

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

## Sonic Boom! 2nd Grade Sound & Light Heroes Quiz

Challenge your young scientists to solve light puzzles and sound mysteries in this advanced classroom challenge.

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**1. Imagine you are designing a secret room. If you want to stop sound from traveling through the walls and waking up your neighbors, which material should you use to line the walls?**

- A. Hard, flat metal sheets
- B. Thick, fuzzy foam panels
- C. Thin sheets of glass
- D. Shiny plastic wrap

**2. If you go to a place where there is absolutely no air, like deep outer space, you would still be able to hear a drum beating right next to you.**

- A. True
- B. False

**3. When you shine a flashlight into a clear glass of water, the light beam looks like it bends or breaks. Scientists call this \_\_\_\_.**

- A. Refraction
- B. Reflection
- C. Vibration
- D. Shadowing

**4. You are making a 'rubber band guitar' for a concert. If you want to make a very HIGH-pitched sound, how should you change the rubber band?**

- A. Make the rubber band very loose
- B. Use a much thicker, heavier band
- C. Stretch the rubber band very tight
- D. Wet the rubber band with water

**5. A Shadow Puppet Show needs a light source and an object. To make the shadow on the wall look MUCH BIGGER, what should the puppeteer do?**

- A. Move the puppet closer to the light source
- B. Move the puppet closer to the wall
- C. Turn off the light source
- D. Use a transparent puppet

**6. Light can travel through a vacuum (empty space), which is why we can see light from the stars even though there is no air between them and Earth.**

- A. True

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

B. False

**7. If you are wearing a bright red shirt, why does it look red to your friends?**

- A. The shirt swallows red light and lets colors out
- B. The shirt reflects red light back to their eyes
- C. Red light is invisible to the shirt
- D. The shirt creates its own red light like a lamp

**8. A humpback whale sings a song deep under the ocean. This sound will travel \_\_\_\_ than a human shouting in the air.**

- A. Slower
- B. Faster
- C. At the same speed
- D. Not at all

**9. Loud sounds have more energy and higher 'amplitude' (bigger waves) than quiet sounds.**

- A. True
- B. False

**10. If you look into a mirror, you see yourself because the light hits the smooth surface and bounces straight back. This 'bouncing' is called \_\_\_\_.**

- A. Absorption
- B. Refraction
- C. Reflection
- D. Frequency