

Odysseyware®

SUPPLY LIST

Science 700



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UNIT 1: SCIENTIFIC INQUIRY

| Assignment | Summary | Video Demo | Supplies |
|--------------------------------|--|------------|---|
| Project: Make a Model | Make a model to illustrate a scientific concept. Write a two-paragraph (150 word) explanation of your model. | No | <ul style="list-style-type: none"> supplies depend on the model you choose to make. |
| Project: Design an Experiment | Complete the first half of scientific method. Write a complete description of your experiment. | No | N/A |
| Project: Conduct an Experiment | Complete the last half of the scientific method. | No | <ul style="list-style-type: none"> any supplies you required in the previous project (Design an Experiment). |
| Project: Ethics Case Study | Analyze the ethics of Edward Jenner and his smallpox experiments. Write a four-paragraph (500 word) report about Jenner's ethics. | No | <ul style="list-style-type: none"> research resources |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

UNIT 2: MATTER

| Assignment | Summary | Video Demo | Supplies |
|--------------------------------|--|------------|--|
| Experiment: Chromatography | Use chromatography to separate the colors in different markers. | No | <ul style="list-style-type: none"> clear plastic cup tape 5 to 6 coffee filters water scissors 5 or 6 washable markers wooden craft stick |
| Experiment: Chemical Reactions | Observe how these factors increase or decrease reaction rate. | No | <ul style="list-style-type: none"> 6 antacid tablets timer or watch with a second hand measuring cup water 6 clear plastic cups thermometer graph paper |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

UNIT 3: ENERGY AND MOTION

| Assignment | Summary | Video Demo | Supplies |
|-------------------------------|---|------------|---|
| Experiment: Heat Transfer | Observe heat transfer by conduction and convection. | Yes | <ul style="list-style-type: none"> • hot water • cold water • metal fork • plastic fork • stick of cold butter • large glass • watch or clock with a second hand <ul style="list-style-type: none"> • yellow and blue food coloring • playing card • four empty, identical plastic bottles (sports drink bottles work well) • access to a sink |
| Experiment: Electric Motor | Build a simple electric motor using a battery and magnets. | Yes | <ul style="list-style-type: none"> • 5 small disk or rectangular magnets • 2 large paperclips • plastic cup • 2 ft. insulated 20-gauge copper wire • masking tape • 1.5 volt D battery <ul style="list-style-type: none"> • 2 electrical lead wires with alligator clips at both ends • wire stripper • black marker • small block of wood • 4 nails • hammer |
| Experiment: Energy Efficiency | Compare the efficiency of an incandescent light bulb with that of a fluorescent light bulb. | Yes | <ul style="list-style-type: none"> • 100-watt incandescent light bulb • 23-26-watt compact fluorescent light bulb (CFL) • lamp <ul style="list-style-type: none"> • two plastic sandwich bag • four ice cubes • clock or watch • measuring cup |
| Experiment: Air Resistance | Investigate factors which increase air resistance. | Yes | <ul style="list-style-type: none"> • plastic garbage bag • scissors • ruler • yardstick • three plastic sandwich bag <ul style="list-style-type: none"> • 12 pieces of string (each 20 inches in length) • three raw eggs • cardboard box |
| Project: Newton's Laws | Apply what you have learned about inertia, acceleration, and action-reaction force pairs. Create a poster explaining each law. | No | <ul style="list-style-type: none"> • poster board • illustration or picture for each law |

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| *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: BIOLOGY

| Assignment | Summary | Video Demo | Supplies |
|----------------------------|---|------------|--|
| Project: Cell | Create a model of a cell. | No | <ul style="list-style-type: none"> supplies of your choice |
| Project: Organ Transplants | Create an organ donation brochure designed to raise awareness and increase the number of registered donors. | No | <ul style="list-style-type: none"> software such as Microsoft Word or Publisher to create a brochure. |
| Project: Systems | Research and write a 250-word report about a system. | No | <ul style="list-style-type: none"> research resources |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

UNIT 5: HEALTH AND DISEASE

| Assignment | Summary | Video Demo | Supplies |
|-------------------------------------|--|------------|--|
| Project: Lupus | Learn about lupus. Write a four-paragraph (400 word) report on what you have learned. | No | <ul style="list-style-type: none"> research resources |
| Project: Radiation Therapy | Learn about radioactivity and how it has changed the treatment of cancer. Write a four-paragraph (500 word) report on what you have learned. | No | <ul style="list-style-type: none"> research resources |
| Project: Public Health | Create a media message for National Immunization Awareness Month (NIAM). Increase awareness about the safety and health benefits of immunization. | No | <ul style="list-style-type: none"> you may use any appropriate medium, from video to paper. |
| Project: Personal Health Assessment | Highlight factors which are potentially damaging to your health. | No | N/A |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

UNIT 6: GENETICS

| Assignment | Summary | Video Demo | Supplies |
|--------------------------|--|------------|---|
| Project: Karyotype | Create and analyze a karyotype. | No | N/A |
| Project: Punnett Squares | Predict the traits of a fictional family. | No | N/A |
| Project: Ethics Essay | Write a persuasive essay about an ethical question in genetics. | No | <ul style="list-style-type: none"> research resources |
| Project: Solve the Case | Use Southern Blot results to solve a crime. | No | <ul style="list-style-type: none"> paper pen/pencil |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

UNIT 7: ECOLOGY AND THE ENVIRONMENT

| Assignment | Summary | Video Demo | Supplies |
|--|---|----------------|---|
| Project: Virtual Lab - Biome: Desert | Explain how temperature and amount of precipitation can affect the type of plants and animals found in the desert biome. | Yes (V-Lab) | N/A |
| Project: Local Ecosystem | Examine and explore a local ecosystem. | No | <ul style="list-style-type: none"> outdoor area like a field or garden thermometer string popsicle sticks magnifying glass paper small gardening tools |
| Project: Virtual Lab - Biome: Coniferous | Explain how temperature and amount of precipitation can affect the type of plants and animals found in the coniferous biome. | Yes (V-Lab) | N/A |
| Project: Food Web | Investigate how changes in an ecosystem affect a food web. Draw a food web representing the flow of energy in the ecosystem. | No | <ul style="list-style-type: none"> paper pen/pencil |
| Project: Virtual Lab - Biome: Grassland | Explain how temperature and amount of precipitation can affect the type of plants and animals found in the grassland biome. | Yes (V-Lab) | N/A |

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| Project: Global Warming | <p>Research global warming and climate change and its impacts on people and the natural environment.</p> <p>Create a model to demonstrate the greenhouse effect.</p> | No | <ul style="list-style-type: none"> research resources a slideshow or presentation program two shoe boxes | <ul style="list-style-type: none"> sheet of clear plastic or pane of glass two thermometers watch or stop watch |
| Project: Environmental Policies | <p>Investigate how these laws have changed the way we treat the environment.</p> <p>Write a four-paragraph (250 word) report describing a law, who or what it protects, and why it was enacted.</p> | No | <ul style="list-style-type: none"> research resources | |
| Experiment: Biodegradability | Determine the biodegradability of different materials. | No | <ul style="list-style-type: none"> shovel or trowel compost bin (can be purchased from a local garden or hardware store) dirt twigs and branches grass clippings or leaves | <ul style="list-style-type: none"> food garbage (such as banana peels and apple cores) plastic cup newspaper aluminum foil tissues paper towels tin can |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | | N/A |

UNIT 8: EARTH SCIENCE

| Assignment | Summary | Video Demo | Supplies |
|----------------------------|---|------------|--|
| Project: The Rock Cycle | Illustrate the rock cycle. | No | <ul style="list-style-type: none"> supplies of your choice |
| Project: Water Cycle | Illustrate the water cycle. | No | <ul style="list-style-type: none"> supplies of your choice |
| Project: Measuring Weather | <p>Understand the differences between climate and weather.</p> <p>Create a weather model using measured and collected data.</p> | No | <ul style="list-style-type: none"> research resources a slideshow or presentation program coffee can or glass jar large balloon toothpick rubber band (big enough to fit around the top of the coffee can or jar) glue straw index card |

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|-----------------------|--|-----|----------------------|
| Project: Geologic Map | Answer questions about an area using a geologic map. | No | • research resources |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

UNIT 9: LIFE OVER TIME

| Assignment | Summary | Video Demo | Supplies |
|-----------------------------|--|------------|---|
| Project: Morphology | Compare the forelimbs of seven different animals. | No | N/A |
| Project: Sickle Cell Anemia | Research sickle cell anemia in Africa and how it relates to malaria. | No | • research resources |
| Project: Natural Selection | Simulate natural selection. | No | <ul style="list-style-type: none"> • construction paper in four different colors • scissors • plastic cup • plain paper • blanket with a colorful pattern (a sheet or comforter will also work) • pencil or pen |
| Project: Metamorphosis | Compare complete and incomplete metamorphosis. | No | • research resources |
| *Special Project | Use this Special Project template to create your own assignment for this unit. | N/A | N/A |

* indicates an alternative assignment