Scale Construction

1. **Solfege** – The syllables we use to sing each degree of the major scale. You should know all of the syllables and what scale degrees they represent

Do	Re	Mi	Fa	Sol	La	Ti	Do
1	2	3	4	5	6	7	8/1

2. **The Chromatic Scale** – This is the mother scale that all other scales come from and is built entirely with half steps. You then can use this scale to figure half steps and whole steps, which is important to know so you can build other scales like the major scale.

A | A#/Bb | B C | C#/Db | D | D#/Eb | E F | F#/Gb | G | G#/Ab

Every note of the chromatic scale is a **half step** away from the next. If you go two half steps away, you will have gone a **whole step** The notes in the boxes are the same pitch, but can be called using either name; this is where you need to pay special attention to the rules for building scales to help you know which note name is the correct one to use.

3. **Constructing Major Scales** – Starting on any note, you can construct a major scale using the following formula of whole steps and half steps:

W W H W W W H

There are just a couple of important rules that you absolutely must adhere to when making scales:
   1. You must use every letter of the alphabet (A-G) in order and you can only use each letter once.
   2. You must start and end on the same note.
   3. You cannot mix flat notes and sharp notes in the same scale.

Here's an example of how to build the Eb Major Scale using the Whole Step/Half Step Formula:

Eb F G Ab Bb C D Eb

If you look at the chromatic scale on the previous page and start on Eb, you'll see that F is one whole step above it. G is one whole step above F, Ab is a half step about G, etc…   Starting on the note Eb, we used the WWHWWWH pattern to find the right notes. You can use this same pattern starting on every single note of the chromatic scale to build all of the major scales in music.

4. **Building Triads from Scales** - A triad is a chord that is made of just three notes (the 1st, 3rd, and 5th notes of any major scale). Using the 1st, 3rd, and 5th notes of the Eb Major Scale below, we'd get and Eb Major Triad: Eb G Bb

Eb F G Ab Bb C D Eb
1   2 3   4   5   6 7   8

5. **The Circle of 5ths** – When two notes are 5 scale degrees apart (Like Eb up Bb in the scale above), we say they are a Perfect 5th away from each other. If you were to start at the top of the Eb scale above and go down to the 5th note below it, you would land on Ab (don't forget to count the note you are starting on!!).

Eb F G Ab Bb C D Eb
**   5   4   3 2   1**

The Circle of 5ths is a pattern in music that gets used all the time and is a very helpful way to learn all of your scales. Use the procedure below to figure out what notes/scales are in the Circle of 5^{ths}:

1. Start on the note C and build the C Major Scale.

C D E F G A B C

2. Starting at the top, go down five notes to F. That is your next scale.

C D E F G A B C
**   5 4 3 2 1**

4. Starting on the note F, use the whole step/half step pattern to build the F Major Scale:

F G A Bb C D E F

5. Starting at the top of the scale, go down five notes to Bb. That is the next scale in the Circle of 5ths.

F G A Bb C D E F
5 4 3 2 1

6. Continue by building the Bb Major Scale, going down a 5th from Bb to get the root of the new scale, and so on until you have completed the entire circle.

In the circle of 5^{ths} progression, you gradually add a new flat in each consecutive key until you get to 6 flats (Gb Major). Once you get to Gb, switch to F# which has 6 sharps. Each new key center after that will have one less sharp than the key before it. If you continue this process, you will eventually get back to C major, where you started which has no flats or sharps.

Flats $\longrightarrow$ $\longleftarrow$ Sharps
C F Bb Eb Ab Db Gb/F# B E A D G C
0 1   2   3   4   5   6   5 4 3 2 1 0