Scales, Intervals & Keys

A scale divides the octave into a number of tones or pitches. The characteristics of a scale are:

- Order – scales arrange their pitches in a specific order
- Number – in theory there is no limit to the number of pitch divisions that can be applied to an octave. In practice, the number of divisions used in Western music ranges from five to twelve. Experimental work is being done with as many as 31 divisions in the octave.
- Type – Western music describes the divisions of the octave as "steps". These steps may be whole steps or half steps. Look at a piano key board. The black and white keys are these whole and half steps.
- The first note of a scale is called the "tonic".

Intervals
Pitches on scales are given two kinds of names. Sometimes they are called by letter names [A- B-C-D-E-F-G]. Sometimes they are identified by a number that describes their relationship to another tone in the scale. Usually the tonic pitch is the tone within the scale to which all other tones are identified. These numeric names are:

Scale	do	re	me	fa	so	la	ti	do
Interval name	Unison	Second 2nd	Third 3rd	Perfect four 4^{th}	Perfect fifth 5^{th}	Sixth 6th	Seventh 7th	octave

The Most Common Scales used in Traditional Music

Diatonic: The diatonic scale is both a naturally occurring phenomenon and the most familiar, to Western ears, of all scales. It's the *do re me fa so la ti do* scale that dominates all forms of Western traditional music. The diatonic scale pattern is also called the "major" scale.

The pattern of whole and half steps of the diatonic scale is:

C Scale	**C**		**D**		**E**		**F**		**G**		**A**		**B**		**C**
Interval	tonic		2^{nd}		3^{rd}		4^{th}		5^{th}		6^{th}		7^{th}		Octave
Tones	do		re		me		fa		so		la		ti		do
steps		whole		whole		half		whole		whole		whole		half	

Once you know this pattern of steps [whole-whole-half-whole-whole-whole-half] you can create a diatonic scale beginning on any tone. More about the diatonic scale in the section on overtones.

The Minor Scale. To create a minor scale lower the 3^{rd} tone by a half step. The step pattern becomes: whole – half – whole – whole – whole – whole – half.

Pentatonic Scale: As the name implies, this scale has only five steps. The most commonly used tones are: tonic, 2nd, 3rd, 5th and 6th. When played in this order, the scale as a vaguely Asian sound to it. However, when these tones are arranged without regard to order, they make up the overwhelming majority of tones in Western melodies. There are both major pentatonic scales and minor pentatonic scales.

The Blues Scale: One very common scale in both popular and traditional music is the blues scale. The blues scale is built on a minor pentatonic scale with the addition of a "blue" note. The intervals are: tonic, minor 3rd, 4th, diminished 5th, 5th, minor 7th. Wind instruments like saxophone and string instruments like guitar will bend tones in the blues scale. These bends produce microtonal pitches. These microtonal pitches are smaller than half steps. All of the tones between the 4th and the 5th intervals are targets for use of microtonal pitches.

Chromatic Scale: If every step of the scale is a half-step, the result is a chromatic scale. These twelve steps are all of the conventional tones available to Western musicians.

Key

Musicians use the term "key" to describe the tonal center of music. "Tonal center" may seem like an abstract concept. It isn't. This is a gut-feeling about where the music bellows in terms of its sound. The term "key" expresses that key-feeling. There are plenty of technicalities describing a key. But, at bottom, key is a feeling of belonging.

What's the Difference between a key and a scale?

A SCALE is about order.
Scales are sequences. They go up. They go down. Tones are always in a specific sequence or order. Scales NEVER go part way up, double back, then finish the sequence. They ONLY go up or down in a specified order. That order may allow jumps over tones within the diatonic sequence and the order does not have to be all 7 tones in the diatonic scale. The pentatonic scale is like that.

Scale = Order of tones

A KEY is about population.
Keys tell you which tones are used in a piece of music. Keys DO NOT determine the scale used within the key. There can be thousands of scales that work within any specific key.

The scale we select within a key determines the relationships among the tones of that key and thereby allows us to construct melody and its supporting harmony.

Key = population of tones without regard for order