This activity is made possible through a partnership between ASU-Mountain Home's Teacher Education program and Friends of the North Fork & White Rivers.

# Double Slit Experiment

**Grade Level:** 9-12

**Subject:** Physical Science

**Standard:**P-PS4-3AR: Develop and use models to describe the interaction of light with matter.

**Lesson Objective:** Students will predict and observe what happens when light passes through a double slit.

**Materials:** empty cardboard box, double slit lens, lens to look through

**Time:** 5-10 minutes (time varies depending on the number of people involved and how much information is shared)

**Introduction:** This is a double-slit experiment. It is designed to use sunlight as a light source and demonstrate what happens when it passes through a double slit. In science, light can be proved to have particle-like properties and wave-like properties. This experiment shows how light behaves like a wave. It was originally done by Thomas Young. Check out this link to see this experiment in action. The Original Double Slit Experiment

**Experiment in Practice**: Ask students what they think light is. Give students a background on light and how it can behave. Describe the experiment and what the box is. Ask them to predict what they will see when they look through the lens. Let them look through and discuss what they see. Explain a little bit of what they are seeing and why it looks like that.

**Assessment**: Any sort of questions asked can test their knowledge. You can also have students answer questions about what they learned.

**Modifications/Accommodations**: You can use a good camera to take a picture of what it looks like inside the box. This can help people who can't see as well still know what's going on. You can also give more or less information to make the experiment for any grade level.