



# 2019-2020 Science Supply List

Earth Science

## Table of Contents

|  |   |
|--|---|
| UNIT 1: DYNAMIC STRUCTURE OF EARTH .....   | 1 |
| UNIT 2: FORCES AND FEATURES OF EARTH ..... | 1 |
| UNIT 3: FEATURES OF EARTH'S CRUST .....    | 1 |
| UNIT 4: SHAPING EARTH'S CRUST .....        | 2 |
| UNIT 6: EARTH'S WATER .....                | 3 |
| UNIT 7: EARTH'S ATMOSPHERE.....            | 4 |
| UNIT 8: EARTH'S WEATHER AND CLIMATE .....  | 5 |
| UNIT 9: ASTRONOMY .....                    | 6 |

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**UNIT 1: DYNAMIC STRUCTURE OF EARTH**


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| Assignment                 | Summary  | Video Demo | Supplies   |
|----------------------------|--|------------|--|
| Project: Research a Career | Choose one of the scientific career fields listed in this project and write a report that will give you a closer look at what this type of scientist does in his/her work. | No         | <ul style="list-style-type: none"> <li>research resources</li> </ul>   |
| Project: Earth Comparisons | For this project, you'll make a chart of some of the basic characteristics of each planet so that you can compare and contrast these characteristics to those of Earth.    | No         | <ul style="list-style-type: none"> <li>research resources</li> </ul>   |
| Project: Flow of Energy    | In this project, you will construct a food web.  | No         | <ul style="list-style-type: none"> <li>Computer-based, graphics program</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Posterboard</li> <li>Colored pencils or markers</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 2: FORCES AND FEATURES OF EARTH**


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| Assignment                         | Summary  | Video Demo | Supplies  |
|------------------------------------|--|------------|---|
| *Project: Create a Topographic Map | Create a topographic map of an area.   | No         | <ul style="list-style-type: none"> <li>pencil</li> <li>crayons or colored pencils</li> <li>paper</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: FEATURES OF EARTH'S CRUST**


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| Assignment               | Summary   | Video Demo | Supplies   |
|--------------------------|---|------------|--|
| Project: Crystal Systems | In this project, you will create three-dimensional models of crystals in each crystal system. | No         | <ul style="list-style-type: none"> <li>paper</li> <li>scissors</li> <li>glue or tape</li> <li>printer</li> </ul> |
| Project: Nuclear Energy  | In this project, you will research nuclear energy.  | 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: SHAPING EARTH'S CRUST**

| Assignment              | Summary  | Video Demo | Supplies  |
|-------------------------|--|------------|---|
| Project: Soil Particles | The size of particles in soil determines how much water the soil will hold. Small particles hold more water than large particles. In this experiment, you will observe how particle size affects the soil profile. | No         | <ul style="list-style-type: none"> <li>• 1 1/2 cups potting soil</li> <li>• 1/2 cup sand</li> <li>• 2 wide-mouthed juice bottles with lids</li> <li>• Masking tape</li> <li>• Pen</li> <li>• Spoon</li> <li>• Water</li> </ul>  |
| Project: Ice Erosion    | In this experiment, you will investigate how glaciers change Earth's surface.  | No         | <ul style="list-style-type: none"> <li>• 10 lbs. sand</li> <li>• Square of window screen or kitchen strainer</li> <li>• 2 plastic trays, about 8 x 24 inches</li> <li>• Water</li> <li>• Freezer</li> <li>• Ruler</li> <li>• Bucket</li> <li>• Measuring cup</li> </ul> |
| *Special Project        | Use this Special Project template to create your own assignment for this unit.   | N/A        | N/A   |

**UNIT 6: EARTH’S WATER**

| Assignment                            | Summary   | Video Demo | Supplies  |
|---------------------------------------|---|------------|---|
| Project: Water Purification           | In this experiment, you will purify water using a solar still.  | No         | <ul style="list-style-type: none"> <li>• 1 cup of dirt</li> <li>• 4 cups of water</li> <li>• Small glass</li> <li>• Large glass bowl</li> <li>• Clear plastic wrap</li> <li>• Small, round rock</li> <li>• Sunshine</li> </ul>  |
| Project: Water Conservation           | In this project, you will research ways to conserve water.      | No         | <ul style="list-style-type: none"> <li>• Posterboard</li> <li>• Colored pencils or markers</li> <li>• research resources</li> </ul>   |
| Experiment: Porosity and Permeability | In this experiment, you will measure porosity and permeability. | No         | <ul style="list-style-type: none"> <li>• Water</li> <li>• Graduated cylinder</li> <li>• 6 clear, plastic cups</li> <li>• Permanent marker</li> <li>• Metric ruler</li> <li>• Large, medium, and small pebbles (about 1 cup each)</li> <li>• Gravel, sand, and dirt (about 1 cup each)</li> <li>• Funnel</li> <li>• 3 coffee filters</li> <li>• Ring stand</li> <li>• Stopwatch or watch with a second hand</li> </ul> |

|                                       |  |     |   |
|---------------------------------------|--|-----|---|
| Experiment: Fresh Water vs. Saltwater | In this experiment, you will compare freshwater and saltwater.                 | No  | <ul style="list-style-type: none"> <li>• 4 tablespoons salt</li> <li>• Water</li> <li>• 2 clear glasses</li> <li>• Measuring cup</li> <li>• Tablespoon</li> <li>• 2 eggs</li> <li>• 2 plastic cups</li> <li>• Spoon</li> <li>• Marker</li> <li>• Freezer</li> <li>• Stove</li> <li>• Small pot</li> <li>• Stopwatch or watch with a second hand</li> <li>• 2 pie plates or shallow pans about the same size</li> <li>• Paper</li> </ul> |
| *Special Project                      | Use this Special Project template to create your own assignment for this unit. | N/A | N/A   |

## UNIT 7: EARTH'S ATMOSPHERE

| Assignment                        | Summary  | Video Demo | Supplies  |
|-----------------------------------|--|------------|---|
| Project: Layers of the Atmosphere | This project will test your knowledge of each layer of the atmosphere and its characteristics.   | No         | <ul style="list-style-type: none"> <li>• Crayons, markers, or colored pencils</li> <li>• Posterboard</li> </ul>   |
| Project: Solar Energy             | In this project, you will illustrate the Sun's relationship with Earth.  | No         | <ul style="list-style-type: none"> <li>• Crayons, markers, or colored pencils</li> <li>• Posterboard</li> </ul>   |
| *Alternate Project: Temperature   | <p>Observe the relative heat absorption of different materials.</p> <p>Predict a material's albedo and heat absorption capability.</p> | No         | <ul style="list-style-type: none"> <li>• Sheet of black paper</li> <li>• Sheet of white paper</li> <li>• Window</li> <li>• Sunlight shining through the window</li> </ul> |

|                                   |  |     |   |
|-----------------------------------|--|-----|---|
| *Alternate Project:<br>Barometers | For this project, you'll build your own barometer and discover the air pressure around you.        | No  | <ul style="list-style-type: none"> <li>• Coffee can or glass jar</li> <li>• Large balloon</li> <li>• Rubber band (big enough to fit around the top of the coffee can or jar)</li> <li>• Toothpick</li> <li>• Glue</li> <li>• Straw</li> <li>• Index card</li> </ul>   |
| Project: Greenhouse Effect        | In this investigation, you will create your own "greenhouse" to demonstrate the greenhouse effect. | No  | <ul style="list-style-type: none"> <li>• 2 shoe boxes or any other boxes that are similar in size</li> <li>• Sheet of clear plastic (plastic wrap) or a pane of glass</li> <li>• 2 thermometers for measuring air temperatures</li> <li>• Watch or stop watch</li> <li>• Paper and pen to record temperature results</li> <li>• 2 lamps (only needed if it's a cloudy day)</li> </ul> |
| *Special Project                  | Use this Special Project template to create your own assignment for this unit.                     | N/A | N/A   |

## UNIT 8: EARTH'S WEATHER AND CLIMATE

| Assignment                     | Summary  | Video Demo | Supplies  |
|--------------------------------|--|------------|---|
| Project: Clouds and Rain       | In this lesson, you'll not only make a cloud, but you will also prepare for rain, by making a rain gauge.  | No         | <ul style="list-style-type: none"> <li>• 2-liter plastic soda bottle</li> <li>• Matches (adult supervision required)</li> <li>• Hot tap water</li> <li>• Black paper</li> </ul> |
| Project: Research Your Climate | In this lesson, you'll learn more about your area's climate by conducting research on it. You will also create a poster to illustrate your climate's features. | No         | <ul style="list-style-type: none"> <li>• Posterboard</li> <li>• Markers or crayons</li> <li>• Paper</li> <li>• Pen or pencil</li> </ul>   |

|                              |   |     |  |
|------------------------------|---|-----|--|
| Project: Predict the Weather | In this project, you'll be able to build some of the tools, record weather conditions, and make your own prediction about the weather in your area. The project is presented in two sections. | No  | <ul style="list-style-type: none"> <li>• Paper</li> <li>• Pencil</li> <li>• Coffee can or glass jar</li> <li>• Large balloon</li> <li>• Rubber band (big enough to fit around the top of the coffee can or jar)</li> <li>• Toothpick</li> <li>• Glue</li> <li>• Straw</li> <li>• Index card</li> </ul> |
| *Special Project             | Use this Special Project template to create your own assignment for this unit.  | N/A | N/A  |

## UNIT 9: ASTRONOMY

| Assignment            | Summary   | Video Demo | Supplies  |
|-----------------------|---|------------|---|
| Project: Newton's Law | This experiment will allow you to test some of Newton's laws of gravity and motion. | Yes        | <ul style="list-style-type: none"> <li>• Water</li> <li>• Bucket with a handle</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