

**SOUND**

KNOWLEDGE ORGANISER

Y4

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| **Overview** | | |  | How Sounds are Made | |
| -Sounds are made when objects vibrate.  -Vibrations travel from objects in waves to our ears, allowing us to hear sound.  -Weak vibrations make a gentle soundwave which do not travel as far as strong vibrations. This is why sounds have different volumes.  -Sounds can be high pitched or low pitched. Tight, short frequency waves make a high-pitched sound, while more loose waves make low-pitched sounds. | | |  |  | -Sounds are created when something vibrates (shakes back and forth).  -This creates soundwaves which travel to the ears of the listener.  -When a bell is struck, the metal of the bell vibrates. These vibrations create waves in the air (sound waves).  -When they reach our ears, they make our eardrums vibrate, and we hear the sound of the bell ringing. |
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| **Pitch** | | |  | **Volume** | |
| -Pitch is the highness or lowness of sounds.  -Pitch is caused by the frequency of vibrations (how many times vibrations go back and forth per second).  -The higher the rate of vibrations, the higher the pitch.  -Lower pitch sounds have a lower rate of vibrations.  -Humans can hear a large range of pitches, high-pitch sounds e.g. a mouse squeak to low-pitch sounds e.g. the rumble of an earthquake.  -However, some sounds are too high or low-pitched for us to hear. | | Image result for low pitch and high pitch sounds |  | Image result for high and low volume sounds  -Volume is the loudness of a sound.  -The volume of a sound depends on the amount of energy that the vibrations contain.  -Vibrations with lots of energy create large soundwaves.  -When these large soundwaves arrive at your ears, they push harder on your eardrums.  -This is why when we strike a drum harder (with more energy) it is louder than when we strike it more softly.  -Our ears can detect a wide range of loud and quiet sounds, from rumbling jet engines to leaves rustling. | |
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High Pitch Sounds

Low Pitch Sounds

Mouse Squeak

Shriek

Whistle

Thunder

Bass Guitar

Lion’s Roar

Child’s voice

Tuba