

Name: _____ Date: _____

Answer Key: Sonic the Hedgehog's Vibration Lab: 2nd Grade Wave Quiz

Your classroom becomes a sound studio as you investigate how drum skins and guitar strings move to create the music we hear.

1. If you touch a drum while it is making a loud noise, what will your hand feel?

Answer: C) The drum will be shaking or vibrating

Sound is created by vibrations, which are fast back-and-forth movements you can feel with your hand.

2. True or False: Sound can travel through a solid wooden door.

Answer: A) True

Sound waves can travel through solids, liquids, and gases. This is why you can hear someone knocking or talking on the other side of a door.

3. To make a ____ sound on a piano, you must hit the key with more energy.

Answer: B) Louder

Volume (loudness) is determined by the amount of energy in the vibration. More energy makes a louder sound.

4. Which of these objects would reflect light the best, like a mirror?

Answer: C) A shiny silver spoon

Smooth, shiny surfaces reflect light waves back to our eyes, allowing us to see an image.

5. True or False: If there is no light at all in a room, you can still see colorful objects.

Answer: B) False

We can only see objects because light reflects off of them and enters our eyes. Without a light source, there is no sight.

6. When you put a straw in a glass of water, it looks broken or bent because the light ____.

Answer: A) Changes speed

Name: _____ **Date:** _____

Light changes speed when it moves from air to water, which makes the light bend (refract).

7. A tiny bird chirps and a giant lion roars. What is the main difference in their sounds?

Answer: A) The bird has a higher pitch

Pitch describes how high or low a sound is. Small objects usually vibrate faster and create a higher pitch than large objects.

8. A shadow is formed on the ground because an object ____ the light.

Answer: B) Blocks

Shadows are dark areas created when an opaque object gets in the way of light waves.

9. True or False: If you vibrate a rubber band faster, the pitch of the sound will get lower.

Answer: B) False

Faster vibrations create a higher pitch, not a lower one.

10. Why does a flashlight help you see in a dark cave?

Answer: B) It provides light to reflect off objects

The flashlight is a light source. Its light bounces off the walls so your eyes can see what is inside.