

Odysseyware®

# SUPPLY LIST

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Science 600



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## UNIT 1: PLANTS

Assignment	Summary	Video Demo	Supplies
Experiment: Anacharis	Observe the rate of photosynthesis in a plant.	No	<ul style="list-style-type: none"> <li>a few sprigs of anacharis **. The scientific name of anacharis is elodea**. It that can be found in stores selling fish and aquarium supplies.</li> <li>two large test tubes about 6" long</li> <li>two clear disposable plastic cups with lids or small glass jars</li> </ul>
Experiment: Seeds	Observe the growth of a seed.	No	<ul style="list-style-type: none"> <li>4 kernels of corn or beans</li> <li>4 paper towels</li> <li>4 test tubes or baby food jars</li> <li>water</li> <li>masking tape</li> <li>marker</li> </ul>
Experiment: Digestive Enzymes	Observe the breakdown of starch into simple sugar.	Yes	<ul style="list-style-type: none"> <li>soda crackers</li> <li>Benedict's solution</li> <li>4 test tubes</li> <li>beaker or small saucepan</li> <li>a stove burner or Bunsen burner</li> </ul>
Experiment: Root Observation	Observe the roots of a plant.	Yes	<ul style="list-style-type: none"> <li>4 radish or corn seeds</li> <li>metric ruler</li> <li>2 thumbtacks</li> <li>water</li> <li>hand lens</li> <li>1 plastic bag</li> <li>scissors</li> <li>microscope</li> <li>1 paper towel</li> <li>stapler</li> <li>microscope slide</li> </ul>
Experiment: Celery	Observe xylem and phloem in a plant.	Yes	<ul style="list-style-type: none"> <li>celery stalk with leaves</li> <li>food coloring (red or blue)</li> <li>dropper</li> <li>microscope</li> <li>microscope slide</li> <li>water</li> <li>tall baby-food jar or glass</li> <li>sharp knife</li> <li>metric ruler</li> </ul>
* Experiment: Growing Roots	Observe the growth of a plant from a cutting.	No	<ul style="list-style-type: none"> <li>water</li> <li>stem cutting of growing plant</li> <li>tall baby food jar</li> </ul>
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

## UNIT 2: THE HUMAN BODY

Assignment	Summary	Video Demo	Supplies
Experiment: Digesting Protein	Observe the reaction between the enzyme renin and milk.	Yes	<ul style="list-style-type: none"> <li>stove or alcohol burner</li> <li>1 Rennet tablet or 1/2 g renin</li> <li>Pyrex beaker</li> <li>water</li> <li>10 ml whole milk</li> <li>test tube and clamp</li> </ul>
Experiment: Digesting Fat	Observe the reaction between soap and oil.	No	<ul style="list-style-type: none"> <li>two test tubes with stoppers or two tall thin bottles (vials) with lids</li> <li>20 drops of cooking oil</li> <li>4 drops of liquid soap</li> <li>water</li> </ul>
Experiment: Absorbing Food	Test for the presence of glucose in food. Observe the diffusion of glucose across a semi-permeable membrane.	No	<ul style="list-style-type: none"> <li>water</li> <li>honey</li> <li>starch</li> <li>masking tape</li> <li>glucose test strips</li> <li>iodine solution</li> <li>dialysis membrane or semi-permeable membrane</li> <li>2 dental rubber bands or other small rubber bands</li> <li>2 small baby-food jars, beakers, or cups</li> <li>2 small bottles or test tubes that will fit easily inside the baby-food jars</li> </ul>
Experiment: Pulse Rate	Observe the relationship between physical activity and pulse.	No	<ul style="list-style-type: none"> <li>watch or clock</li> <li>partner</li> </ul>
*Project: Heart	Conduct independent study on the heart and/or circulatory system.	No	<ul style="list-style-type: none"> <li>Supplies depend on the project chosen.</li> </ul>
Experiment: Carbon Dioxide	Observe the reaction between carbon dioxide and limewater.	Yes	<ul style="list-style-type: none"> <li>clear limewater</li> <li>quart jar (needed for limewater preparation)</li> <li>tablespoon</li> <li>CaO or lime</li> <li>distilled water</li> <li>2 soda straws</li> <li>hand air pump</li> <li>2 baby-food jars</li> </ul>
* Project: Lungs	Conduct independent study on the lungs and/or respiratory system.	No	<ul style="list-style-type: none"> <li>Supplies depend on the project chosen.</li> </ul>
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

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**UNIT 3: ANIMALS, PLANTS AND NATURE**


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Assignment	Summary	Video Demo	Supplies	
Project: The Cerebrum	Identify the location and describe the function of the frontal, parietal, occipital, and temporal lobes.	No	<ul style="list-style-type: none"> <li>internet access</li> </ul>	
Project: The Eye	Research how the eye functions.	No	<ul style="list-style-type: none"> <li>internet access</li> <li>drawing paper</li> </ul>	<ul style="list-style-type: none"> <li>pencil</li> </ul>
Experiment: Trial and Error	Investigate learned behavior.	No	<ul style="list-style-type: none"> <li>piece of card stock or heavy paper (10 cm x 10 cm)</li> </ul>	<ul style="list-style-type: none"> <li>scissors</li> <li>three volunteers</li> </ul>
Project: Biomes	In this project, you will create a travel brochure for one of the major biomes.	No	<ul style="list-style-type: none"> <li>computer software to make a brochure</li> </ul>	
Project: Symbiosis	Research symbiosis.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>	
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

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**UNIT 4: REPRODUCTION AND GENETICS**


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Assignment	Summary	Video Demo	Supplies	
Experiment: Flower Structure	Investigate the structure of a flower.	No	<ul style="list-style-type: none"> <li>magnifying glass</li> <li>black paper or very dark material</li> </ul>	<ul style="list-style-type: none"> <li>toothpick</li> <li>fresh flower</li> <li>plastic knife</li> </ul>
* Experiment: Embryo Formation	Observe the growth of an embryo.	No	<ul style="list-style-type: none"> <li>lima beans soaked overnight in water</li> <li>a magnifying glass</li> </ul>	
Project: Traits	In this project you will observe the phenotype of certain human traits.	No	<ul style="list-style-type: none"> <li>15 people to survey</li> </ul>	
* Experiment: Mendelian Genetics	In this experiment you will simulate Mendel's experiments.	No	<ul style="list-style-type: none"> <li>20 dried garden pea seeds</li> </ul>	<ul style="list-style-type: none"> <li>paper</li> </ul>
Experiment: Taste Test	In the following experiment, you will determine whether you have a dominant or recessive gene for tasting PTC	Yes	<ul style="list-style-type: none"> <li>PTC taste paper strips</li> <li>a small trash bag</li> <li>gum, candy, or small snack</li> </ul>	
* Experiment: Albinism	In this experiment, you will investigate the heredity of this mutation.	No	<ul style="list-style-type: none"> <li>flat of soil or pots of soil</li> <li>seeds of corn, sorghum</li> </ul>	
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

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## UNIT 5: CHEMISTRY

Assignment	Summary	Video Demo	Supplies	
Experiment: Solid, Liquid, Gas	In this experiment, you will observe the properties of solids, liquids, and gases.	Yes	<ul style="list-style-type: none"> <li>a balloon</li> <li>a small block of wood (or a rock)</li> </ul>	<ul style="list-style-type: none"> <li>a clean, square, dish</li> <li>water</li> <li>a glass</li> </ul>
Experiment: Make a Compound	In this experiment, you will make a compound.	Yes	<ul style="list-style-type: none"> <li>a copper penny</li> <li>iodine solution</li> <li>a cotton swab</li> </ul>	<ul style="list-style-type: none"> <li>a small pan for heating the penny</li> <li>a Bunsen burner or stove</li> </ul>
*Experiment: Limewater	In the following experiment, you will combine carbon dioxide with limewater (calcium hydroxide) to make a new compound called calcium carbonate. This experiment will take two days.	Yes	<ul style="list-style-type: none"> <li>a clear plastic disposable glass or a test tube</li> <li>1 teaspoon of lime (available at a garden shop)</li> </ul>	<ul style="list-style-type: none"> <li>quart jar</li> <li>water</li> <li>coffee filter</li> <li>a soda straw</li> <li>glass</li> </ul>
Project: Element Organization	In this project, you will create your own organization method for a group of fictional elements.	No	N/A	
Project: Atom Diagram	In this project, you will draw a planetary model of common elements.	No	<ul style="list-style-type: none"> <li>paper</li> </ul>	<ul style="list-style-type: none"> <li>pencil</li> </ul>
Experiment: Acid or Base?	In this experiment, you will use an indicator to test common household substances.	Yes	<ul style="list-style-type: none"> <li>phenolphthalein solution</li> <li>1/4 teaspoon of baking soda mixed in 1 tablespoon of water</li> <li>1/4 teaspoon of household ammonia mixed in 1 tablespoon of water</li> </ul>	<ul style="list-style-type: none"> <li>1/4 cup of vinegar</li> <li>2 clear plastic glasses</li> <li>a plastic spoon to stir the solution</li> <li>about 1 tablespoon of additional baking soda</li> <li>eye dropper</li> </ul>
*Project: Cause and Effect	In the following exercise, you are to determine the cause and effect.	No	N/A	
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A	

## UNIT 6: MOTION

Assignment	Summary	Video Demo	Supplies	
Project: Calculating Work	Calculate work using force and distance.	No	<ul style="list-style-type: none"> <li>• Calculator</li> </ul>	
Experiment: Work	In this experiment you will calculate the amount of work done using a spring scale.	No	<ul style="list-style-type: none"> <li>• spring scale (with a hook)</li> <li>• yard stick or ruler</li> <li>• heavy cord or rope</li> <li>• heavy box filled with something to make it weigh about 3 pounds</li> </ul>	
Project: Horsepower	In this project you will learn more about James Watt and horsepower.	No	<ul style="list-style-type: none"> <li>• research resources</li> </ul>	
Experiment: Calculating Horsepower	In this experiment you will calculate your horsepower.	No	<ul style="list-style-type: none"> <li>• a watch with a second hand, or a stopwatch</li> <li>• access to a flight of stairs</li> </ul>	
Experiment: Inertia	In this experiment you will observe inertia.	No	<ul style="list-style-type: none"> <li>• 1 quart jar</li> <li>• 1 square piece of cardboard large enough to cover the top of the jar</li> <li>• 1 marble</li> <li>• enough sand or dirt to make about 2 inches in the bottom of the jar</li> </ul>	
Experiment: Newton's Laws	In this experiment you will investigate Newton's Second and Third Laws of Motion.	No	<ul style="list-style-type: none"> <li>• beach ball</li> <li>• volleyball</li> <li>• rubber kickball</li> <li>• chalk</li> <li>• measuring tape or yard stick</li> <li>• outdoor area (park, backyard)</li> <li>• paper</li> <li>• pencil or pen</li> </ul>	
Experiment: Force, Motion, and Energy Transfer	In this experiment, you will continue to develop and apply your knowledge of force and motion.	No	<ul style="list-style-type: none"> <li>• pencil or pen</li> <li>• marbles</li> <li>• sealable sandwich bag</li> <li>• string (two pieces)</li> <li>• spring scale</li> <li>• 5 hard cover books</li> <li>• 1 2" x 2" piece of wood, with an eye hook in one end</li> <li>• plastic cup with holes in the side for string</li> <li>• single pulley with plastic wheel (50mm wheel)</li> </ul>	
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A	

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**UNIT 7: ENERGY**

Assignment	Summary	Video Demo	Supplies
Project: Minimizing/Maximizing Thermal Energy Transfer	In this experiment, you will apply your knowledge about temperature and thermal energy.	No	<ul style="list-style-type: none"> <li>4 soda cans, emptied (preferably the same type and size)</li> <li>thermometer</li> <li>scissors</li> <li>glue</li> <li>roll of tape</li> <li>timer or stopwatch</li> </ul> <ul style="list-style-type: none"> <li>collection of various materials to build with such as construction paper, foam, fabric, straws, plastic bags, funnels, and anything that absorbs or reflects radiation.</li> </ul>
Project: Nuclear Power	In this project, you will argue for or against the use of nuclear power.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
Project: Energy Conversion	In this project, you will research common energy conversions.	No	<ul style="list-style-type: none"> <li>markers, crayons, or colored pencils</li> <li>magazines or catalogs</li> <li>poster board</li> </ul>
Project: Energy Conservation	In this project, you will be completing two parts of an energy conservation plan.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

**UNIT 8: THE ATMOSPHERE**

Assignment	Summary	Video Demo	Supplies
Project: The Atmosphere	In this project you will create a model of the atmosphere above the Earth.	No	<ul style="list-style-type: none"> <li>Some ideas of construction are styrofoam, poster board, and blocks of wood.</li> </ul>
Experiment: The Greenhouse	Investigate the greenhouse effect.	Yes	<ul style="list-style-type: none"> <li>two shoe boxes</li> <li>sheet of clear plastic</li> <li>two thermometers</li> <li>watch or stop watch</li> </ul>
Project: Pollution	In this project, you will research laws which protect the Earth from air pollution.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
Project: Climate Change Research	In this project, you are going to look at the question of climate change and weather using objective research with credible data.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>



Project: Climate Change Presentation	In this project, you are going to continue look at the question of climate change and weather using objective research with credible data.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

## UNIT 9: EARTH AND SPACE

Assignment	Summary	Video Demo	Supplies
*Experiment: Earth's Shape	In this experiment you will see how the Earth's shadow proved its shape.	No	<ul style="list-style-type: none"> <li>dark room, preferably at night</li> <li>round balloon</li> <li>small flashlight</li> <li>round, flat disk (DVD or CD)</li> </ul>
Experiment: Shadows	In this experiment you will see how this angle affects shadows.	No	<ul style="list-style-type: none"> <li>large piece of brown wrapping paper or newspaper</li> <li>black crayon</li> <li>masking tape</li> </ul>
*Experiment: Making an Eclipse	In this experiment you will use common items to model each type of eclipse.	No	<ul style="list-style-type: none"> <li>large ball about the size of a basketball</li> <li>small ball about the size of a tennis ball</li> <li>strong light of about 100 watts or more</li> <li>dark room</li> </ul>
*Project: Planet	In this project you will make a chart comparing characteristics of each planet.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

## UNIT 10: REVIEW

Assignment	Summary	Video Demo	Supplies
Project: Body System Interaction	In this project, you will research how different body systems interact.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
*Project: Biomes	In this project you will find out more information on biome of your choice.	No	<ul style="list-style-type: none"> <li>research resources</li> </ul>
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

\* indicates an alternative assignment