

Lab Activities and Project Materials for SCIH 036 059 Physics 2

The Laboratory Activities and Projects in this course require special materials that can be found your local hardware store. All of these materials will need to be provided by you, the student. Before doing an activity, gather all the items you will need for that and put them on a clear work space. Doing the lab activities will be more enjoyable if you have the materials ready and available to use as you need them. The lab and project instructions are found within the lessons in your course.

Project 1: EM Radiation and the Speed of Light

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| <ul style="list-style-type: none">• Laser• Clear Jello (gelatin) packet• Protractor | <ul style="list-style-type: none">• Ruler• Pencil• Graph paper |
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Project 2: Simple Harmonic Motion

- Mass (Various materials can be used. You can use small household items such as metal washers, a small bag of sand, a rock, a 9-V battery, or any other small item that has a significant mass for its size and can be attached to the end of the string.)
- String (lightweight, strong—like dental floss)
- Protractor
- Scale or balance
- Timer / Stopwatch / Watch with a second hand
- Meter stick (or equivalent)

Project 3: Combination of four Lab Activities from Lessons 11, 13, 15, and 17

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| <ul style="list-style-type: none">• two bar magnets• sheet of paper• compass• 1.5 V alkaline C or D battery• small nail or drywall screw• one neodymium disc magnet (found in plastic toys) | <ul style="list-style-type: none">• copper wire approximately 6 in. in length• safety glasses• two mirrors• flashlight• calculator |
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The following **lab activities** in this course are *not* submitted for grading, and are provided as supplementary learning activities. These lab activities are not required for the successful completion of the course, but will enhance your overall learning experience.

Lesson 1: Wave Behavior

- bathtub
- a ruler (30 cm)
- a length of rubber hose (10-cm long, large-diameter)
- a light source

Lesson 2: Reflection of Sound

- two 20-cm to 30-cm long cardboard tubes
- watch that ticks audibly
- protractor

Lesson 3: Shadows

- flashlight (or penlight) with batteries
- another light source
- a ruler
- an object such as a book/someone's hand

Lesson 4: Reflections

- regular flat mirror (preferably a wall mirror)
- a small amount of tape
- a meter stick (or the equivalent)

Lesson 5: Broken Straw Appearance

- three 400 mL glass containers
- 150 mL of cooking oil
- 150 mL of corn syrup
- 600 mL of water
- three straws

Lesson 6: Rainbow Fun—Making a Spectroscope!

- cardboard packing tube 12 in. or longer and 3 in. in diameter
- blank CD or old CD (it may get damaged)
- craft knife (be careful)
- two cardboard tube covers or two plastic tube covers
- one piece of paper for cutting guide
- tape
- pencil and colored pencils
- paint (optional)

Lesson 7: Virtual lab Activity

- Internet browser needed

Lesson 8: What is Electric Shielding?

- two working cell phones
- sheet of aluminum foil
- sheet of plastic wrap

Lesson 9: Interactive Lab Simulation

- Internet browser needed

Lesson 10: Interactive Lab Simulation

- Internet browser needed

