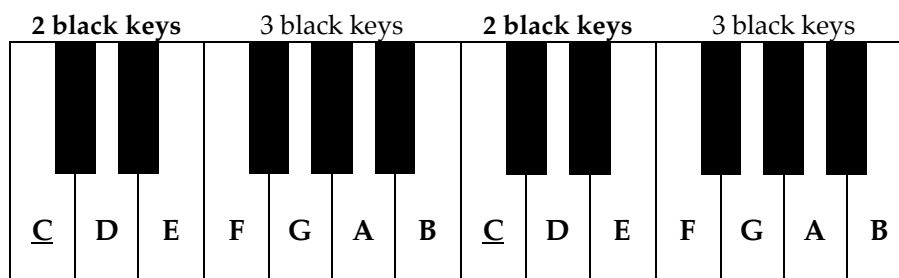


## THE CHROMATIC SCALE AND THE PIANO

### Pattern of the piano keyboard

This section uses the piano, but the concepts apply to other instruments and voice also. The piano repeats a pattern: groups of two black keys alternate with groups of three. Every white key just to the left of a group of **two** black keys is labeled as C. After G, the letter names start over with A.



### Half step

A **half step** is the distance from one piano key to the next closest (whether it happens to be white or black). E to F is a half step, because E and F are next to one another. Similarly, B to C is a half step. E to F and B to C are the only **natural half steps** because they use letter names without accidentals.

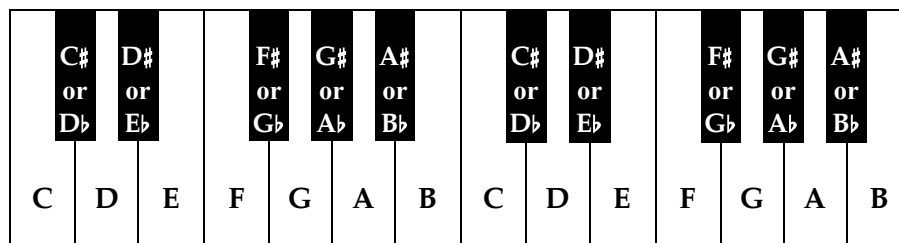
### Natural half steps

### Accidentals

The black keys use the letter of an adjacent white key plus a modifier called an **accidental**. The most common accidentals are:

### Flat, natural, sharp

1.  $\flat$  = **flat**; **one half step lower than** (left of) a white key
2.  $\natural$  = **natural**; cancels other accidentals; indicates white notes on a piano
3.  $\sharp$  = **sharp**; **one half step higher than** (right of) a white key



### Enharmonic notes

**Enharmonic notes** are different names for the same piano key. For example, the black key called C sharp is one half step above C, but also one half step below D. C sharp is **enharmonic** with D flat. White keys also have enharmonic names: B raised one half step with a sharp is the white key C.

## Double sharps

The diagram shows the first three steps of the circle of fifths for D major:

- Step 1:** A piano keyboard segment from B $\flat$  to D $\sharp$ . The notes are labeled B $\flat$ , D, and D $\times$ .
- Step 2:** A piano keyboard segment from C $\flat$  to E. The notes are labeled C $\flat$  and C.
- Step 3:** A piano keyboard segment from D to F $\sharp$ . The notes are labeled D and D $\times$ .

The piano keyboard below shows all the enharmonic names for the keys.

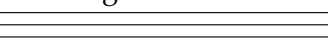
	C $\sharp$	D $\sharp$		F $\sharp$	G $\sharp$	A $\sharp$		C $\sharp$	D $\sharp$
	D $\flat$	E $\flat$		G $\flat$	A $\flat$	B $\flat$		D $\flat$	E $\flat$
	B $\times$	F $\flat$		E $\times$		C $\flat$		B $\times$	F $\flat$
C	D	E	F	G	A	B	C	D	E
B $\sharp$	C $\times$	D $\times$	E $\sharp$	F $\times$	G $\times$	A $\times$	B $\sharp$	C $\times$	D $\times$
D $\flat$	E $\flat$	F $\flat$	G $\flat$	A $\flat$	B $\flat$	C $\flat$	D $\flat$	E $\flat$	F $\flat$

A **whole step** is two half steps. For instance, for C up to D, the two half steps are C to C $\sharp$  and C $\sharp$  to D.

## Chromatic scale

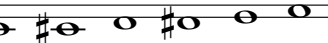
A **scale** (from the Italian word for ladder) is a series of notes from low to high (or high to low) following some pattern of whole steps and half steps. A **chromatic scale** lists all the notes (white and black keys) in order, usually from C to the next C above or below. Chromatic scales use only half steps. **Ascending** chromatic scales use **sharps** for black piano keys. **Descending** chromatic scales use **flats** for black piano keys.

Ascending chromatic scale (uses **sharps** for black keys)



C C# D D# E F F# G G# A A# B C

Descending chromatic scale (uses **flats** for black keys)



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