

# NOTES AND INTERVALS

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## The Fundamentals

In this lesson we're going to learn some very basic, foundational terms and concepts that help us learn piano but also generally help us learn music.

Some people learn music by memorizing shapes, which is fine, but it will become very difficult to improve if you don't know the notes you're playing.

Remember, learning this concept on piano helps your ability to understand where the notes are on any instrument.

## The Musical Alphabet

If we consider the idea of the musical alphabet: A B C D E F G, we can see how these letters are arranged as a repeating pattern on the keyboard.



Learning to think about this musical alphabet forwards and backwards is essential for learning music! Practice saying it, make a game out of it!

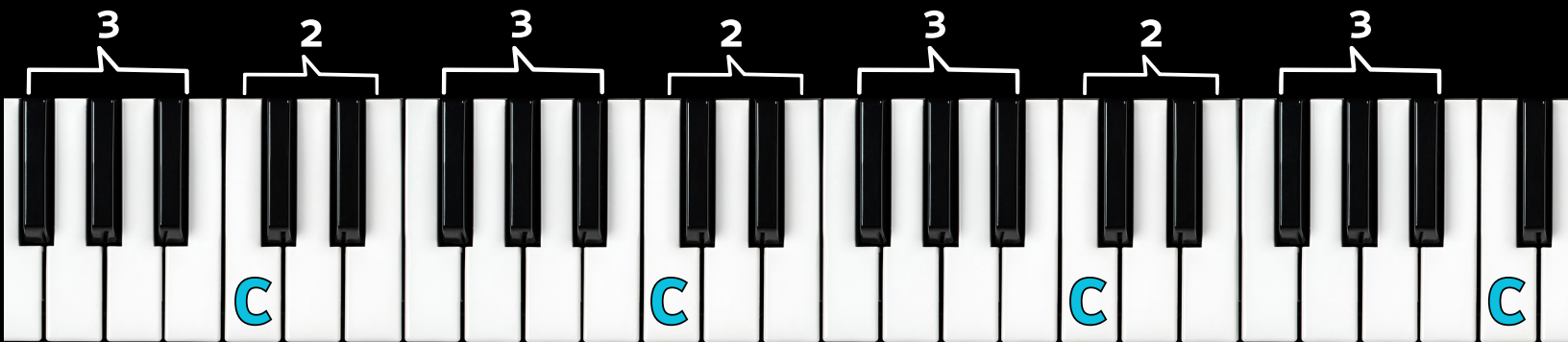


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## Middle C

Where is the note C? C is right before (to the left of) the group of 2 black notes. The C located in the middle of your keyboard is called “middle C” and its a very common reference point on the piano.



## Learning the Keyboard

Try playing all the C notes on the from bottom to top (from left to right on the keyboard). You can hold the sustain pedal if you want to prolong the sound, connecting each pitch of C across the piano in a wash of sound. I think its fun.

This exercise will help you easily see where the notes are on the piano. You can use your left hand for the low notes and your right hand for the higher notes. You can also try hand over hand up and down the keyboard. Use your feet to support you on the floor as your body moves from one end of the keyboard to another.

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Exercise: Pick another note in the musical alphabet and play that note everywhere possible on the keyboard.

Repeat this with as many notes as you can.

## The Octave

If you've been following along so far, then you've just played many octaves while doing the previous exercise!

An octave is an interval of 8 notes; an example of an octave would be the distance of middle C to the next C, 8 notes above it.



You can make an octave from any note on the piano, but you already knew that!

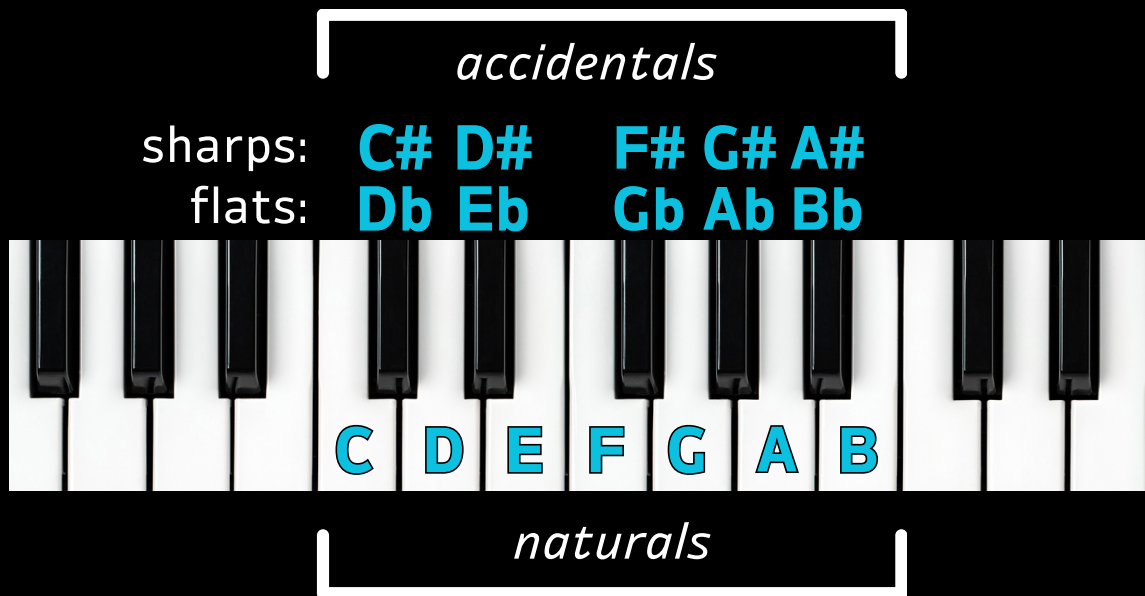
## The Black Keys

If you're wondering what the black notes on the piano are all about, we call those the sharps and flats or accidentals. The white notes are referred to as naturals.

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Whats the difference between a **sharp (#)** and a **flat (b)**? A black note above (to the right of) a white note is a **sharp (#)**, a black note below (to the left of) a white note is a **flat (b)**.



**Enharmonic Equivalent** - Remember that C# (C sharp) can also be called Db (D flat), as is the case with any sharp (#) or flat (b). This relationship is called an **enharmonic equivalent**: “*same note, different name.*”

## Intervals

To navigate the piano, we must learn intervals. Intervals are the distance between notes; it is how we measure the space from one note to other. There are many types of Intervals -big and small- and it will take time to learn their names and how to find them.



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For now, we will focus on the two most basic intervals and learn to build musical structures like chords and scales with them.

## Half Steps (H)

*Remember:* Intervals are a unit of measurement to describe the distance between two notes.

The **half step** is the smallest interval on the piano. An example of a **half step** up would be C to Db (one note to the right on the keyboard). Another **half step** up (to the right of) the keyboard would be Db to D.



- What would be a half step up (to the right) from E? The answer is F.
- What note is a half step up down (to the left) from A? The answer is Ab (A flat).
- What is a half step down from C? The answer is B.
- What about a half step up from F#? The answer is G.

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We also call a **half step** a **minor 2nd** (more on this later).

## Whole Steps (W)

A **whole step** is simple. It's the distance of two half steps. So, a **whole step** up (to the right) from C would be D. A **whole step** down (to the left) from G, would be F.

- What would be a whole step up (to the right) from E?  
The answer is F# (F sharp).
- What note is a whole step down (to the left) from A?  
The answer is G.
- What is a whole step down from C? The answer is Bb (B flat).
- What about a whole step up from F#? The answer is G# (G sharp).



While a **half step** is called a **minor 2nd**, a **whole step** is called a **major 2nd**. We will learn more about these terms in later lessons.

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We can indicate **half steps** and **whole steps** with these letters:

Half Step = **H**

Whole Step = **W**

## Building Musical Structures

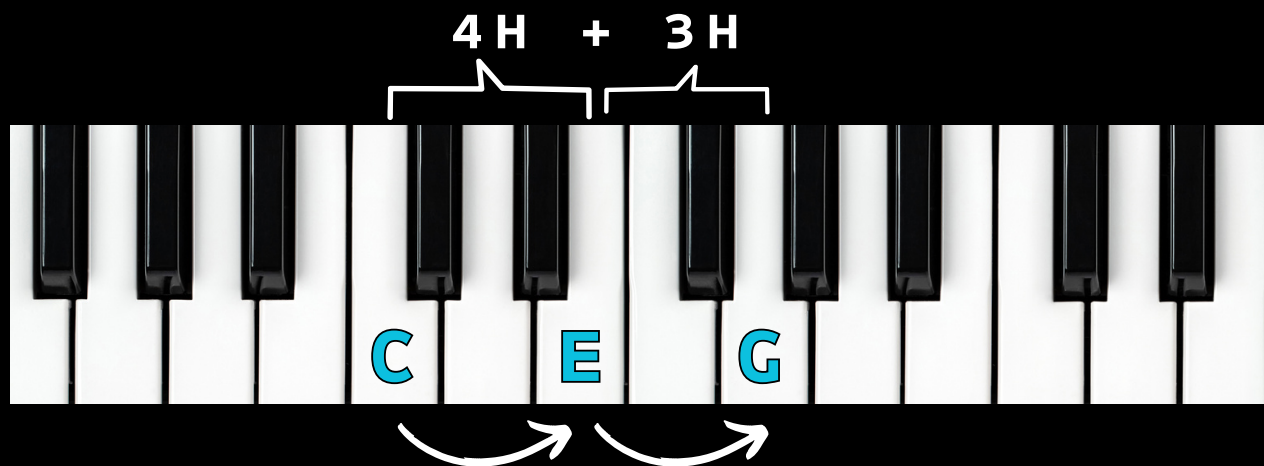
Right away we can start building important musical structures using these half steps and whole steps.

**A major triad** (3 note chord) is built like this:

4 half steps + 3 half steps = **major triad**.

We can build a **major triad** starting from any note.

Let's start by building a C major triad:



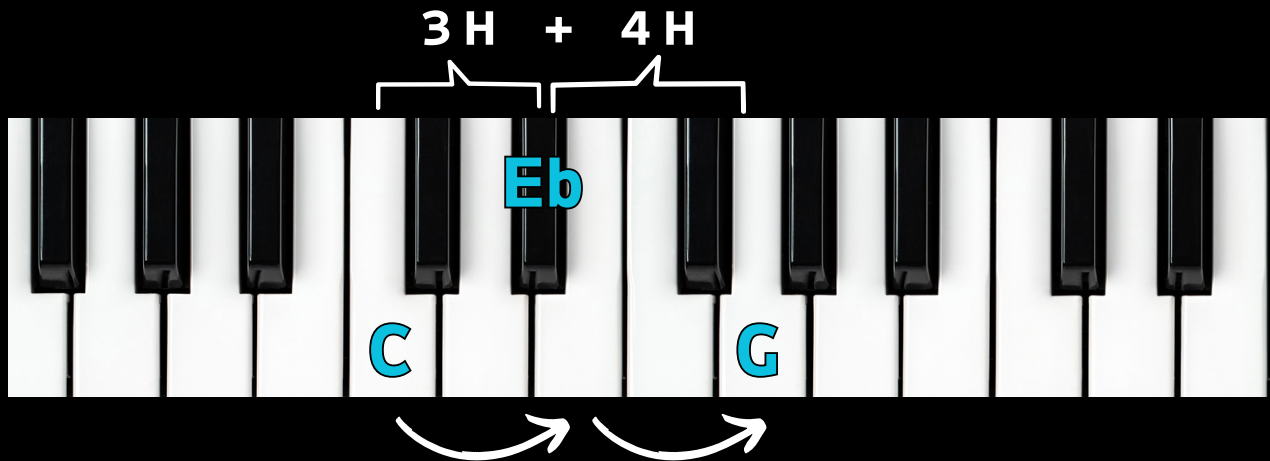
The process works like this: count four half steps up from C and you should arrive at E. From E count 3 more half steps up and you should arrive at G.



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A **minor triad** is built with the opposite formula:  
3 half steps + 4 half steps = **minor triad**.



There are many ways to think about music, but understanding how to build chords and scales using half steps and whole steps is as important as learning how to do addition in math class.

## Building More Musical Structures

The other most important musical creation you can make with half steps and whole steps is a scale. While you can make many scales, we must first learn how to make a major scale.

To make a major scale using half steps and whole step we use this formula:

**W-W-H-W-W-W-H**





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“Whole, whole, half, whole, whole, whole, half.”

I know, it sounds funny to say, but that's how you build a major scale!

Lets look at the piano to see how a major scale unfolds starting from any note using this formula.

Remember: intervals are the distance *between* the notes.

We will start with C first:



C to D Is a whole step.

D to E Is a whole step.

E to F Is a half step.

F to G Is a whole step.

G to A Is a whole step.

A to B Is a whole step.

B to C Is a half step.

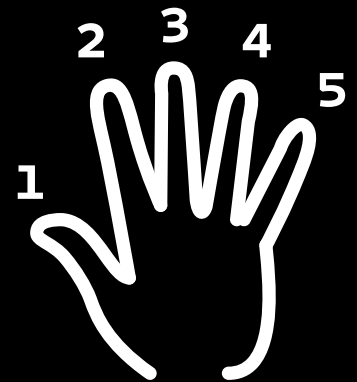


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## Fingers and Hand Position

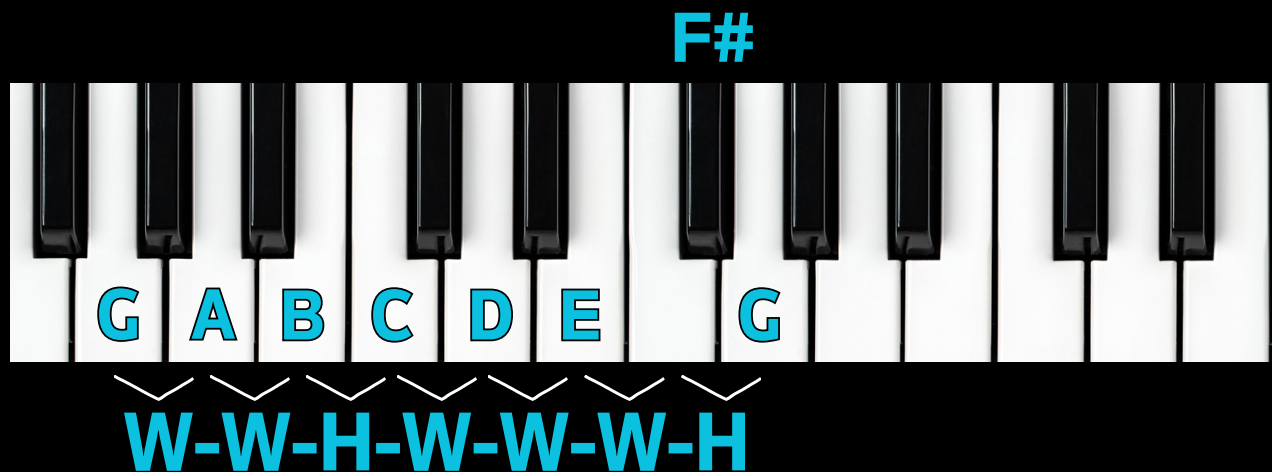
If you're looking to work on your piano technique, play this scale with a conventional and useful fingering pattern:

1-2-3, 1-2-3-4-5.



## G Major Scale

Lets put our knowledge to the test by making a G major scale with our W-W-H-W-W-W-H using the same fingering as before (1-2-3, 1-2-3-4-5).



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## Explore and Create

The goal in practicing these scales is to find the enjoyment in the sound you produce and experience of engaging with that sound. As you become more comfortable with moving up and down these scales, try inventing your own musical patterns and melodies. We will talk more about the creative process in later lessons, until then, explore!

## Extra Credit / Even More Musical Structures

if you're looking to practice half steps and whole steps *and* you want to start exploring some interesting, or dare I say, exotic sounding scales, please read on!

Let's learn how to build two of my favorite scales:  
The **chromatic scale** and the **whole tone scale**.

Chromatic Scale:

**C# D# F# G# A#**



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## The Chromatic Scale (the Half Step Scale)

The chromatic scale is a scale build entirely in half steps. It is a 12 note scale containing every note in the musical alphabet, every natural and every accidental. If music could walk up the stairs, It would sound like this.

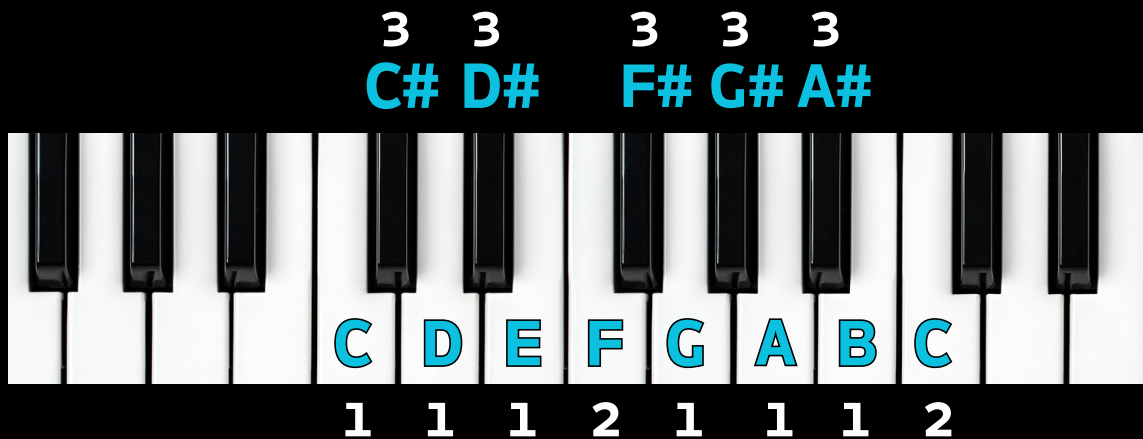
The fingering pattern for this scale is this:

1-3-1-3

1-2, 3-1

3-1-3-1-2

(To go back down the scale, follow this fingering backwards)



You'll notice that your middle finger plays all the black notes, your thumb plays all the white notes, except for when there are two white notes together like E and F or B and C.



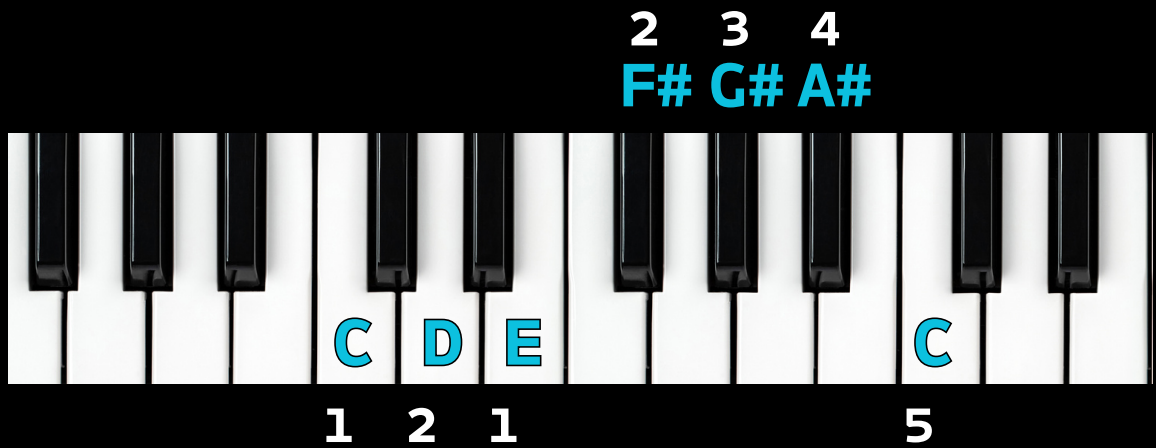
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## The Whole Tone Scale (the Whole Step Scale)

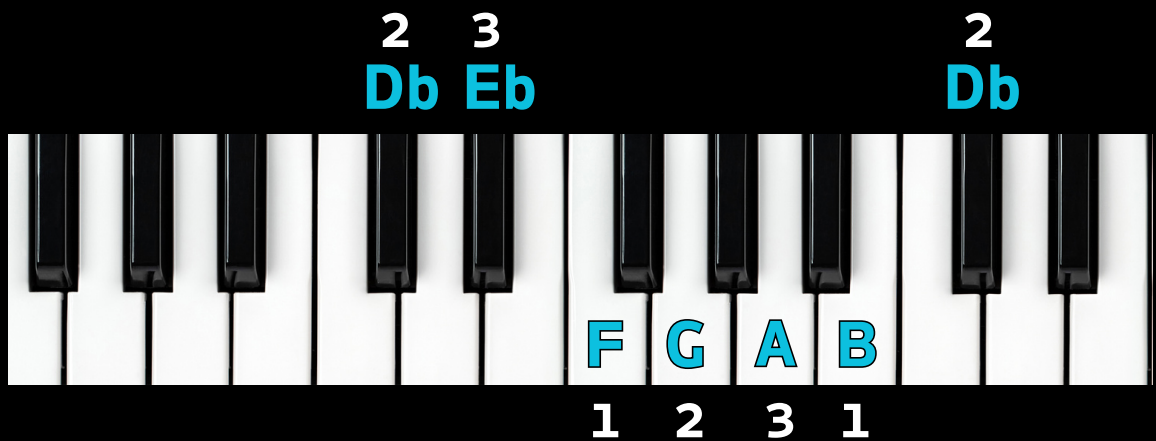
This dreamy sounding scale is built with a series of whole steps.

Unlike the major scale that can be built on all 12 notes, the whole tone scale is a scale of limited transposition and there are only two possible whole tone scales.

*Starting on C:*



*Starting on Db:*



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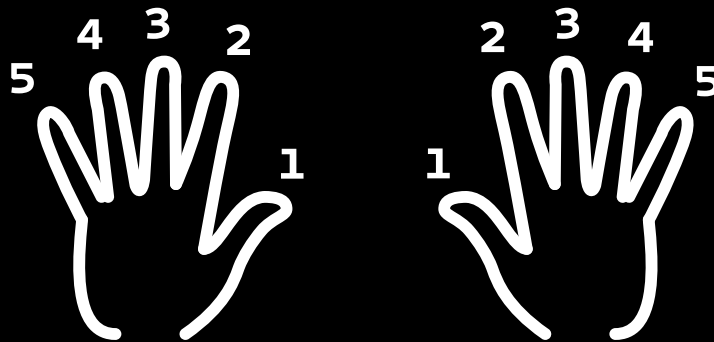
## Mirror Image Scale Exercise

Mirror image exercise are super fun and are a quick way to adapt your hands to many scales and their fingerings.

Let's practice this idea with a C major scale.

We will start with both of our thumbs on a C note and play a C major scale in opposite directions with the hands moving away from each other. We call this opposing motion between the hands contrary motion.

This is the fingering in both hands: 1-2-3, 1-2-3-4-5.



Practice using half steps and whole steps to make the musical structures we discussed in this PDF. Practice this mirror exercise to prepare you for the next steps!

