

Intervals

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The distance between any two notes is called an *interval*.

A *whole step* (or *tone*) is the interval between two notes on the same string that are two frets apart. On a piano, two notes a whole step apart have a single key (black or white) between them.

A *half step* (or *semitone*) is the interval between two notes on the same string that are one fret apart. On a piano, two notes a half step apart are adjacent to one another.

All major scales follow the same pattern of intervals between neighbouring notes:

whole whole half whole whole whole half

This pattern is the key to figuring out any major scale. Simply start at the root – the first note of the scale – and ascend using the above pattern of intervals.

Root	2 nd	3 rd	4 th	5 th	6 th	7 th	octave
C	D	E	F	G	A	B	C
D	E	F#	G	A	B	C#	D
E	F#	G#	A	B	C#	D#	E
F	G	A	B ^b	C	D	E	F
G	A	B	C	D	E	F#	G
A	B	C#	D	E	F#	G#	A
B	C#	D#	E	F#	G#	A#	B

whole whole half whole whole whole half

Note that in some keys we need to raise certain notes by a half step – this is called *sharpening* the notes. A note is designated sharp by the # symbol.

In other keys, we need to lower certain notes by a half step – this is called *flattening* the notes. A note is designated flat by the ^b symbol.

Certain keys have sharps and flats in order to retain the standard pattern of intervals that defines the major scale. For instance, the 2nd degree of the E major scale is F# - not F natural – because the interval has to be that of a whole step as per the intervallic pattern that defines a major scale. E and F (natural) are only a half-step apart, so we need to raise the F to F#.

Degrees of the scale have formal names, but are more commonly referred to by ordinal numbers, i.e. first, second, third, etc.:

Ordinal	Formal name
first	tonic
second	supertonic
third	mediant
fourth	subdominant
fifth	dominant
sixth	submediant
seventh	leading tone

For example, consider the C major scale:

Degree:	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	octave
Pitch:	C	D	E	F	G	A	B	C
Interval:	-- w --	-- w --	-- h --	-- w --	-- w --	-- w --	-- h --	

The interval between C and D is a *second*. The interval between G and A is also a second. A second is defined as two half steps, or one whole step.

The distance between C and G is a *fifth*. So is the interval between D and A, or between E and B. A fifth is seven half-steps, or three whole and one half steps.

Intervals can be *major* or *minor*. A minor interval is one half-step shorter than its corresponding major interval. For instance, a minor second is a half step: one half-step shorter than a whole step. So, the interval between E and F is a minor second, and that between E and G is a minor third.