

Keyboards & Keys

Basics to learn or review



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Acoustic vs. Digital Keyboards

Pros and cons if you're in the market to purchase a piano

Acoustic: The gold standard for public performance is a full-sized concert grand piano. If you already own an acoustic piano for home use, like a Grand (concert, baby, petite...) with its horizontally-stretched strings, or an Upright (full, console, spinet...) with its vertically-stretched strings, you appreciate the rich, luxurious sounds that fill the home and surround you in beautiful music.



Concert Grand



Upright



Baby Grand

Console



Digital: Digital pianos contain computer chips that record and store actual piano tones. When you press a key, the original sound plays back. Unlike older-style electric pianos or synthesizers, digital pianos sound real, not electronic. Unlike tabletop keyboards or organs, which have lightweight keys that offer no resistance, digital pianos have "weighted" keys that simulate the feel of an acoustic piano and are velocity and touch sensitive: Press quickly and firmly for a loud sound, slowly and gently for a soft sound. Digitals typically come in baby grand or console styles.

Hybrid: Some pianos are designed and sold with both acoustic strings and digital electronics, giving owners the best of both worlds. Another option is to add a digital system to an existing acoustic piano.

Acoustic Issues

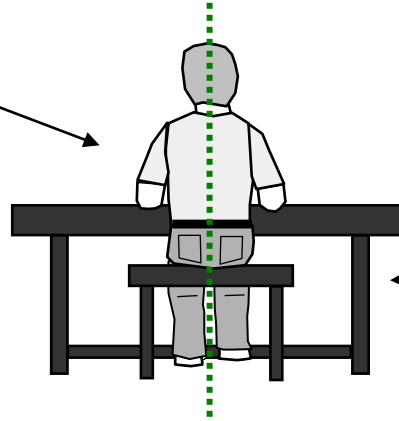
- Heavy, immobile. Require muscular acquaintances or professional movers to transport to a new location.
- Requires tuning when moved and every few months thereafter for life.
- Has only one musical voice: piano. Tonally one dimensional.
- Has no electronic features to enhance utility of the instrument.
- Dominates its surroundings with sound that may disturb others.
- Generally more expensive to purchase.

Digital Advantages

- Lightweight, portable. When disassembled, can usually fit across the back seat of a car.
- Doesn't require tuning or other types of maintenance.
- Can have many musical voices: piano, strings, brass, organ, drums, etc.
- Has electronics that can play recorded music, generate rhythms, etc.
- Has headphones to allow play at all hours without disturbing others.
- Generally less expensive to purchase.

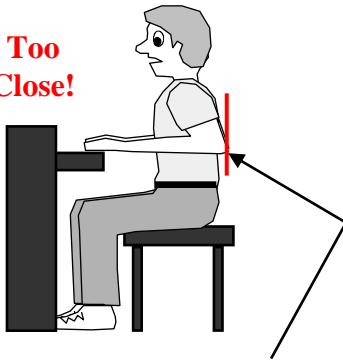
Sitting At The Keyboard

Center your body with the keyboard so you have about the same number of keys to your left and to your right.



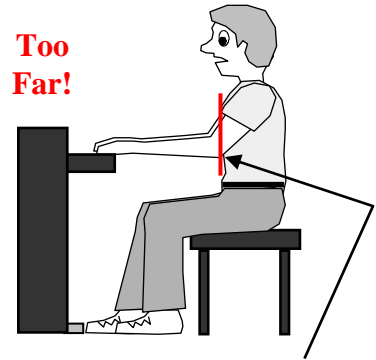
Adjust your seat height, if possible, so your forearms are roughly level with the keyboard. If desired, buy an adjustable-height bench or stool.

Too Close!



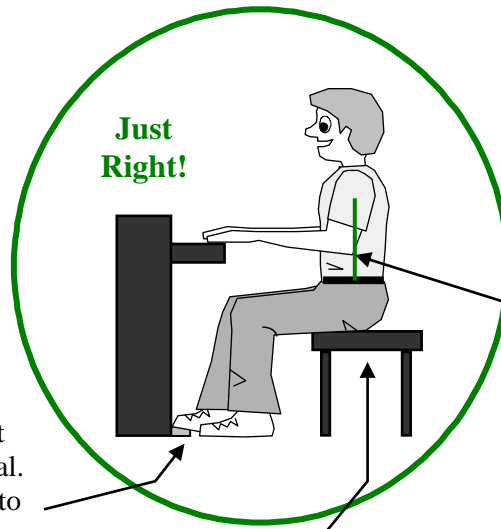
If your elbows are in back of your body, move *away* from the keyboard.

Too Far!



If your elbows are in front of your body, move *toward* the keyboard.

Just Right!



Extend your right foot so it rests gently on the *right* pedal. Press down when you want to sustain (hold) a sound.

See the Pedaling topic for more information.

Sit somewhat forward on the bench, so that if you lift both feet you fall towards the keyboard. This will help you use the largest muscle of all when playing—your back.

Ideally, your elbows should be a bit forward of your sides and slightly out from your body. The goal is to be able to comfortably reach all areas of the keyboard as needed.

Exception: You may see some professionals playing with their arms more outstretched than recommended here, especially with songs that cover the highest and lowest areas of the keyboard. This makes it easier to reach in front of and across their bodies when needed.

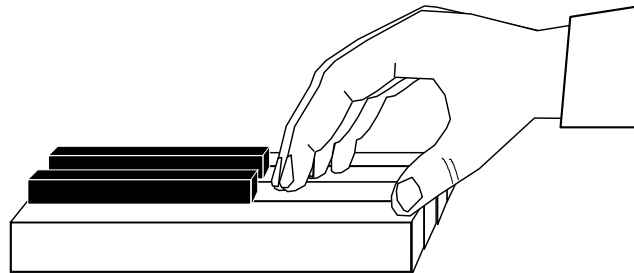
Hands & Fingers

TIPS

Curl Fingers: Put your hands on your knees, then gently lift them to the keyboard. You'll have more strength with curled fingers. However, you'll need to straighten them to play black keys.

Fingers in Air

One of a pianist's greatest tools is gravity; the other is momentum. If you learn to keep your fingers in the air, directly over the keys they are to play, you can take advantage of both. However, if your fingers rest heavily on the keys, you can use neither. Like a runner who keeps both feet on the ground, it would be hard to go anywhere.



Exception: Sometimes it is useful to rest or “anchor” a finger on a key and use it as a reference or starting point for reaching out to another key that’s a set distance away.

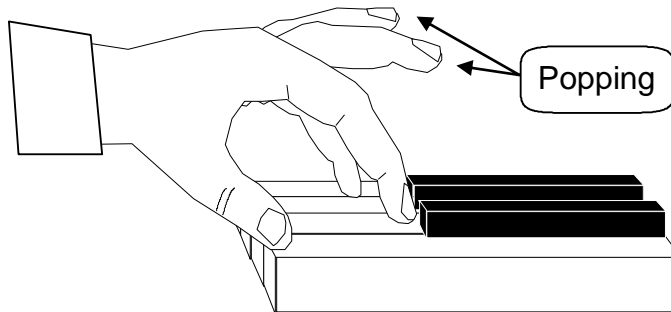
Play on Pads

Press keys with the cushions or pads of your fingers. “Stand” on your thumbs rather than playing them on their sides. If you have long fingernails, you may need to trim them to avoid making clicking sounds.

TRAPS

Popping

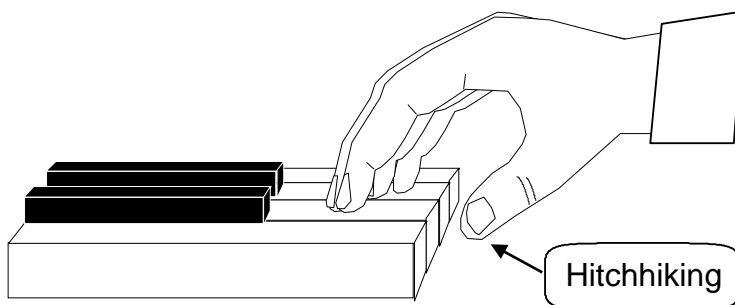
As you press down one finger, the others tend to “pop” up. This is a natural reflex, like when the doctor taps under your knee with a hammer and you kick. The danger is that when fingers pop up uncontrollably, they are more likely to come down and hit the wrong key, or a crack (playing two keys instead of one). With experience, this reflex action subsides.



If you're a novice or have excessive popping, play slowly and deliberately, one finger at a time. In contrast to the previous “Fingers in Air” tip, imagine each of your fingertips has a light coating of glue that keeps it stuck to its key.

Hitchhiking

When you are not using your thumb, guard against letting it hang off the edge of the keyboard as if you were hitchhiking. If you do, it will be harder to get it back into position when it's needed.



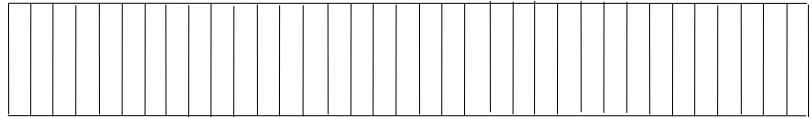
Keyboard Navigation

White & Black Keys

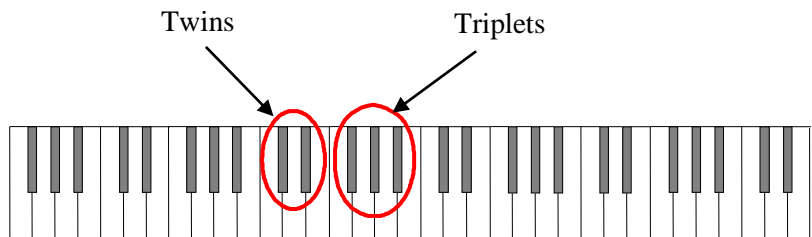
We take it for granted that a piano has white & black keys. But most people have never considered how crucial the black keys are to keyboard navigation.

Imagine a keyboard with no black keys. The white keys all look alike making it impossible to tell which is which just by looking.

Which white key is which?



It's the repeating sets of black twins and triplets that give shape and position to the white keys so you can tell them apart.



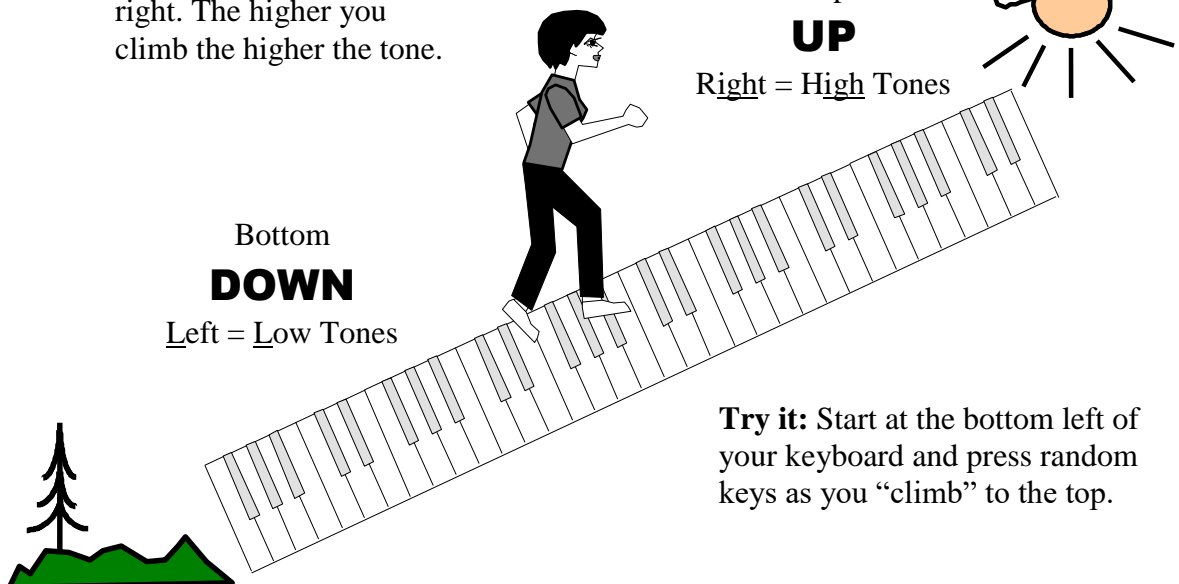
Without the black keys, you can't be sure!

Up vs. Down

When someone says, "Play a *higher* tone," which direction is that on the keyboard?



Imagine climbing keyboard "stairs" left to right. The higher you climb the higher the tone.

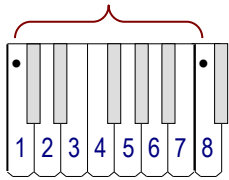


Try it: Start at the bottom left of your keyboard and press random keys as you "climb" to the top.

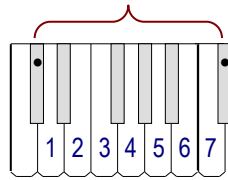
Octaves



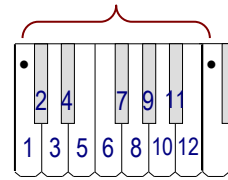
A keyboard is arranged into groups of keys called *octaves*.
Octave is Latin for “eight” (an octopus has eight legs!), but this can be misleading.



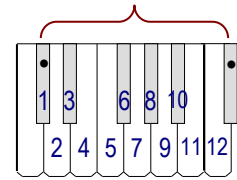
A *white-key octave* spans 8 white keys.



But a *black-key octave* spans only 7 white keys.



However, all octave spans include 12 keys. The 13th key starts a new octave.



Each octave span on a keyboard includes 7 white keys and 5 black keys for a total of 12 keys.
The frequency of sound (pitch) of a key in one octave is *twice* that of the same key in next lower octave.

Key Names



Imagine that each 12-key octave consists of Seven Sisters, each with 3 possible “moods.”

Twins			Triplets				
Bottom	Top		Bottom	Center	Top		
$C^b = B$	$C^\#$ D^b	$D^\#$ E^b	$F^b = E$	$F^\#$ G^b	$G^\#$ A^b	$A^\#$ B^b	$B^\# = C$
C	D	E	F	G	A	B	

A Flat (b) symbol means to play a note one key lower.
Imagine a “flat” tire losing air and going down.

A Sharp (#) symbol means to play a note one key higher.
Imagine getting poked with a “sharp” pin & leaping up.

As you can see, each key has two names!

Seven Singing Sisters

- Cece** comes before the Twins.
- Dede** divides the Twins.
- Eddie** ends the Twins.
- Fifi** is in front of the Triplets.
- Gigi** goes to the Center Triplet.
- Amie** is after the Center Triplet.
- Bebe** backs the Triplets.

Sisters' Moods*

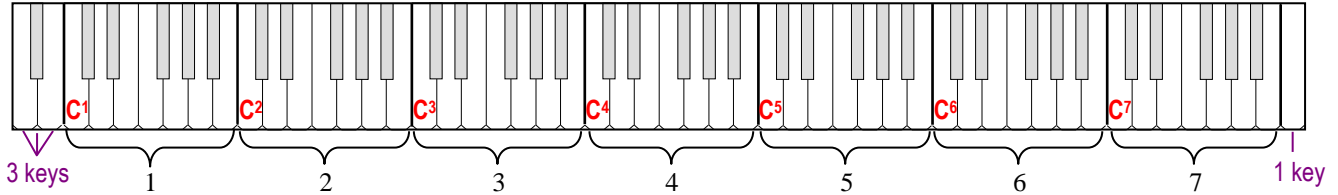
- Natural:** Main white key (relaxed, melodious, harmonious...). C D E F G A B (Imagine seeing an old man named Def gabbing)
- Flat (b):** One key left (down, sad, depressed, or maybe peaceful, calm...). $D^b E^b G^b A^b B^b$ (Deg, the bodybuilder, has flat abs). C^b & F^b are actually B & E.
- Sharp (#):** One key right (up, lively, buoyant, or maybe sharp-tongued...). $C^\# D^\# F^\# G^\# A^\#$ (A sharp CD? ForGet About it!). $E^\#$ and $B^\#$ are actually F & C.

* Mood describes the atmosphere of a song, but it's not a technical term in this context.
The white keys are referred to as “naturals” while flats & sharps are called “accidentals.”

For more information, visit **Reading Music** at: www.maxlearning.net/Piano/ReadingMusic.pdf

Counting Octaves

If there were only one Octave family on a keyboard, your range of tones and choice of songs would be limited. However, keyboards have multiple octaves, each starting on a C.



$$7 \text{ octaves} \times 12 \text{ keys/octave} = 84 \text{ keys} + 4 \text{ extra keys} = 88 \text{ Keys!}$$



Octave families on the left have deep, rumbling voices.



Octave families near the middle are just right for most humans to sing along with.



Octave families on the right have high, delicate voices.

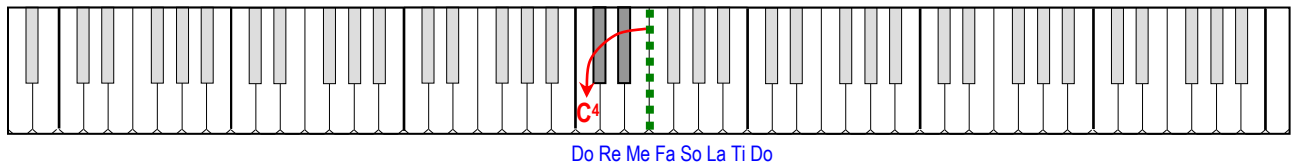
Finding Middle C

The octave that begins with Middle C is the closest to the human voice range. Use the following procedure to find Middle C (C⁴) on most keyboards.



1. Visually split the keyboard in half.
2. Find the black twins *nearest* the split.
3. Middle C comes before those twins.
4. Play & sing the Do, Re, Me... scale to make sure it's about in your voice range.

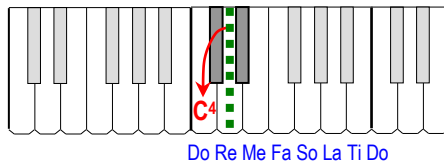
7+ Octave / 88-key Keyboard



5 Octave / 60-key Keyboard

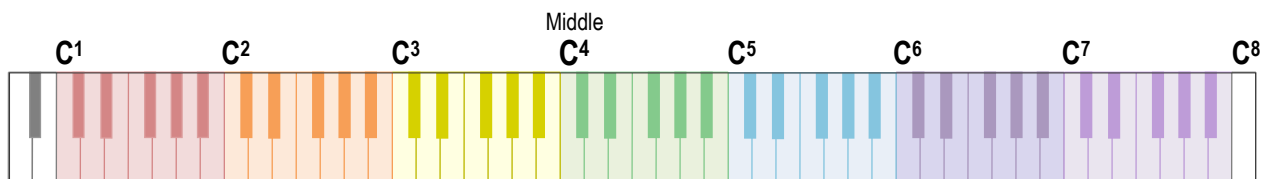


2+ Octave / 29-key Keyboard



Shading & Superscripts

Allcanplay shades octaves in rainbow colors to make it easier to tell them apart. A small superscripted (raised) number next to a key lets you know which octave it's in.



← The alphabet goes from **A** to **Z**. An 88-key keyboard goes from **A** to **C!** →

Visit the **Rainbow Keyboard** topic for colored strips that you can print, cut, and attach to the ledge above your keyboard's keys. They're a great aid to knowing where you're at in a song.
www.maxlearning.net/Piano/RainbowKeyboard.pdf

Two ways to differentiate identical keys in different octaves:

