

## Worksheet

## Sound

### #2 Sound through Matter

Names in

group \_\_\_\_\_

Date \_\_\_\_\_

**Read all directions first!**

Directions:

Lay bags filled with matter on the table, compare how sound travels through each of the states of matter, sand, water, and air by placing your ear to the bag as a group member taps the table near the bag with a pencil. Cover your ear that isn't touching the bag. This will block out outside noises. Compare the volume (loudness) of the sound as it travels through a liquid, solid and a gas. The matter that allows the sound to vibrate through it the easiest will have the loudest sound Predict first, then test.

Prediction: We think the \_\_\_\_\_ will allow sound to pass through it easiest. We think this because \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

1. After pressing your ear to the bag with the sand and the air, record which did your group think was louder and therefore allows sound waves to travel better.

\_\_\_\_\_

2. Repeat the process above tapping and listening through the bag filled with water and then the air. Record your results. Which does your group think carries the sound waves better.

\_\_\_\_\_  
\_\_\_\_\_

3. Which of the baggies allowed the sound to travel better, the sand or the water?

\_\_\_\_\_

4. Which of the states of matter solid, liquid, or gas allowed the sound waves to travel through it the easiest?

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5. Why does your group think this happened?

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6. Was your groups' prediction correct?

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Create something new. Drawings are accepted with an explanation.

6. What does your group think now about how sound waves travel?  
Using what you found out, how could you make the sound of a guitar louder? Why would it work?

7. What could you do in class to hear what your neighbor is saying without getting in trouble? Why would it work?

8. What could a Mom do if she wants to reduce the noise of children playing? Why would it work?