

SCIENCE OF MUSIC

Music is defined as an art of sound in time that expresses ideas & emotions in significant forms through the elements of rhythm, melody, harmony and color. But what is music? Is birdsong music? How about the tap-tap-tap of a hammer, or the wail of a creaking door? Is playing a garbage can different than playing a drum?

Music refuses to be contained. It won't just sit there, neat & orderly in the bins at a record store. It finds its way into everything, shows up everywhere, and right when you think you've got it, somehow it moves on.

Where is music now? Some say music is where you find it. In fact, music is where it finds you. It can find you in ordinary, daily places and things. First it's in the cacophony of a tuning orchestra then it's in the men's restroom with an itinerant saxophone player. Next it's in the hands of an inventor of instruments. Now it's in the rhythm of a step. Then it's in your kitchen when pots and pans or clanging, in the sound of a coffee grinder or perhaps you'd hear it just by touching the rim of a wine glass filled with water.

Context has a huge impact on how we interpret the sounds we hear. Visual information is a large part of that context. For example, if you were to close your eyes and listen to sounds in your home such as the sound of the clock ticking, you might think it sounds like a metronome or the claws of a crab or maybe the hum of the refrigerator in your kitchen might sound like an accordion. Often as our brains struggle to make sense of the world, what we see matters as much or more than what we hear. Scientists call this visual dominance.

Let's play a sound-a-like game. You will need to access this website:

<http://www.exploratorium.edu/music/exhibits/kitchen/index.html>. You will be able to play an ordinary sound that can be found in the kitchen and you will see what kind of instrument it sounds like.

A little added tidbit - here's how a violin makes music from a cricket's point of view:

A violin uses the same principle to make its notes as I do to make my chirping noises. I rub the ridged underside of one wing against the surface of the other to make "my chirp", a violin uses the friction of a bow against a string. It's called slip-stick – the friction of bow against violin string (or wings rubbing together) causes one surface to vibrate and produce short, strong and periodically repeated pulses.