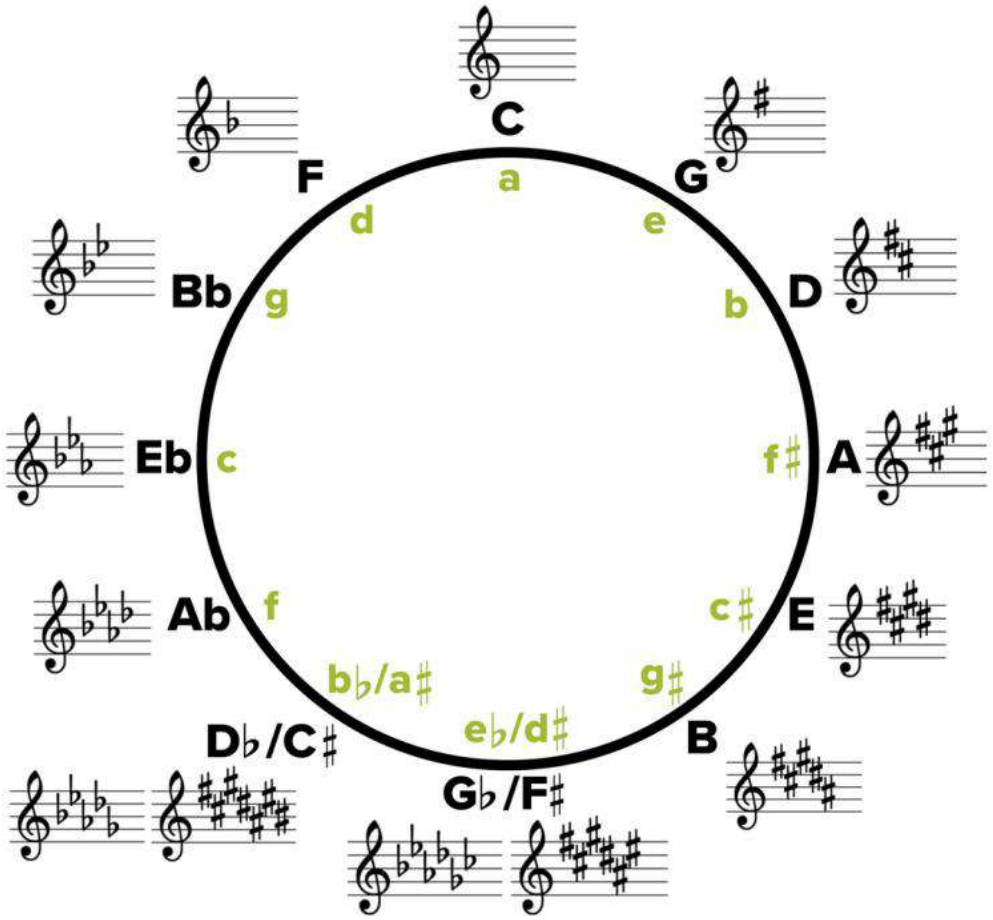


This one is a little tricky. Remember that B to C is a naturally occurring half step, so lowering the B to B flat makes the interval half step larger, which makes this interval a whole step. Here is how it looks on the keyboard:



Key Signatures

A key signature tells you what notes are sharp, flat, or natural in a piece of music. The Circle of Fifths is a graph to help you determine how many sharps and flats are in a given key signature.

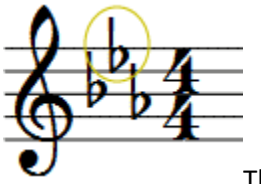


As you move *clockwise* through the Circle of Fifths starting at C (at the top), count up a Perfect Fifth (3 whole steps plus a half step) to get to the next note. As you can see, each Fifth that you go up, you add a sharp until you get to 7 sharps. If you move *counterclockwise*, count DOWN a Perfect Fifth, and you add a flat to the key signature until you get to 7 flats. The small letters on the inside of the circle are called the **relative minor** of the Major scales that are on the outside.

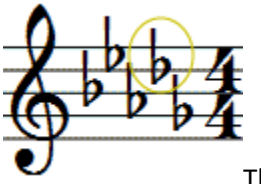
Tricks to Remember the Major Key Signatures

Flats

For key signatures with flats, the key signature is the second to last flat.



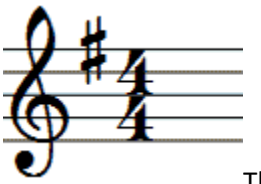
This is the key of E flat because E flat is the second to last flat in the key signature.



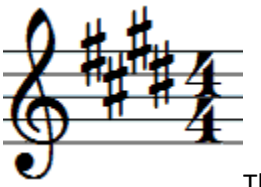
This is the key of D flat because D flat is the second to last flat in the key signature. It is not the key of D because there is a D flat in the key. Therefore, it is the key of D flat.

Sharps

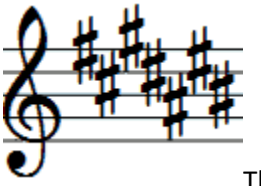
For key signatures with sharps, the key signature is the note name half step above the last sharp.



This is the key of G because F# is the last sharp in the key signature. G is half step above F#.



This is the key of E because E is half step above D#, which is the last sharp in the key signature. It is not the key of E# because there is no E# in this key signature.



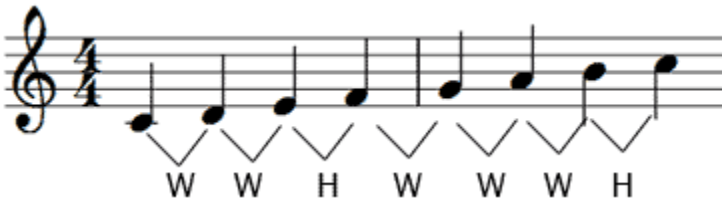
This is the key of C#. Why? The last sharp in this key signature is B#. Half step above that is C#. Remember that there is a naturally occurring half step between B and C, which means B# is the same pitch as C. This means that half step above B# is C#. The quicker way to determine this is to look at the sharps already in the key signature. In this case, there is already a C# in the key signature, so this key is the key of C#.

What about the key of C or the key of F?

This little trick will help you quickly determine the name of the key signature when there are multiple sharps or flats in the key signature, but you may have noticed that this trick doesn't work for the key of F or the key of C. Let's discuss what all of these key signatures have in common.

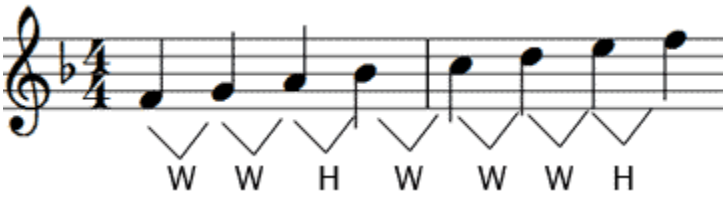
Whole & Half Step Pattern in a Major Scale

In the last lesson, we discussed that the W W H W W W H step pattern is the same for all major keys. The key of C has no sharps or flats because it naturally follows this pattern.



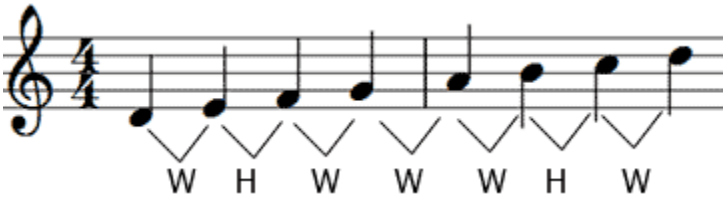
The key of F, for example, has 1 flat (B flat). The B is flatted so that the scale follows the same

W W H W W W H pattern.



This image shows that the key of D Major follows this same pattern.

Without the flat key signature, the notes create a different pattern and, therefore, are not a Major scale.

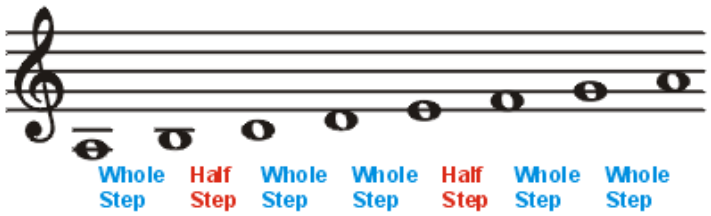


The Minor Scales

There are three forms of minor scales: natural, harmonic and melodic.

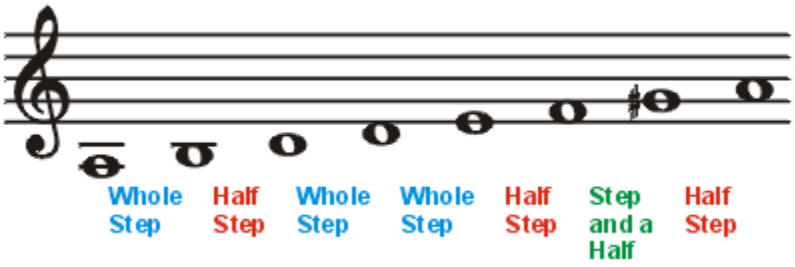
Natural Minor scale

The natural minor scale contains half-steps between 2-3 and 5-6 scale degrees.



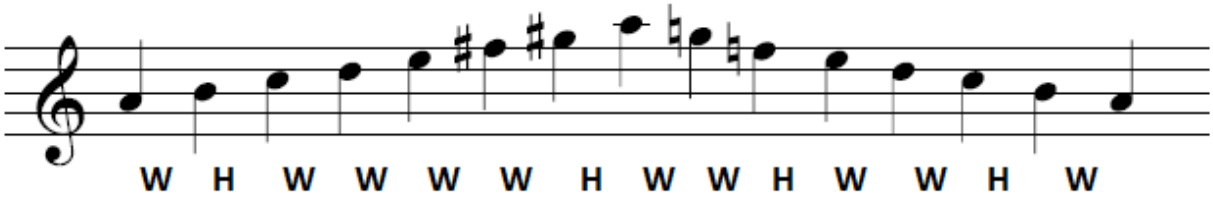
Harmonic Minor Scale

The harmonic minor scale contains a half step between notes 2-3 and 5-6, but contains a step and a half from notes 6-7.



Melodic Minor Scale

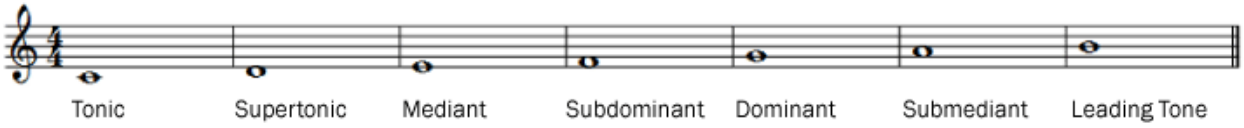
The melodic minor scale sounds different going up as it does going down. The scale includes a half step between notes 2-3 as it ascends and descends. As the scale ascends, however, the 6th and 7th notes are raised (to sound more like a Major scale). As the scale descends, the 6th and 7th notes are lowered again, to sound like a natural minor scale.



Scale Degree Names

Each note in a scale has a name that matches its function. We will learn more about what those functions are later in the year. For now, it is good to know the names. These names apply to all major.

- 1st - Tonic
- 2nd - Supertonic
- 3rd - Mediant
- 4th - Subdominant
- 5th - Dominant
- 6th - Submediant
- 7th - Leading Tone (When raised, such as in the Major, harmonic, and ascending melodic minor scales)
- Flatted 7th- Subtonic (when lowered, such as in the natural and descending melodic minor scales)



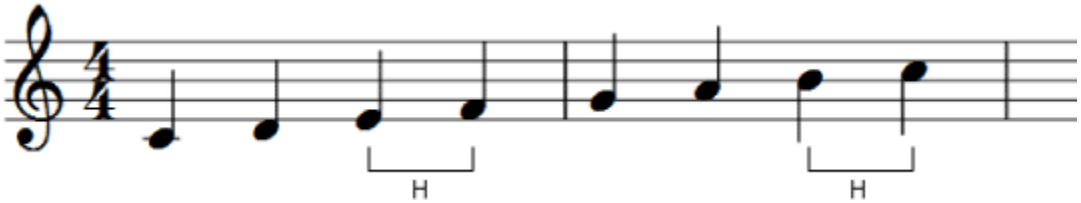
Medieval Modes

Think of the Modes as being like alternative scales. The modes were used as a pattern of musical composition (much like the Major and minor scales are that we use now) during the Medieval, Renaissance, and into the Baroque musical time periods.

Each mode starts on a different scale degree of the major scale. Notice that the images below are all in the key of C Major; therefore, all of the naturally occurring half steps are between E & F and B & C.

Ionian

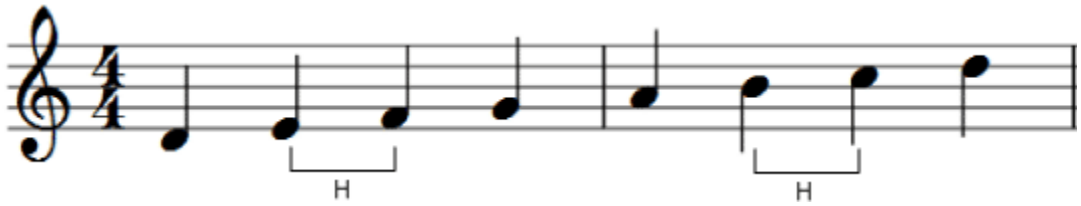
Starting on the 1st scale degree, this mode is the same as a major scale.
It has the same W W H W W W H pattern. The naturally occurring half steps of this mode are between the 3rd & 4th and 7th & 8th scale degrees.



Dorian

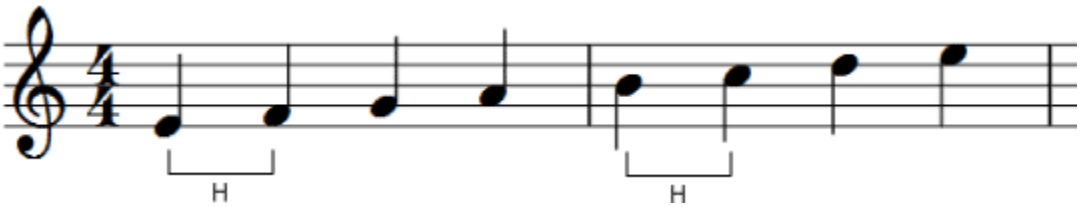
The dorian mode starts on the second scale degree of the major scale, which changes the pattern to

W H W W W H W. The naturally occurring half steps are between the 2nd & 3rd and 6th & 7th scale degrees. For ear training purposes, think of this mode as a natural minor scale with a raised 6th.



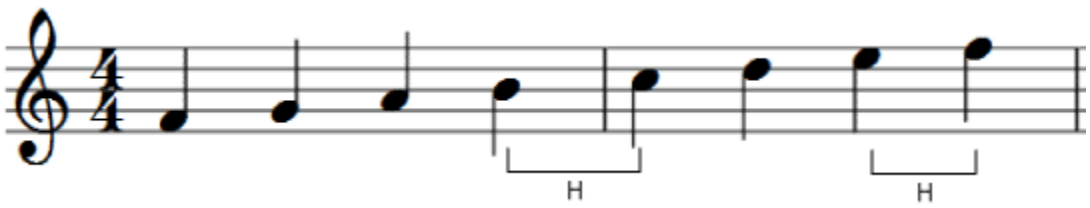
Phrygian

The phrygian mode begins on the 3rd scale degree of the major scale, and the naturally occurring half steps are between the 1st & 2nd and 5th & 6th scale degrees. The pattern is H W W W H W W. Think of this mode as a natural minor scale with a flatted 2nd.



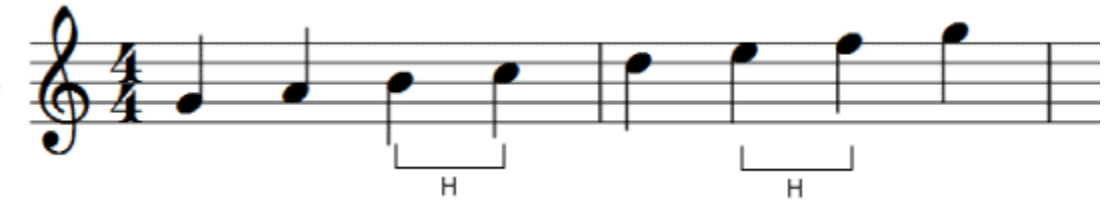
Lydian

Starting on the 4th scale degree, the lydian mode's naturally occurring half steps are between the 4th & 5th and 7th & 8th scale degrees. It's pattern is W W W H W W H. For ear training purposes, think of this scale as a major scale with a raised 4th.



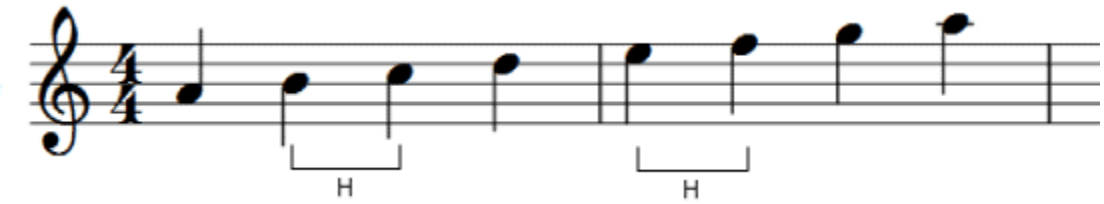
Mixolydian

The mixolydian mode begins on the 5th scale degree of the major scale, and the naturally occurring half steps are between the 3rd & 4th and 6th & 7th scale degrees of a major scale. It's pattern is W W H W W H W. Think of this as a major scale with a flatted 7th.



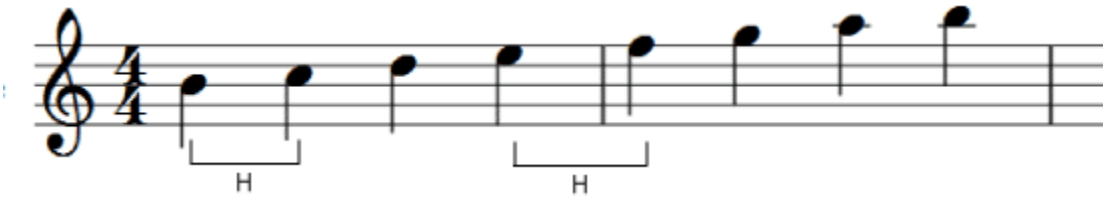
Aeolian

The aeolian scale begins on the 6th scale degree of the major scale and is also known as a natural minor scale. It's naturally occurring half steps are between the 2nd & 3rd and 5th & 6th scale degrees, and it's pattern is W H W W H W W.



Locrian

This mode starts on the 7th scale degree of a major scale. It's pattern is H W W H W W W. It's naturally occurring half steps are between the 1st & 2nd and 4th & 5th scale degrees. For ear training purposes, think of it as starting and ending on the leading tone of a major scale.

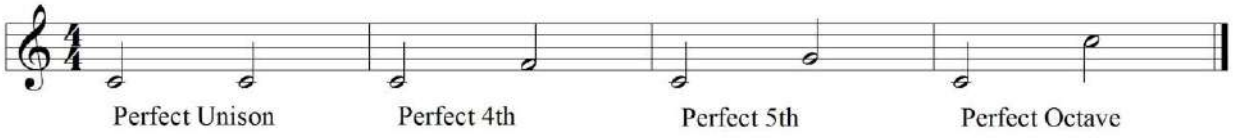


Intervals

As stated above, intervals are simply the distance between two notes. Intervals are identified as either Major (M), minor (m), Perfect (P), augmented (+), or diminished (*).

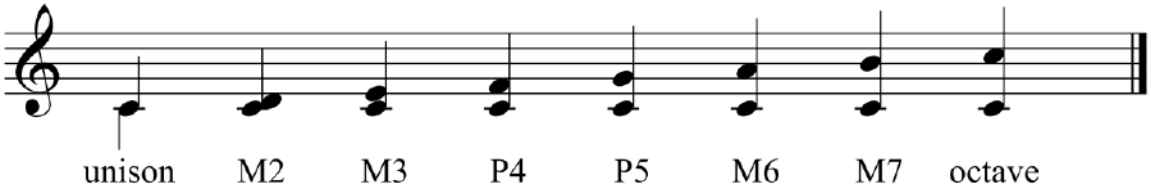
Perfect Intervals

There are a few Perfect intervals: the Perfect Unison, the Perfect 4th, the Perfect 5th, and the Perfect Octave (or just octave). Perfect intervals **CANNOT** be identified as Major or minor!



Major Intervals

Intervals are Major when they fit into the key signature of an ascending Major scale (with the exception of the Perfect Intervals listed above). For example, the intervals between C and D are a Major interval because both notes belong in the key signature for C Major.



Minor Intervals

Minor intervals are simply a half step smaller than Major intervals. This is accomplished by lowering the top note by a half step OR by raising the bottom note by a half step. In either case, the resulting interval is a half-step smaller than the Major interval. For example, the interval from C to D-flat is a m2 because the D-flat is one half step lower than D natural (remember, C to D is a M2).

Augmented and Diminished Intervals

Intervals because **Augmented** when they are a half step larger than a Major OR Perfect Interval. I.e. the interval from C to D# is an augmented 2nd (+2) because it is a half-step larger than C to D (M2). The interval C to F# is an +4 because it is a half-step larger than a C to D (P4).

The opposite is true for a **Diminished** interval. Minor or Perfect intervals that are lowered by a half step become diminished. The intervals B to C is a m2, therefore B to C-flat is a diminished 2nd (*2). The interval C to F is a P4, therefore C to F-flat is a *2.

Interval Inversions

Inversions are simply taking the bottom note of an interval and flipping it up on top. To determine what the inversion of an interval is, determine the opposite of the quality (Major becomes minor, augmented becomes diminished, Perfect remains Perfect). For the interval number, take the original interval and subtract it from 9. The inversion of a 6th is a 3rd (9-6=3). With that reasoning, the inversion of a M2 is a m7. The inversion of an +4 is a *5. The inversion of a P1 is a P8.

(Information from this packet comes from http://musictheoryfundamentals.com/index.php)