### Materials Provided in Kit

**Materials used in both Units A and B**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Magnifying lenses (3x/6x)</td>
</tr>
<tr>
<td>8</td>
<td>Metric rulers</td>
</tr>
<tr>
<td>16</td>
<td>50-mL graduated cylinders with bases</td>
</tr>
<tr>
<td>8</td>
<td>White plastic number cubes</td>
</tr>
<tr>
<td>8</td>
<td>Samples of granite (painted with light blue dot)</td>
</tr>
<tr>
<td>8</td>
<td>Copper strips</td>
</tr>
<tr>
<td>8</td>
<td>White ceramic streak plates</td>
</tr>
<tr>
<td>8</td>
<td>Plastic cups</td>
</tr>
<tr>
<td>8</td>
<td>Droppers</td>
</tr>
<tr>
<td>16</td>
<td>SEPUP trays</td>
</tr>
</tbody>
</table>

**Unit A: Studying Soil Scientifically**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>30-mL graduated cups</td>
</tr>
<tr>
<td>32</td>
<td>Clear tubes with caps</td>
</tr>
<tr>
<td>8</td>
<td>30-mL pipettes</td>
</tr>
<tr>
<td>8</td>
<td>White plastic spoons</td>
</tr>
<tr>
<td>8</td>
<td>Red plastic films</td>
</tr>
<tr>
<td>8</td>
<td>Sets of Object Labels</td>
</tr>
<tr>
<td>1</td>
<td>Package of Soil A</td>
</tr>
<tr>
<td>1</td>
<td>Package of Soil B</td>
</tr>
<tr>
<td>8</td>
<td>Soil Color Charts</td>
</tr>
<tr>
<td>1</td>
<td>Color transparency, “U.S. Soils Map”</td>
</tr>
<tr>
<td>2</td>
<td>Sets of 16 Soil Data Cards</td>
</tr>
<tr>
<td>16</td>
<td>Sets of 5 Plant Puzzles</td>
</tr>
<tr>
<td>16</td>
<td>Sets of 6 Soil Cards</td>
</tr>
<tr>
<td>16</td>
<td>Sets of 3 Nutrient Cards</td>
</tr>
<tr>
<td>8</td>
<td>120-mL bottles of Organic Matter testing solution (0.1M KMnO₄)</td>
</tr>
<tr>
<td>8</td>
<td>Organic Matter Color Charts</td>
</tr>
</tbody>
</table>

**Unit B: Rocks and Minerals**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Samples of wood</td>
</tr>
<tr>
<td>16</td>
<td>Samples of fluorite</td>
</tr>
<tr>
<td>16</td>
<td>Samples of calcite (painted with a silver dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of coal (painted with yellow dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of limestone (painted with blue dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of sandstone (painted with black dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of gabbro (painted with purple dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of obsidian (painted with white dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of gneiss (painted with red dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of phyllite (painted with brown dot)</td>
</tr>
<tr>
<td>8</td>
<td>Samples of garnet schist (painted with green dot)</td>
</tr>
<tr>
<td>8</td>
<td>Glass scratch plates</td>
</tr>
<tr>
<td>8</td>
<td>30-mL bottles of 0.5M hydrochloric acid</td>
</tr>
<tr>
<td>1</td>
<td>Labeled sample of hematite</td>
</tr>
<tr>
<td>1</td>
<td>Labeled sample of kimberlite</td>
</tr>
<tr>
<td>1</td>
<td>Labeled sample of marble</td>
</tr>
<tr>
<td>320</td>
<td>Dark brown game chips (16 packs of 20)</td>
</tr>
<tr>
<td>320</td>
<td>Light brown game chips (16 packs of 20)</td>
</tr>
<tr>
<td>8</td>
<td>Rock Cycle game boards</td>
</tr>
<tr>
<td>8</td>
<td>Sets of 30 Igneous Rock cards</td>
</tr>
<tr>
<td>8</td>
<td>Sets of 30 Sedimentary Rock cards</td>
</tr>
<tr>
<td>8</td>
<td>Sets of 30 Metamorphic Rock cards</td>
</tr>
<tr>
<td>8</td>
<td>Sets of 9 Earth Process cards</td>
</tr>
<tr>
<td>8</td>
<td>Sets of 4 game pieces</td>
</tr>
</tbody>
</table>

**Materials used in both Units C and D**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Metric rulers</td>
</tr>
<tr>
<td>8</td>
<td>30-mL graduated cups</td>
</tr>
</tbody>
</table>

**Unit C: Erosion and Deposition**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Color transparencies, topographical maps (black, green, red)</td>
</tr>
<tr>
<td>3</td>
<td>Color transparencies, street maps (black, green, red)</td>
</tr>
<tr>
<td>8</td>
<td>Landform models</td>
</tr>
<tr>
<td>8</td>
<td>Transparent plastic lids</td>
</tr>
<tr>
<td>8</td>
<td>Dry erase markers</td>
</tr>
<tr>
<td>8</td>
<td>15-mL bottles of blue food coloring</td>
</tr>
<tr>
<td>8</td>
<td>River models</td>
</tr>
<tr>
<td>8</td>
<td>River model stands</td>
</tr>
<tr>
<td>8</td>
<td>River model catch basins</td>
</tr>
<tr>
<td>8</td>
<td>Rainmakers</td>
</tr>
<tr>
<td>8</td>
<td>50-mL graduated cylinders with base</td>
</tr>
<tr>
<td>8</td>
<td>White plastic spoons</td>
</tr>
<tr>
<td>8</td>
<td>9-oz plastic cups</td>
</tr>
<tr>
<td>6</td>
<td>Packages of sand</td>
</tr>
<tr>
<td>1</td>
<td>Package of clay (bentonite)</td>
</tr>
<tr>
<td>1</td>
<td>Package of peat moss</td>
</tr>
<tr>
<td>24</td>
<td>Plastic basins</td>
</tr>
<tr>
<td>8</td>
<td>Supply of Earth Material A</td>
</tr>
<tr>
<td>8</td>
<td>Supply of Earth Material B</td>
</tr>
<tr>
<td>8</td>
<td>Supply of Earth Material C</td>
</tr>
<tr>
<td>8</td>
<td>Plastic boxes</td>
</tr>
<tr>
<td>8</td>
<td>Plastic retaining walls</td>
</tr>
<tr>
<td>8</td>
<td>Wave makers (2 pieces)</td>
</tr>
<tr>
<td>16</td>
<td>Mesh sleeves of small rocks</td>
</tr>
<tr>
<td>16</td>
<td>Rectangular blocks, long</td>
</tr>
</tbody>
</table>
16 rectangular blocks, short

Unit D: Plate Tectonics
1 color transparency, “Layers of the Earth”
1 color transparency, “Plate Motion Simulation: Screen Shots”
1 A Science Odyssey Short Trips video: “I Feel the Earth Move”
1 sample of basalt rock
1 sample of pumice rock
1 box of toothpicks
16 9-oz plastic cups
8 vials of baking soda
8 60-mL bottles of less gassy “magma” (red), containing red food coloring, vinegar, guar gum
8 60-mL bottles of more gassy “magma” (colorless), containing vinegar
8 30-mL plastic cups
8 plastic volcano models with bases
8 clear, colorless plastic tubes
8 rubber stoppers
8 white plastic scoops
8 sets of 10 “Events on Earth” cards
8 sets of 7 “World Puzzle” pieces
8 seismograph models
8 black markers
8 plastic syringes
8 plastic cups with circular depression
8 small vials with 2-holed cap
8 bottles of red food coloring

Unit E: Weather and Atmosphere
16 white plastic trays
16 clear plastic films
16 plastic-backed thermometers
16 30-mL graduated cups
16 metric rulers
16 spoons
1 950-mL container of sand
8 sets of colored pencils
16 SEPUP trays
16 stir sticks
8 vials of sodium chloride
8 vials of calcium chloride
8 30-mL dropper bottles for water (shipped empty)
8 60-mL dropper bottles of ethanol
8 60-mL dropper bottles of mineral oil
1 500-mL container of gravel
32 clear plastic tubes (with a hole in the middle of the closed end)
16 syringes
16 sets of 6 Water Cycle cards
16 number cubes
8 15-mL dropper bottles of bromthymol blue (BTB) indicator
16 sets of 8 Atmosphere cards
80 wooden sticks with a pointed end
80 thumbtacks
8 compasses
1 pack of 250 large index cards
1 box of 100 paper clips
100 large tongue depressors
100 popsicle sticks
200 plastic straws
200 3/4 oz paper cups
200 4 oz paper cups
80 clear plastic 9 oz cups
80 clear plastic 3.25 oz cups
4 sticks of modeling clay
1 color transparency, “Satellite Weather Map”

Materials used in both Units F and G
8 sets of 8 colored pencils: red, yellow, orange, green, blue, purple, brown, and black

Unit F: The Earth in Space
8 compasses
16 9-cm wooden dowels
16 15-cm wooden dowels
16 sun stick bases
16 white plastic sheets
16 binder clips
16 30-cm metric rulers
16 white foam balls
16 Earth foam balls
8 electric motors
8 black jumper leads with alligator clips
8 red jumper leads with alligator clips
8 solar cells
1 Earth beach ball
1 CD with SEPUP Seasons Interactive
### Materials Not Provided in Kit

#### Units A and B
- 1 overhead projector
- 1 class set of safety goggles
- 1 class set of lab aprons
- supply of water
- paper towels
- large clock (or watches) with a second hand
- index cards
- sticky notes, such as Post-Its® (optional)
- 1 pair of scissors
- masking tape
- chart paper
- 16 pieces of white paper
- 2–3 large containers or tubs
- colored pencils (green, orange, brown, red)
- cafeteria trays (optional)
- 2 soft drink bottles, one colorless and one green (optional)
- paper clips
- newspaper (optional)
- samples of local soil (optional)
- 1 ultraviolet light (optional)
- 3-dimensional geometric solids, such as a cube, octahedron, etc. (optional)
- overhead transparency pens (optional)
- 1 gallon deionized water (optional)

#### Units C and D
- 1 overhead projector
- 64 pieces of graph paper
- 3–4 large containers or tubs
- masking tape
- 8 poster board or presentation board
- assorted colored poster pens
- newspapers (optional)

#### Unit E
- 1 overhead projector
- graph paper
- chart paper
- markers
- 1 class set of computers with Internet access
- 1 class set of calculators
- 2–4 large buckets or plastic tubs
- paper towels (or sponges)
- 8 watches with second hand

### Unit G: Exploring Space
- 1 color transparency, “Mystery Planet Surface”
- 8 sets of 15 Space Exploration Date cards
- 8 sets of 15 Space Exploration Event cards
- 8 sets of 8 Classification cards
- 8 sets of 24 Space Object cards
- 8 Planet Surface Mystery Boxes

- 8 landforms
- 8 sets of 4 remote sensing images of Mars
- 8 sets of 4 remote sensing images of Venus
- 8 sets of 4 remote sensing images of Earth
- 16 measuring probes
- 32 metric rulers

- colored pencils (optional)
- scissors (optional)
- colored paper (optional)
- 16 calculators
- 16 computers with access to the SEPUP Plate Motion Simulation
- 1 class set of light-colored pencils (such as yellow)
- 1 class set of dark markers (such as purple)
- 1 class set of safety goggles
- paper towels and/or a sponge
- plain, unlined paper
- supply of warm and cold water
- 1 television monitor
- 1 videocassette recorder
- 1 apple (optional)
- 1 class set of compasses (optional)
- 1 globe (optional)
- 32 index cards, large (optional)
- meter sticks (optional)
- 1 paring knife (optional)
- 1 red marker (optional)
- sticky notes, such as Post-Its® (optional)
sunlight (or a light source, such as a 40W lamp, grow lamp, or flashlight)
1 container of distilled (or tap) water
1 container of 3.5% saltwater
1 heat source (hot plate, hot pot, or microwave)
1 750-mL clear, colorless plastic bottle (with cap)
1 large flat board (plastic, glass, or poster board)
1 500-mL (or larger) glass beaker
supply of long wooden matches
1–5 sticks of incense
1 pair of tongs
ice
access to a freezer
1 class set of safety goggles
1 class set of scissors
1 stapler
1 glue
1 tape
2 large electric fans
1 heat lamp (optional)
1 large sheet of black paper (optional)
pictures of the water cycle (optional)
1 1-L container (optional)
1 50-mL graduated cylinder (optional)

Units F and G
1 overhead projector
1 class set of safety goggles
1 meter stick
chart paper and/or poster board
1 globe on a stand
1 lightbulb in a stand or lamp without a shade
16 protractors
16 sets of colored pens or pencils
tape or small adhesive page flags
1 volleyball or other similar opaque white or light-colored ball
16 computers with access to the SEPUP Seasons Interactive Simulation, and to the Internet
16 flashlights (optional)
8 class sets of colored markers
tape or small adhesive page flags
16 calculators
9–10 spherical objects of varying sizes
32 geometry compasses (for drawing circles)
16 tennis balls or other small spheres (optional)
32 black pens or pencils
32 same-colored pens or pencils