

Name: _____ Date: _____

Will the Music Stop? Advanced Kindergarten Sound and Light Challenge

Young scientists design tiny theaters and sound-proof boxes to see how energy moves through different materials in our everyday world.

1. If you wanted to hide a secret toy inside a box so no one can see it, which material would be the best to use for the walls of the box?

- A. Clear plastic wrap
- B. A sheet of glass
- C. Thick black cardboard
- D. A thin mesh screen

2. Imagine you are making a 'cup phone' with a friend. To make the sound travel best through the string, the string must be _____.

- A. Loose and floppy
- B. Pulled very tight
- C. Soaked in water
- D. Cut into pieces

3. True or False: If you vibrate a rubber band very fast, it will make a higher sound (pitch) than if it vibrates slowly.

- A. True
- B. False

4. You are building a 'Shadow Theater.' If you move your finger closer to the light source (the flashlight), what happens to the shadow on the wall?

- A. The shadow gets smaller
- B. The shadow disappears
- C. The shadow stays exactly the same
- D. The shadow gets much bigger

5. To stop an alarm clock from sounding too loud, you should wrap it in _____ material like a fluffy pillow.

- A. Hard and shiny
- B. Soft and bumpy
- C. Metal and cold
- D. Smooth and flat

6. Why does a spoon look 'broken' or bent when you put it inside a glass of water?

- A. The water is pushing the spoon
- B. Light waves bend when they move from air to water

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- C. The metal in the spoon is getting soft
- D. Your eyes are getting tired

7. True or False: Sound waves can travel even if there is absolutely no air or matter (in a total vacuum).

- A. True
- B. False

8. If you want to see your reflection while brushing your teeth, you need a surface that is very _____.

- A. Rough and dark
- B. Soft and squishy
- C. Smooth and shiny
- D. Transparent and clear

9. You tap a glass full of water, and then you tap an empty glass. Which glass will likely produce the higher sound?

- A. The empty glass
- B. The full glass
- C. Both sound exactly the same
- D. Neither makes a sound

10. True or False: Different colors of light are actually different types of light waves moving in different ways.

- A. True
- B. False