



High School Science Supply List

PHYSICAL SCIENCE LAB (Page 1 of 3)

The following materials will be needed throughout the course (including the Honors 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

Semester A

Unit 1

Project: Identifying Variables and Writing Hypotheses
No additional materials needed

Unit 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

HONORS PHYSICAL SCIENCE LAB (Pg 1 of 3)

Semester A

Unit 1

Project: Identifying Variables and Writing Hypotheses

No additional materials needed

Unit 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

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, Simple syrup (table sugar dissolved in water)

Unit 4

Experiment: Potential vs Kinetic Energy

No additional materials needed

PHYSICAL SCIENCE LAB (Page 2 of 3)

Unit 3

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, Simple syrup (table sugar dissolved in water)

Unit 4

Assignment 4.4: Project: Food Record and Essay

No additional materials needed

Semester B

Unit 1

Experiment: Potential vs Kinetic Energy

No additional materials needed

Unit 2

Experiment: Building a Solar Oven

Cardboard box (such as a pizza box)

Aluminum foil

Plastic wrap

Tape

Thermometer

Plastic ruler or small piece of cardboard

Food to cook (ex. marshmallows)

Paper plate or glass dish

Compass

Unit 3

Experiment: Measuring Work and Power

Bathroom Scale

Meter stick or tape measure

Stopwatch

Weights (or a heavy book)

Stairs

HONORS PHYSICAL SCIENCE LAB (Pg 2 of 3)

Unit 5

Experiment: Building a Solar Oven

Cardboard box (such as a pizza box)

Aluminum foil

Plastic wrap

Tape

Thermometer

Plastic ruler or small piece of cardboard

Food to cook (ex. marshmallows)

Paper plate or glass dish

Compass

Semester B

Unit 1

Experiment: Measuring Work and Power

Bathroom Scale

Meter stick or tape measure

Stopwatch

Weights (or a heavy book)

Stairs

Unit 2

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

Unit 3

Experiment: Factors that Affect Germination

Chia seeds

6 shallow dishes

Paper towels

Water

Vinegar

Aluminum foil

Clear plastic wrap

Sticky notes or masking tape

Unit 4

Project: Food Record and Essay

No additional materials needed

PHYSICAL SCIENCE LAB (Page 3 of 3)

Unit 4

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

HONORS PHYSICAL SCIENCE LAB (Pg 3 of 3)

Unit 5

Experiment: Bubble Challenge

Cups or beakers
Water
Plastic spoons
Salt
Sugar
Liquid detergent
Straws
Ruler

BIOLOGY LAB (Page 1 of 3)

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A metric/imperial ruler

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Word processing program. Examples include Microsoft Word© (purchase required, but often included with PC computers)

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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

Semester A

Unit 1

Experiment: Taxonomy Assignment 1.8: Project

Dichotomous Key

No extra supplies needed

8 - 10 items or people to use to create a dichotomous key (ex. Foods in kitchen, pictures of plants or animals, etc.)

HONORS BIOLOGY LAB (Page 1 of 3)

Semester A

Unit 1

Experiment: Taxonomy

No extra supplies needed

8 - 10 items or people to use to create a dichotomous key (ex. Foods in kitchen, pictures of plants or animals, etc.)

Unit 2

Experiment: Protein Denaturation

Four eggs

Two cups of milk (preferably whole/full cream, or made from powdered milk)

Your own hair from a hairbrush or comb

Small saucepan

Mixing bowl

Baking tray or cookie sheet

Aluminum foil

Candy thermometer or cooking/meat thermometer

Stove/oven (with oven mitts/pot holders)

Unit 3

Experiment: Introducing the Microscope

No extra supplies needed - virtual project

If you have a physical microscope available, you can use it instead

Experiment: Osmosis Activities

Three large eggs (+1 or more extras)

White vinegar (cheap vinegar will do)

Three large cups

One plate

Large slotted spoon

Tap water

Corn syrup

Liquid measuring devices: cups and tablespoons

Kitchen balance

Unit 4

Experiment: Examining the Phases of Mitosis

Image of dividing cells (within assignment)

Tally chart (within assignment)

Blank graph (within assignment)

Colored pens/pencils

BIOLOGY LAB (Page 2 of 3)

Unit 2

Experiment: Protein Denaturation

Four eggs
Two cups of milk (preferably whole/full cream, or made from powdered milk)
Your own hair from a hairbrush or comb
Small saucepan
Mixing bowl
Baking tray or cookie sheet
Aluminum foil
Candy thermometer or cooking/meat thermometer
Stove/oven (with oven mitts/pot holders)

Unit 3

Experiment: Osmosis Activities

Three large eggs (+one or more extras)
White vinegar (cheap vinegar will do)
Three large cups
One plate
Large slotted spoon
Tap water
Corn syrup
Liquid measuring devices: cups and tablespoons
Kitchen balance

Unit 4

Experiment: Examining the Phases of Mitosis

Image of dividing cells (within assignment)
Tally chart (within assignment)
Blank graph (within assignment)
Colored pens/pencils

Semester B

Unit 1

Experiment: Exploring Molecular Genetics

100 radish seeds
Potting soil (One-lb bag)
Ten small plates or tins
Microwave
Microwave safe plate
Water and a dropper (or spray bottle)
Sunny windowsill or table
Marker and tape
Large cardboard box

Unit 2

Report: Microbial Pathogens

No additional supplies needed

HONORS BIOLOGY LAB (Page 2 of 3)

Unit 5

Experiment: Probability

Two coins
Box (shoebox will work)

Experiment: Exploring Molecular Genetics

100 radish seeds
Potting soil (1-lb bag)
Ten small plates or tins
Microwave
Microwave safe plate
Water and a dropper (or spray bottle)
Sunny windowsill or table
Marker and tape
Large cardboard box

Semester B

Unit 1

Report: Microbial Pathogens

No additional supplies needed.

Unit 2

Experiment: Photosynthesis

Elodea (an aquatic plant available at most pet, aquarium, garden stores)

[Online source here](#)

Other aquatic plants may work as an alternative to Elodea. Message instructor for advice if you cannot acquire Elodea at your location
Test tubes or tall, thin glasses
Large glass bowl
Sodium bicarbonate (baking soda)
Paper clips
Thermometer
Lamp
Knife or scissors
Kitchen scale

BIOLOGY LAB (Page 3 of 3)

Unit 3

Experiment: Photosynthesis

Elodea (an aquatic plant available at most pet, aquarium, garden stores)

[Online source here](#)

Other aquatic plants may work as an alternative to Elodea. Message instructor for advice if you cannot acquire Elodea at your location

Lamp

Knife or scissors

Kitchen scale

Unit 4

Project: Chicken Wing Dissection

Raw chicken wing

Dissecting scissors (small, sharp scissors or kitchen shears will work)

[Online source for dissecting kit \(10\\$\) - not necessary but has many of the appropriate materials](#)

Forceps or large tweezers

Blunt probe (wooden skewer or dull wooden pencil will work)

Cutting board

Gloves, goggles, apron

HONORS BIOLOGY LAB (Page 3 of 3)

Unit 3

Experiment: Heart Rate (Unit 3)

A partner

Stopwatch (phone app will work)

Project: Chicken Wing Dissection

Raw chicken wing

Dissecting scissors (small, sharp scissors or kitchen shears will work)

[Online source for dissecting kit \(10\\$\) - not necessary but has many of the appropriate materials](#)

Forceps or large tweezers

Blunt probe (wooden skewer or dull wooden pencil will work)

Cutting board

Gloves, goggles, apron

Unit 4

Experiment: Population Ecology

[Ecology simulator](#)

Unit 5

Assignment 5.10: Project: Create a Product (Principles of Biology)

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.

CHEMISTRY LAB (Page 1 of 2)

The following items will be needed throughout the course (including the Honors course):

Access to research materials (internet, local library, etc.)

A metric ruler

A stopwatch or a timer (smartphone app is OK)

Microsoft® Excel® (or a similar program)

Microsoft® Word® (or a similar program)

Access to a computer with Adobe Flash

Semester A

Experiment: Observations, Measurements, and Analysis (Unit 1)

Three objects from around home

Experiment: Identifying Types of Mixtures (Unit 2)

Three clear glasses with smooth sides

A laser pointer or flashlight

Red Jell-O

Red food coloring

Sugar (white)

Experiment: Demonstrating the Gas Laws (Unit 3)

Stove top

Three soda pop cans (empty)

Tablespoon

Tongs

Gloves

Bowl

Cold water and ice

Experiment: Choose a Product (Discovery of Atoms) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

Semester B

Project: Modeling Chemical Bonding (Unit 1)

Access to printer (to print downloadable document)

Scissors

Pushpins

Bulletin board

***If you do not have push pins and a bulletin board, you may use something else to represent the electrons (e.g., small rocks, coins, round candy, chocolate chips, etc.).

HONORS CHEMISTRY LAB (Page 1 of 3)

Semester A

Experiment: Observations, Measurements, and Analysis (Unit 1)

Three objects from around home

Experiment: Identifying Types of Mixtures (Unit 2)

Three clear glasses with smooth sides

A laser pointer or flashlight

Red Jell-O

Red food coloring

Sugar (white)

Experiment: Demonstrating the Gas Laws (Unit 3)

Stove top

Three soda pop cans (empty)

Tablespoon

Tongs

Gloves

Bowl

Cold water and ice

Experiment: Choose a Product (Discovery of Atoms) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

Project: Modeling Chemical Bonding (Unit 5)

Access to printer (to print downloadable document)

Scissors

Pushpins

Bulletin board

***If you do not have push pins and a bulletin board, you may use something else to represent the electrons (e.g., small rocks, coins, round candy, chocolate chips, etc.).

Semester B

Experiment: Measuring Chemical Reaction Rates (Unit 1)

Baking soda

Vinegar

Four plastic, water bottles (must all be same size)

Funnel

Teaspoon

Tablespoon

Four balloons (same size)

Food coloring (optional)

Piece of string (at least 12-inches long)

Ruler or meter stick

CHEMISTRY LAB (Page 2 of 2)

Experiment: Measuring Chemical Reaction Rates (Unit 2)

Baking soda
Vinegar
Four plastic, water bottles (must all be same size)
Funnel
Teaspoon
Tablespoon
Four balloons (same size)
Food coloring (optional)
Piece of string (at least 12-inches long)
Ruler or meter stick

Experiment: Cabbage Indicator (Unit 3)

One head of red cabbage
Cutting board
Knife
Large pot
Bowl
Colander (recommended)
White plate or bowl (recommended)
Porous white paper or cardstock
Scissors
Dixie cups (recommended)
Eight household substance to test pH of

Experiment: Choose a Product (Final Chem Project) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

HONORS CHEMISTRY LAB (Page 2 of 3)

Experiment: Cabbage Indicator (Unit 2)

One head of red cabbage
Cutting board
Knife
Large pot
Bowl
Colander (recommended)
White plate or bowl (recommended)
Porous white paper or cardstock
Scissors
Dixie cups (recommended)
Eight household substance to test pH of

Experiment: Observing Volatility (Unit 3)

Acetone
Isopropyl alcohol
Mineral oil
Water
Four test tubes or other equal size glass containers
Grease marker or masking tape
Ruler
Goggles
*Note: The liquids can be substituted if they are inaccessible.

Experiment: Turning Milk into Plastic (Unit 4)

4 identical mugs or heat resistant cups (able to hold 8oz or more)
Masking tape
Pen/permanent marker
Teaspoon
White vinegar (8oz or more)
1 gallon of milk (nonfat, 1%, 2%, or whole)
Microwavable cup or container (large enough to hold 4 cups of milk; [example](#))
Microwave
Cooking or candy thermometer ([example](#))
4 spoons
12, 6" x 6" cloths (can cut up old shirts)
4 rubber hands
4 clear plastic or glass drinking cups (able to hold 8oz or more)
Kitchen scale (accurate to 1 gram; [example](#))
12 squares of wax paper (about the size of scale's weighing surface)
Paper towels

HONORS CHEMISTRY LAB (Page 3 of 3)

*Experiment: Choose a Product (Final Chem Project)
(Unit 5)*

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

PHYSICS LAB (Page 1 of 2)

The following items will be needed throughout the entire course (including the Honors course):

Access to research materials (internet, local library, etc.)

A metric ruler

A stopwatch or a timer (smartphone app is OK)

Microsoft® Excel® (or a similar program)

Microsoft® Word® (or a similar program)

Access to a computer with Adobe Flash

Semester 1

Experiment: Vectors (Unit 1)

No additional supplies needed

Experiment: Collisions (Unit 2)

Access to a computer with Adobe Flash

Four marbles (must be same size)

Small, paper cup

Scissors

Meter stick (preferably) or yard stick

Three - four cm thick book

Food or postage scale (optional)

Experiment: Latent Heat (Unit 3)

Two styrofoam coffee cups (8-oz)

Thermometer

Small piece of cardboard (to cover top of coffee cup)

Small piece of metal (i.e. bolt, nut, etc.)

Access to freezer

Measuring cup

Food or postage scale (if available)

Experiment: Choose a Product (Waves) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

Semester 2

Experiment: Pinhole Camera (Unit 1)

Small, cardboard box (i.e. shoe box)

Flat, black paint

Scissors or X-acto knife

Aluminum foil

Wax paper

Needle or pin

Tape (i.e. electrical, duck, or masking)

Lamp with removable shade

Object to view (i.e. tree, vehicle, etc.)

HONORS PHYSICS LAB (Page 1 of 2)

Semester 1

Experiment: Vectors (Unit 1)

No additional supplies needed

Experiment: Collisions (Unit 2)

Access to a computer with Adobe Flash

Four marbles (must be same size)

Small, paper cup

Scissors

Meter stick (preferably) or yard stick

Three - four cm thick book

Food or postage scale (optional)

Experiment: Latent Heat (Unit 3)

Two styrofoam coffee cups (8-oz)

Thermometer

Small piece of cardboard (to cover top of coffee cup)

Small piece of metal (i.e. bolt, nut, etc.)

Access to freezer

Measuring cup

Food or postage scale (if available)

Experiment: Choose a Product (Waves) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

Experiment: Pinhole Camera (Unit 5)

Small, cardboard box (i.e. shoe box)

Flat, black paint

Scissors or X-acto knife

Aluminum foil

Wax paper

Needle or pin

Tape (i.e. electrical, duck, or masking)

Lamp with removable shade

Object to view (i.e. tree, vehicle, etc.)

PHYSICS LAB (Page 2 of 2)

Experiment: Building an Electroscope (Unit 2)

Clear, glass jar
Jar lid (or piece of plastic to cover jar opening)
Electrical tape
Ten-inch piece of copper wire (14-gauge or more)
Straw
Scissors
Glue gun or liquid glue
Aluminum foil
Balloon
Wool sock
Other items that hold charge (i.e. shoes with rubber soles)

Experiment: Creating Circuits (Unit 3)

No additional supplies needed

Experiment: Choose a Product (Magnetism) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

HONORS PHYSICS LAB (Page 2 of 2)

Semester 2

Experiment: Building an Electroscope (Unit 1)

Clear, glass jar
Jar lid (or piece of plastic to cover jar opening)
Electrical tape
Ten-inch piece of copper wire (14-gauge or more)
Straw
Scissors
Glue gun or liquid glue
Aluminum foil
Balloon
Wool sock
Other items that hold charge (i.e. shoes with rubber soles)

Experiment: Creating Circuits (Unit 2)

No additional supplies needed

Experiment: Magnetism (Unit 3)

2 - 3 D-cell battery
Insulated copper wire
Iron nail
Paper clips, tacks, and/or pins
Compass
Cardboard toilet paper tube
5" x 5" piece cardboard
Masking tape
Rubber band

Experiment:

Choose a Product (Atoms) (Unit 4)

Supplies depend on what product students choose to create; options will include creating a children's book, essay, experiment, video, song, etc.

*No projects in Unit 5, which is a review unit.

INTEGRATED PHYSICS AND CHEMISTRY (Page 1 of 3)

***All projects contain a video demonstration that students can use to complete the assignment.**

The following items will be needed throughout the entire course (including the Honors course):

Access to research materials (internet, local library, etc.)

A metric ruler and a meter stick

Measuring tape

Scissors and tape

A scientific calculator (here is an excellent one)

A centigram balance (centigram scale can be used as alternative)

Graphing paper

A stopwatch and a timer (smartphone app is OK)

Test tubes (like these)

90% isopropyl alcohol

A graduated cylinder

A pair of goggles

Semester A

Experiment: Making Observations (Unit 1)

A bowl of peanuts in their shells (Note: if allergic to peanuts substitute with another nut such as pistachios, walnuts, or almonds)

Various measuring tools (metric rulers, string, etc.)

Paper and pencil

Experiment: Determining Density (Unit 1)

A few coins (pennies, nickels, and quarters work best)

Experiment: Atomic Structure (Unit 2)

A large box (at least 40 to 50 cm along all sides)

A small block of wood (around 6 to 8 cm along all sides)

100 marbles or pellets (airsoft pellets work well)

Experiment: Separating a Mixture (Unit 2)

A mixture containing salt, iron filings, sand, gravel, and raisins

Screens

A funnel

Filter paper

Beakers

A ring stand and a ring

A magnet

HONORS INTEGRATED PHYSICS AND CHEMISTRY (Page 1 of 3)

***All projects contain a video demonstration that students can use to complete the assignment.**

Semester A

Experiment: Making Observations (Unit 1)

A bowl of peanuts in their shells (Note: if allergic to peanuts substitute with another nut such as pistachios, walnuts, or almonds)

Various measuring tools (metric rulers, string, etc.)

Paper and pencil

Experiment: Determining Density (Unit 1)

A few coins (pennies, nickels, and quarters work best)

Experiment: Atomic Structure (Unit 2)

A large box (at least 40 to 50 cm along all sides)

A small block of wood (around 6 to 8 cm along all sides)

100 marbles or pellets (airsoft pellets work well)

Experiment: Separating a Mixture (Unit 2)

A mixture containing salt, iron filings, sand, gravel, and raisins

Screens

A funnel

Filter paper

Beakers

A ring stand and a ring

A magnet

Experiment: Chemical Changes (Unit 3)

Small utility candle and holder

Matches

Three small sheets of paper

A watch

glass or crucible

Three test tubes

Table salt (NaCl)

Calcium chloride (CaCl₂)

Baking soda (NaHCO₃)

Vinegar (HC₂H₃O₂)

Experiment: Half-Life (Unit 3)

100 pennies

A resealable plastic bag or clean plastic box with lid

A sheet of wax paper, approximately 30 cm x 30 cm

A plastic knife

Cup

Graph paper

INTEGRATED PHYSICS AND CHEMISTRY
(Page 2 of 3)

Experiment: Chemical Changes (Unit 3)

Small utility candle and holder
Matches
Three small sheets of paper
A watch glass or crucible
Three test tubes
Table salt (NaCl)
Calcium chloride (CaCl₂)
Baking soda (NaHCO₃)
Vinegar (HC₂H₃O₂)

Experiment: Half-Life (Unit 3)

100 pennies
A resealable plastic bag or clean plastic box with lid
A sheet of wax paper, approximately 30 cm x 30 cm
A plastic knife
Cup
Graph paper

Experiment: Comparing Hardness and Density of Solids (Unit 4)

No additional supplies needed

Experiment: Viscosity (Unit 4)

Four 100 mL graduated cylinders or 4 small clear glass or plastic cups
At least four identical marbles.
Stopwatch or watch with second hand
Marker to mark the cylinders or cups
Spoon or forceps to retrieve marbles
Several test liquids (e.g., water, ketchup, honey, olive oil, molasses, syrup, heavy cream, vegetable oil)
Microwave
Thermometer
Beaker or measuring cup

Semester B

Experiment: Motion Graphs (Unit 1)

A battery-powered toy car
Meter stick or tape measure
Masking or duct tape

Experiment: Potential and Kinetic Energy (Unit 2)

Cardboard tube split in half lengthwise
Box
Four marbles of different masses
Book

HONORS INTEGRATED PHYSICS AND CHEMISTRY (Page 2 of 3)

Experiment: Comparing Hardness and Density of Solids (Unit 4)

No additional supplies needed

Experiment: Viscosity (Unit 4)

Four 100 mL graduated cylinders or 4 small clear glass or plastic cups
At least 4 identical marbles
Stopwatch or watch with second hand
Marker to mark the cylinders or cups
Spoon or forceps to retrieve marbles
Several test liquids (e.g., water, ketchup, honey, olive oil, molasses, syrup, heavy cream, vegetable oil)
Microwave
Thermometer
Beaker or measuring cup

Experiment: Motion Graphs (Unit 5)

A battery-powered toy car
Meter stick or tape measure
Masking or duct tape

Semester B

Experiment: Potential and Kinetic Energy (Unit 1)

Cardboard tube split in half lengthwise
Box
Four marbles of different masses
Book

Experiment: Inclined Planes (Unit 1)

A smooth board
A smooth block or other object to drag up the plane (approximately 200 to 500 grams)
A spring scale (calibrated in newtons)
String
Books or blocks to support the inclined plane

Experiment: Insulators (Unit 2)

A large Styrofoam cup
A small Styrofoam cup
A flat piece of Styrofoam
A thermometer
Hot water
Heat source for heating water
At least two insulating materials (shredded newspaper, sheets of newspaper, bits of cloth, small Styrofoam peanuts, bubble wrap, feathers, aluminum foil, saw dust, etc.)

INTEGRATED PHYSICS AND CHEMISTRY
(Page 3 of 3)

Experiment: Inclined Planes (Unit 2)

A smooth board
A smooth block or other object to drag up the plane
(approximately 200 to 500 grams)
A spring scale (calibrated in newtons)
String
Books or blocks to support the inclined plane

Experiment: Insulators (Unit 3)

A large Styrofoam cup
A small Styrofoam cup
A flat piece of Styrofoam
A thermometer
Hot water
Heat source for heating water
At least two insulating materials (shredded newspaper,
sheets of newspaper, bits of cloth, small Styrofoam
peanuts, bubble wrap, feathers, aluminum foil, saw
dust, etc.)

Experiment: Heat and Expansion (Unit 3)

Clear plastic bottle with screw-top cap
Clear drinking straw
Putty or caulk
Grease pencil
Food coloring
Metric ruler with millimeter divisions
Lamp with no shade and an incandescent light bulb

HONORS INTEGRATED PHYSICS AND
CHEMISTRY (Page 3 of 3)

Experiment: Heat and Expansion (Unit 2)

Clear plastic bottle with screw-top cap
Clear drinking straw
Putty or caulk
Grease pencil
Food coloring
Metric ruler with millimeter divisions
Lamp with no shade and an incandescent light bulb

EARTH SCIENCE

Project: Soil Particles

1 ½ cups potting soil
½ cup of sand
Two wide-mouthed juice bottles with lids
Masking tape
A spoon

Project: Water Purification

One cup of dirt
A small glass
A large glass bowl
A clear plastic wrap
A small, round rock
Sunshine (check the weather, plan ahead)

Project: Greenhouse Effect

Two shoe boxes or any other boxes that are similar in size
Clear plastic wrap or a pane of glass
Two thermometers for measuring air temperatures
Two lamps (if performing without sunlight)

Project: Newton's Law

A bucket with a handle

BIOL1040 ENVIRONMENTAL SCIENCE (3 NNU credits)

[Principles of Environmental Science: Inquiry & Applications](#) (Click [here](#) to read Enlightium's reimbursement process for this textbook. Note: The link is to the AP page, but you will follow the same steps.)

AP CHEMISTRY LAB

[Chemistry: Atoms First](#) by Openstax (Textbook will be housed in an external platform; instructions in Ignitia.)
[Principles of Chemistry Lab Kit](#)
[Cracking the AP Chemistry Exam](#) (Recommended)

AP BIOLOGY LAB

[AP Biology](#) by Openstax (Textbook will be housed in an external platform; instructions in Ignitia.)
[Principles of Biology Lab Kit](#)
[Barron's AP Biology, 6th edition](#) (Recommended)