

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Zap the Vibe: 2nd Grade Sound and Light Challenge

Examine how vibrations ignite sound and light travels through shadows to evaluate energy behaviors in everyday scenarios.

---

**1. A scientist places a bell inside a glass jar and sucks all the air out. When the bell rings, there is no sound. Why did the sound disappear?**

- A. The glass jar is too thick for noise.
- B. The bell stopped vibrating entirely.
- C. Sound needs air particles to travel through.
- D. The light in the room was too bright.

**2. If you tap a large drum slowly and then tap it very quickly, you are changing the \_\_\_\_\_ of the sound waves.**

- A. Color
- B. Frequency
- C. Weight
- D. Shadow

**3. Light waves are able to travel through the empty darkness of outer space where there is no air.**

- A. True
- B. False

**4. Imagine you are standing behind a brick wall. You can hear your friend calling you, but you cannot see them. Why is this happening?**

- A. Sound can bend around corners, but light travels in straight lines.
- B. Light waves are much louder than sound waves.
- C. The wall is made of special sound-proof material.
- D. Your friend is whispering too quietly to be seen.

**5. When light hits a shiny silver tray and bounces back toward your eyes, this process is called \_\_\_\_\_.**

- A. Absorption
- B. Reflection
- C. Vibration
- D. Quietness

**6. You put a straw into a glass of water and notice the straw looks broken or bent at the water line. What is happening to the light?**

- A. The water is actually breaking the straw.
- B. The light is being reflected off the straw.
- C. The light is slowing down and bending (refraction).

Name: \_\_\_\_\_ Date: \_\_\_\_\_

D. The straw is vibrating too fast to see clearly.

**7. A sound with a high frequency will always sound like a very deep, low growl.**

- A. True
- B. False

**8. An opaque object, like a wooden door, creates a \_\_\_\_\_ because it blocks light waves from passing through.**

- A. Rainbow
- B. Mirror
- C. Shadow
- D. Echo

**9. If you want to make a sound louder, you should increase the \_\_\_\_\_ of the wave.**

- A. Length
- B. Amplitude
- C. Color
- D. Speed

**10. White light is actually made up of a mixture of many different colors of light waves.**

- A. True
- B. False