

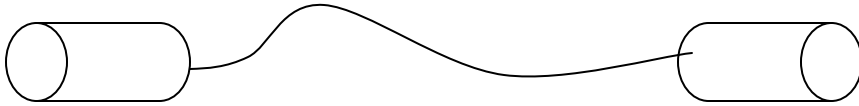
Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

# Telephone lab



## Background information:

The telephone is a device that takes advantage of the way in which waves travel through various mediums. Years ago, all telephones were connected through a land line through which sound waves would travel to the person on the other end. (That is right, no cell phones or cordless phones). A simple way to harness these waves is to make a sound wave travel through a string.



Materials: 2 paper cups, 1 string, one pencil

### Procedure:

- poke a hole in the end of each cup
- thread the string through the cup
- Write down a list of things you plan to say (do not show your partner)

-Pull the string tight, and whisper your phrases into the cup.

- Then listen to the phrases of your partner
- Write down what they say

### Questions:

1. Write the phrases you plan to say to your partner: be appropriate and write complete sentences.

- a. \_\_\_\_\_  
\_\_\_\_\_.
- b. \_\_\_\_\_  
\_\_\_\_\_.
- c. \_\_\_\_\_  
\_\_\_\_\_.

2. Record the phrases that your partner said according to what you heard.

- a. \_\_\_\_\_  
\_\_\_\_\_.
- b. \_\_\_\_\_  
\_\_\_\_\_.
- c. \_\_\_\_\_  
\_\_\_\_\_.

3. Explain the steps that cause the sound wave to travel from your voice box to your partners ear? Include the terms vibration, and medium.

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4. Explain what would happen if someone pinched the string in between the two cups?

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5. Explain what would happen if a bigger cup was used?

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6. What would happen if a smaller string was used?

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7. If you took two sets of phones and crossed them by making an "X" shape, would all of the people be able to hear the sounds? Why or why not?

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