



ENLIGHTIUM
ACADEMY

Honors Physical Science Course Supply List

Below are the required materials needed to complete the projects in the Honors Physical Science course. Projects are organized by semester and then unit. These projects have been designed so that most can be completed using materials commonly found in the home, borrowed from neighbors or friends, or purchased for cheap from local or online sources.

Common supplies such as pens, paper, water, etc. have been omitted from this list but are often listed within the Ignitia assignment. All projects within a unit become available as soon as the first lesson in that unit is assigned. It is highly recommended that you open each project at the beginning of a unit and start planning for the project and acquiring the needed materials. Some projects may extend over a few days, so start them well before the end of the unit if you can.

What to do if you don't have the required materials:

1. Ask your family, friends, or neighbors if they have the materials and if you can borrow them for the project.
2. See if the materials are available for purchase from a local source. Most materials can be bought at a grocery store, drug store, or gardening supply store for less than 10\$. Call the store ahead of time to see if they have the materials in stock.
3. See if the materials are available from an online source such as amazon. Again, most materials are less than 10\$ and are easy to ship.
4. If the supplies are not available locally, online sources are not an option, or anything at all is unaffordable for your family, please message the instructor in the helpbox for the assignment with the *specific materials you are missing*. I will be more than happy to help you identify other ways to get the materials or list alternative or cheaper materials. If it is not possible for you to get the required materials, I will provide you with either virtual resources to do the project, sample data you can use to complete the experiment, or assign you an alternative project that you can do instead of the original project.

Not having the required materials is not an excuse to skip the project, submit the project blank, or skip over portions of the experiment. Message your instructor first.

The following materials will be needed throughout the course:

- Access to research materials (internet, local library, etc.)
- A metric/imperial ruler
- A stopwatch or a timer (smartphone app is OK)
- Word processing program. Examples include
 - Microsoft Word© (purchase required, but often included with PC computers)
 - Apple Pages© (available free on most Macbook computers)
 - OpenOffice Writer© (open-source program available for free, PC and Macbook)
 - Google Docs as a browser alternative
- Spreadsheet processing program. Examples include
 - Microsoft Excel© (purchase required, but often included with PC computers, also available for Macbooks)
 - Apple Numbers© (available on most Macbook computers)
 - OpenOffice Calc© (open-source program available for free, PC and Macbook)
 - Google Sheets as a browser alternative
- Access to a computer with Adobe Flash
- Access to a printer

*If you do not have access to these materials or they are not budget friendly, please message the instructor.

Semester A

Unit 1

Assignment 1.4: Essay: Mendel

- No extra materials needed

Assignment 1.7: Project: Identifying Variables and Writing Hypotheses

- No additional materials needed

Unit 2

Assignment 2.2: Experiment: Exercising Methods of Measurement

- One regular-shaped object (cube or rectangular prism)
- One irregular-shaped object (such as a rock)
- Kitchen balance
- Ruler (inches)
- Large liquid measuring cup or pitcher (units of cups and ounces)
- Latex Balloon
- String
- Possibly a pitcher or bucket

Unit 3

Assignment 3.4: Experiment Forms of Change

- Table sugar
- Glass or beaker
- Shallow dish
- Spoon

Assignment 3.10: Experiment: Red Cabbage Indicator

- One head of red cabbage (green cabbage will NOT work)
- Large kitchen knife and cutting board
- Large stock pot
- Stove or other controlled heating surface
- A pitcher or large bowl
- A strainer or colander
- Clear cups (plastic or glass)
- Measuring spoons (Tablespoon, ½ teaspoon, ¼ teaspoon)
- Tape and marker
- At least five of the following liquids
 - Water
 - Lemon Juice
 - Milk
 - Baking soda dissolved in water
 - Vinegar
 - Antacid (either dissolve an alka-seltzer tablet in water, or grind up a “Tums” tablet and dissolve in water)
 - Green tea
 - Coffee or black tea
 - Simply syrup (table sugar dissolved in water)

Unit 4

Assignment 4.9: Project: Create a Project (Types of Energy)

- Supplies depend on what product students choose to create; options will include creating a children’s book, essay, speech, song, etc.
- Might require audio or recording devices. Message the instructor in the helpbox if you need more guidance.

Unit 5

Assignment 5.2 Experiment: Magnetism

- Two bar magnets
- One horseshoe magnet
- Iron filings
- Sheet of glass or plastic

Assignment 5.9: Essay: Solar Energy

- No extra materials needed

Semester B

Unit 1

Assignment 1.2: Essay: Scientists

- No extra materials needed

Assignment 1.9: Experiment: Measuring Work and Power

- Bathroom Scale
- Meter stick or tape measure
- Stopwatch
- Weights (or a heavy book)
- Stairs

Unit 2

Assignment 2.3: Experiment: Calculating the Coefficient of Friction

- Two small books (similar size and weight preferable)
- Tape
- String or twine (about 2 feet long)
- Small bag/container (either plastic or cloth)
- Kitchen balance
- Extra weights (coins, small rocks, etc.)
- Two elevated flat surfaces made of different materials. Examples might include:
 - A wooden table
 - A laminate countertop
 - A plastic bench
 - Concrete retaining wall

Unit 3

Assignment 3.9: Project: Create a Project (Plants)

- Supplies depend on what product students choose to create; options will include creating a children's book, essay, speech, song, etc.
- Might require audio or recording devices. Message the instructor in the helpbox if you need more guidance.

Unit 4

Assignment 4.4: Project: Food Record and Essay

- No additional materials needed