

### Work sheet „Acoustic waves”

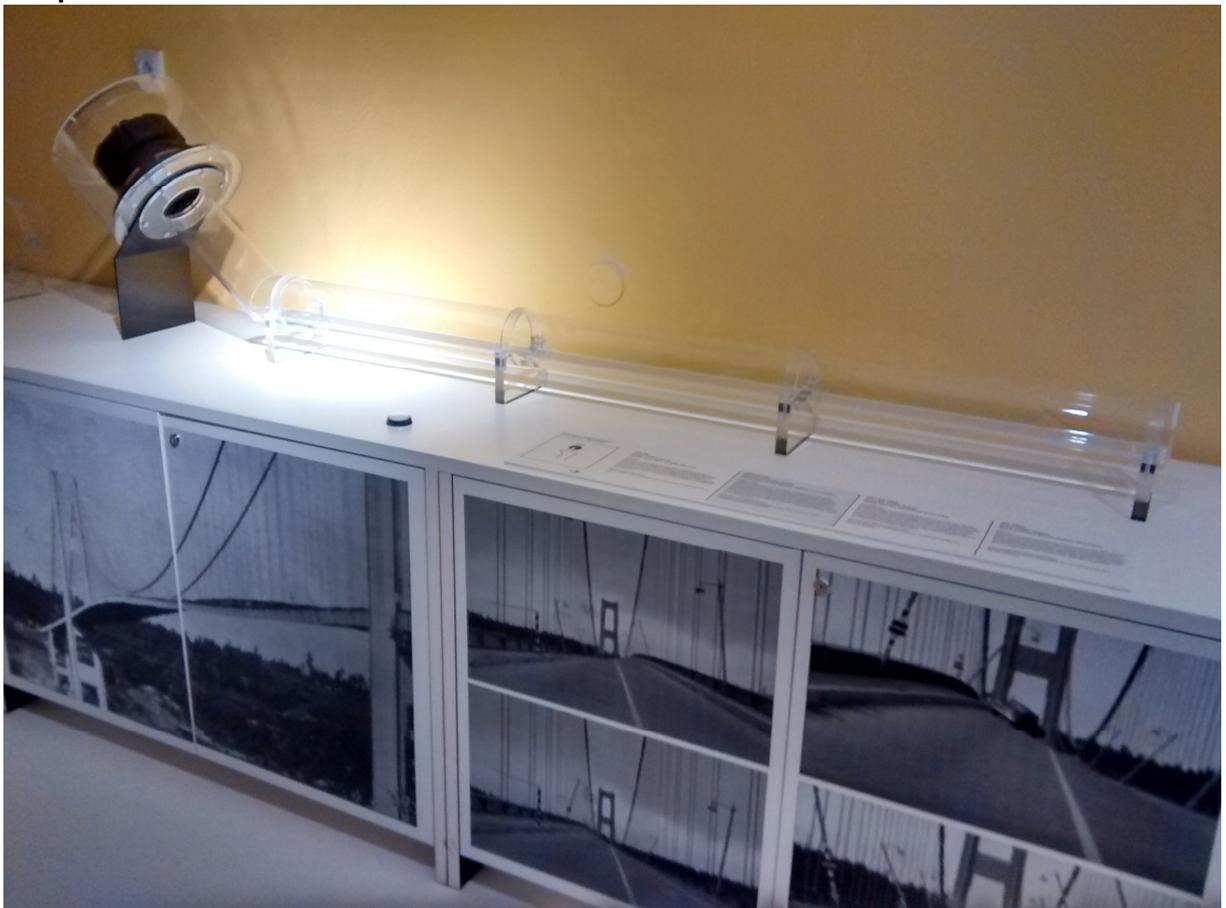
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**Grade:** High school

**Topic:** Environment and Technology

Today you will learn about acoustic waves and its spreading in liquid, fluid and solid materials and surroundings.

1. Find the exhibit you see in the picture. Take a good look at it and write down its components.



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2. Press the button of the exhibit. What is happening? Describe in your own words.

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3. Place your hand in the end of the pipe. Can you feel the vibration that the loudspeaker is producing? Write down why is it happening.

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4. Find the next exhibit you see in the picture. Find yourself a partner. Read the instructions and act accordingly. What did your partner told you through the tube?



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5. What is sound? Read the following text and fill in the missing words. Use the help of the exhibits.

*body- water waves- feel- music- directions- ear- metal- chords- hands- acoustic waves*

\_\_\_\_\_ are invisible waves which spread out, e.g. in the air and are referred to as sounds.

Sound waves originate from an acoustic source e.g. loudspeakers or \_\_\_\_\_.

Sound can spread out in different environments, as for example in air, water or also in solid materials such as wood or \_\_\_\_\_.

When we clap our \_\_\_\_\_ aerial particles move closer together and thus the pressure increases. This air pressure makes the aerial particles to spread out in all \_\_\_\_\_ within seconds.

If we were able to see the acoustic waves they would look like \_\_\_\_\_

which appear on the surface of water when a stone is thrown into it.

As soon as the acoustic waves have reached our \_\_\_\_\_, we hear sounds. But sounds can also be \_\_\_\_\_! E.g. we can feel deep bass sounds with our whole \_\_\_\_\_.

**6. Choose an exhibit and present it to your classmates.**

- Every person has to choose a different exhibit.
- Try out the exhibit and try to understand how it works and why it is important to know about the content the exhibit is presenting.
- Describe shortly the functionality of the exhibit, the reason why you chose it and your suggestions about the areas of use and purposes of the exhibit