

**Scott Foresman**  
**SCIENCE**

**Grade 2**  
**Equipment Kit**  
**Guide**

**Unit C**  
Earth Science

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# Equipment Kits and Teacher's Guide

## Equipment Kit Management

### About Your Kits

The equipment in *Scott Foresman Science* is packaged in sturdy plastic bins for your convenience. The quantities included support eight groups of four students each.

### Unit Kit/ Grade Level Kit

The Unit Kit contains most of the items you will need to conduct hands-on activities with your students. Equipment for each unit is contained in one or two bins. The Unit Kit is designed to be purchased separately. Each bin is clearly labeled with the grade level, bin number, unit name, and contents. A label inside the lid of each bin references the materials by activity. Only activities requiring kit items are listed.

Unit Kits are also available in a Grade Level Kit configuration. In this format, a common bin eliminates items duplicated across the units for cost savings and convenience.

### Demonstration Kit

The Demonstration Kit gives teachers the opportunity to rehearse activities before conducting them in the classroom. Kit-provided materials for each activity are pre-packaged and labeled for easy identification. When used in conjunction with the activity videos, the demonstration kits make it easy to prepare and conduct all investigations and experiments.

### Storage of the Kits

Your equipment is packaged in sturdy, translucent plastic bins and labeled for easy storage and access. Bins may be stacked or stored on shelves or carts. Bins are labeled on all sides for quick identification and location of items. This provides convenient organization of materials before and after use.

### Replacement Materials

Use the Packing List/Replacement Parts Price List to reorder items as needed for the Unit Kit or Grade Level Kit. These order forms are packed in the plastic bins and can be photocopied. Each list provides a column for entering the quantities of items you need to replace. Materials are organized alphabetically and identified as consumable or nonconsumable.

Complete consumable Replacement Kits are available as well. These kits replenish all the consumable materials for each Unit Kit or Grade Level Kit.

### Using the Teacher's Guide

This guide will help you better prepare to conduct the program activities in your classroom. Reviewing the guide while practicing with the activity video and demonstration kit or simply reading the guide upon receiving your classroom kit will make it easy to facilitate an activity with your students.

## **Getting Started**

Familiarize yourself with the kit contents. To make sure your shipment is complete, check the packing statement provided with your kit.

## **Activity Notes**

The Activity Notes in this guide provide comprehensive information to make your activity sessions a success. This information may include:

### **Video Segment**

The video segment number is indicated to help you cue the tape to each Investigate and Experiment activity.

### **Materials**

A materials list for each activity identifies kit-supplied and school-supplied materials. Use this list as a check of your kit contents and as a list for class preparation.

### **Material Substitutions**

For increased flexibility, material substitutions, when appropriate, are indicated.

## **Advance Prep**

These instructions offer preparation guidance as necessary. With these suggestions, you will always be well prepared to conduct activities in your class.

## **Hints and Tips**

Detailed hints and tips help to ensure student success in the classroom. Notes range from how to enhance students' success to increasing your understanding of activity concepts.

## **Safety Notes**

While safety should be practiced at all times for each activity, it may be necessary to consider specific activity concerns. These notes give activity-specific safety tips.

## **Additional Comments**

This section provides extension ideas, alternate activities, and other helpful information.

## Make a model of features of the earth.

*Explore Activity (C7)*

### Materials (per group)

Kit Items	School-Supplied Items
sand modeling clay	rocks blue construction paper

### Advance Prep

Make a list of the features children may want to display in their models.

### Hints and Tips

Suggest children draw pictures of what they want to make before creating a model.

### Safety Notes

Have children wash their hands after this activity and clean up any clay or sand on the floor.

## Show erosion.

*Explore Activity (C13)*

### Materials (per group)

Kit Items	School-Supplied Items
foam cup, 8 oz foil pan sandy soil	water safety goggles

### Advance Prep

Use a pencil to punch a hole in the bottom of each foam cup before beginning this activity.

### Hints and Tips

Dampening the soil slightly will help children form a mountain.

### Safety Note

Children may need to wear safety goggles to prevent water from splashing into their eyes.

## Match rocks with clues.

*Science Center Activity (C13a)*

### Materials (per group)

Kit Items	School-Supplied Items
rock specimen pack	3 index cards paper pencil

### Material Substitutions

You may choose to use rocks other than those in the rock specimen pack. Make sure any rocks you use have distinct characteristics.

### Safety Note

Children should not throw the rocks.

## How can you make a model of a volcano?

*Investigate Activity (C16–C17)*

### Video Segment 1

### Materials (per group)

Kit Items	School-Supplied Items
baking soda modeling clay foil pan plastic vial vinegar	safety goggles craft stick teaspoon dishwashing soap/detergent red food coloring

### Material Substitutions

Any color food coloring can be used. Pill containers or film canisters can replace the plastic vials.

### Advance Prep

It may be helpful to measure the baking soda and vinegar into the plastic vials beforehand.

### Safety Note

Wear safety goggles for this activity.

## Make a model of an earthquake.

*Science Center Activity (C17a)*

### Materials (per group)

Kit Items	School-Supplied Items
none	paper wood or plastic blocks

### Material Substitutions

Instead of blocks, use any stackable building materials such as logs or interlocking blocks.

### Safety Note

Be careful to pick up any blocks that may have fallen onto the floor.

## Make compost.

*Explore Activity (C21)*

### Materials (per group)

Kit Items	School-Supplied Items
sandy soil	leaves grass water craft stick plastic jar with a lid food scraps

### Hints and Tips

- One-liter or two-liter soda bottles work well for this activity. Cut off the tops of the bottles. Have children cover the bottles with foil and secure the foil with rubber bands.
- Use plant scraps as food. Do not use meat scraps.
- Keep the compost mixture moist. Open the jar occasionally to ventilate and stir the mixture.
- If jars become too smelly, keep them outdoors or add a charcoal briquette to the jar to reduce the odor.

### Safety Note

Have children wash their hands with soap and water after handling the compost.

## Protect the earth.

*Science Center Activity (C23a)*

### Materials (per group)

Kit Items	School-Supplied Items
none	tape paper bulletin board crayons or markers

### Advance Prep

Create a classroom bulletin board with the title “How can you save?” and the headings “Paper,” “Water,” and “Fuel.” The board should be large enough to accommodate all children’s ideas.

## Make an anemometer.

*Explore Activity (C29)*

### Materials (per group)

Kit Items	School-Supplied Items
2 paper cups, 3 oz straw	safety goggles push pin unsharpened pencil with eraser

### Hints and Tips

- When constructing the anemometer, the cups should be facing the same direction.
- Mark one cup with an “x.” Children can count how many times the “x” goes around in a given time period.

### Safety Note

Caution children to be careful handling push pins.

## Experiment with temperature.

*Experiment Activity (C32–C33)*

### Video Segment 2

#### Materials (per group)

Kit Items	School-Supplied Items
3 plastic cups, 9 oz sandy soil 3 thermometers	water clock with a second hand

#### Advance Prep

You may wish to check weather reports to determine if there will be sun on the day the activity is planned.

#### Hints and Tips

If there is no sun on the day you conduct this activity, use a lamp to generate heat.

## Observe wind.

*Explore Activity (C37a)*

#### Materials (per group)

Kit Items	School-Supplied Items
none	safety goggles scissors paper push pin unsharpened pencil with eraser

#### Hints and Tips

Leave enough space between the pinwheel and the pencil eraser to allow the pinwheel to move freely. Adjustments can be made by moving the push pin.

#### Safety Note

Tell children to be careful pushing the push pin into the eraser.

## Observe the water cycle.

*Explore Activity (C39)*

### Materials (per group)

Kit Items	School-Supplied Items
plastic cup, 9 oz plastic wrap	tape warm water clock with a second hand

### Material Substitutions

Plastic baby food jars could replace the plastic cups in this activity.

### Advance Prep

Check weather reports to see if there will be sun on the day you wish to conduct this activity.

### Hints and Tips

- Be sure to seal the plastic wrap tightly on the cup.
- Compare and contrast the models with the actual steps in the water cycle.

## How does water vapor condense?

*Investigate Activity (C40–C41)*

### Video Segment 3

### Materials (per group)

Kit Items	School-Supplied Items
red food coloring	2 cans ice water warm water clock with a second hand

### Advance Prep

Collect two metal cans per group. Tape the rims with masking tape before distributing them.

### Hints and Tips

Children should tape a group member's name to their can to distinguish it from others.

## Explore evaporation.

*Science Center Activity (C43a)*

### Materials (per group)

Kit Items	School-Supplied Items
dropper plastic cup, 9 oz	paper towel water cardboard

### Hints and Tips

Review with children the proper way to use droppers before beginning this activity.

## Show how Earth rotates.

*Explore Activity (C49)*

### Materials (per group)

Kit Items	School-Supplied Items
flashlight with D batteries	stickers globe

### Material Substitutions

Small pieces of tape can be used in place of stickers.

### Hints and Tips

Children should spin the globe slowly when doing this activity.

### Safety Note

Remind children not to shine their flashlights into the eyes of other children.

## How can you record the phases of the moon?

*Investigate Activity (C52–C53)*

### Video Segment 4

#### Materials (per group)

Kit Items	School-Supplied Items
none	crayons or markers calendar

#### Safety Note

Tell children to have an adult present if they go outdoors at night to observe the moon.

#### Additional Comments

Children can work in groups where several individuals are responsible for drawing the moon each night. If someone misses one night, the group will still have the drawings of other group members to refer to.

## Make a moon project.

*Science Center Activity (C53a)*

#### Materials (per group)

Kit Items	School-Supplied Items
none	art supplies pictures of different phases of the moon

#### Hints and Tips

Art supplies may include crayons, markers, paper, yarn, glue, craft sticks, paint, paint brushes, modeling clay, and scissors.

#### Safety Note

Remind children how to use scissors properly.

## **Make a model of a rocket.**

*Science Center Activity (C59a)*

### **Materials (per group)**

<b>Kit Items</b>	<b>School-Supplied Items</b>
none	pictures of spacecraft art supplies

### **Hints and Tips**

- Art supplies may include foil, string, magazines, paper, yarn, cardboard paper rolls, craft sticks, cloth, and empty containers.
- Have children observe pictures of space shuttles, sketch their rocket design, and then create a model from the available supplies.