

Homework: Waves

In this homework, you are going to research and discuss the manifold manifestations of waves.

You should discuss **three different kinds** of waves: 1. sound waves, 2. light (=electromagnetic) waves and 3. one other type of your choosing.

For these types of waves, you should discuss the following points (you can, e.g., arrange them in a table and/or make a set of drawings):

- What is the **speed of propagation** of these waves? What does it depend on?
- What is the **medium** (the thing that is moving) of the wave, if anything?
- How can we **perceive** or **measure** the following:
 - the **wave length** or, equivalently, the **frequency** of the wave?
 - the **amplitude** of the wave?
- Describe one effect or application of **resonance** in these waves. (Hint: for light waves, you might want to google “optical resonance” or “optical cavity”.)

Summarize your findings in a short paper (aim for one page or less).