

Animation is the process where images appear to move. The earliest forms of animation come from things like the Phenakistoscope or the Zoetrope, where it uses a human illusion called the Persistence of Vision. Later, cell animation came into practice, with one of the first predominant ones to be Steamboat Willie. Cell animation makes different parts of the scene to be on different layers and then combines them in the end, therefore when making more frames it is cheaper to make. Steamboat Willie is often recognized as the first sound-synced cartoon. Other ways people made animations more cost effective is by using smears, looping animations also known as cycles, and suggestion. Later, stop motion came into practice, which is where a scene in real life is taken multiple times and manipulated to make it look animated. A different version that is very similar to stop-motion is claymotion, where characters and other things are made of clay that can easily be manipulated. Eventually, people started making a shift into more digital programs, which made the process for animation easier without taking away its charm. Some studios also fully shifted to 3D work instead of 2D.

There are twelve principles when animating something: Squash and Stretch; Anticipation; Staging; Straight Ahead and Pose to Pose; Follow Through and Overlapping Action; Slow In and Slow out; Arcs; Secondary Action; Timing; Exaggeration; Solid Drawing; and Appeal. Squash and Stretch means that the body will change proportion based on speed and toughness. Anticipation is when an action will happen that will lead into the main action. Staging is where actions are timed in a way that makes the viewer have a clear place to look at. Straight Ahead is the drawing style that draws each frame one after the other (good for things like animating fire or particles), while Pose to Pose is the drawing style of only drawing the important frames and then filling in between. Follow Through and Overlapping Action is when things will drag behind them, for example if you had a flower in a pot and moved the pot the flower would drag behind and then go back into place after a delay. Slow in and Slow out is where things try to start and stop in a non-linear way to make it feel less robotic. Note you don't always do this for something like shooting a bullet. Arcs are where things move in an arc, making the movement feel less robotic. Secondary Action is where a complementary action happens to supplement the main action and make it feel more well done. Timing is where the personality of the animation is impacted by how many frames are in each main action. Exaggeration is where characters will exaggerate their mood and body to make it more clear to the viewer on what the character is doing. Solid Drawing is the drawing method to make things feel more three dimensional, such as avoiding parallel lines. Appeal is when a character has a certain feature that is unique and stands out. Each of these twelve principles of animation help make the animation be better at feeling polished and fluid.