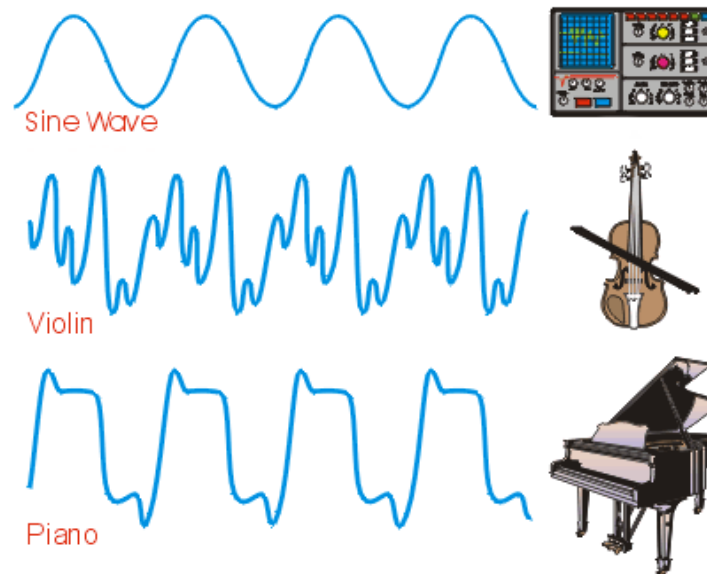


## #4 - Orange - Complex waves

Speaking, singing, music, and other complex sounds have more detailed **waveforms** than beeps and buzzes. When sound waves vibrate a thin material attached to a coil, the changes in waveform electricity can be recorded as numbers. This is what happens inside a **microphone**.



When the numbers are played back as waveform electricity to the electromagnet and vibrate a thin material, a **speaker** is made.



Try **recording** and **playing** your voice or sounds like clapping or snapping using the **buttons**. See the complex waveform that is recorded by the computer.

Computers are very good at working quickly with the numbers that make up the recording. Try telling the computer to **change the effects** on your recording by turning the **dial**.

See how the waveform, which is positive, negative, or zero, changes based on your recording and on the effects that you choose.