

**Scott Foresman**  
**SCIENCE**

**Grade 6**  
**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.

## Exploring Weather Patterns

*Explore Activity (C6)*

### Materials (per group)

Kit Items	School-Supplied Items
none	weather reports (copies of one week's newspaper weather reports)

### Material Substitutions

Weather reports are readily available on the internet.

### Advance Prep

Collect one week's worth of weather reports.

### Additional Comments

You may wish to continue this study for more than one week.

## Measuring Relative Humidity

*Investigate Activity (C26–C27)*

### Video Segment 1

### Materials (per group)

Kit Items	School-Supplied Items
cheesecloth 2 thermometers 2 rubber bands, #3	safety goggles milk carton (quart or half-gallon) with hole water

### Advance Prep

- Prepare each milk carton by cutting a circular hole (about 2 cm in diameter) on one side of the carton about 6 cm from the bottom.
- Cut cheesecloth into squares. Each group gets one square.

## Exploring Properties of the Earth's Mantle

*Explore Activity (C42)*

### Materials (per group)

Kit Items	School-Supplied Items
plastic graduated cup, 10 oz plastic spoon cornstarch wax paper (30 cm x 30 cm)	water (25 mL) masking tape newspaper

### Advance Prep

Cut wax paper to 30 cm x 30 cm squares.

### Safety Notes

Do not allow students to taste the mixture or its ingredients. Have students wipe up spills immediately.

# Making a Model Seismograph

*Investigate Activity (C52–C53)*

## Video Segment 2

### Materials (per group)

Kit Items	School-Supplied Items
6 rubber bands, #33 2 washers (1.5 in. diameter) modeling clay	safety goggles shoe box cafeteria tray masking tape metric ruler felt tip pen

### Hints and Tips

Students should practice pulling the paper slowly under the pen before simulating the earthquake.

# Making a Model Glacier

*Investigate Activity (C66–C67)*

## Video Segment 3

### Materials (per group)

Kit Items	School-Supplied Items
modeling clay rectangular foil pan (13 in. x 10 in. x 2 in.) sand gravel pebbles plastic spoon	safety goggles milk carton (16 oz, open at top) water metric ruler

### Advance Prep

- Open the top of the milk carton completely.
- Steps 2 and 3 of the activity should be completed 1 to 2 days before proceeding with the rest of the activity.

### Hints and Tips

Students may have difficulty keeping the “glacier” in place on the side of the “mountain.” If they do, have them rest it in the “valley” groove at the bottom of the “mountain,” and allow it to melt in place there.

### Safety Notes

Have students wash their hands after handling the sand, gravel, and pebbles in this activity. Have students wipe up any spills immediately.

# Exploring Lunar Eclipses

*Explore Activity (C80)*

## Materials (per group)

Kit Items	School-Supplied Items
2 plastic straws flashlight and batteries	drawing compass cardboard marker scissors masking tape metric ruler

## Material Substitutions

Two circular templates, such as jar and bottle lids, approximately 3 cm and 8 cm in diameter, may be used in place of the drawing compass to make the model Earth and Moon.

## Safety Note

Remind students to be careful when using the compass and scissors.

# Making a Model of the Expanding Universe

*Investigate Activity (C98–C99)*

## Video Segment 4

## Materials (per group)

Kit Items	School-Supplied Items
large round balloon (13 in.) metric tape measure string (20 cm)	safety goggles 2 pens of different colors (red and blue or black)

## Advance Prep

Cut string to lengths of 20 cm.

## Safety Notes

Have students wear safety goggles when they inflate the balloons. Warn students not to release inflated balloons in the direction of other students.

## Exploring Recycling

*Explore Activity (C110)*

### Materials (per group)

Kit Items	School-Supplied Items
plastic cup, 10 oz foil pan (13 in. x 10 in. x 2 in.) liquid starch window screening wood board	newspaper paper pulp (shredded newspaper, liquid starch, water, blender—see Advance Prep)

### Advance Prep

- Use heavy-duty scissors to cut window screening into squares approximately 6 in. x 6 in. Tape the edges with masking tape.
- Prior to conducting the activity, make paper pulp according to these instructions:  
Shred two newspaper sheets into small pieces. Place in blender with 2 tablespoons liquid starch and a little water. Blend. Repeat for each group of students.

## Purifying Water

*Investigate Activity (C126–C127)*

### Video Segment 5

### Materials (per group)

Kit Items	School-Supplied Items
3 plastic graduated cups, 10 oz food coloring ground pepper cotton balls plastic spoon funnel coffee filter	tap water (60 mL)

### Safety Notes

- Remind students to stir and pour the water carefully and to wipe up spills immediately.
- Students should not taste any of the materials.
- Remind students that food coloring will stain clothes and skin. If possible, have students wear a lab apron during this activity.

# Experimenting with Erosion Control

Experiment Activity (C135–C137)

## Video Segment 6

### Materials (per group)

Kit Items	School-Supplied Items
foil pan (13 in. x 10 in. x 2 in.) potting soil (2.5 cups) plastic spoon 2 plastic graduated cups, 10 oz	1 quart paper milk carton water clock with a second hand 2 books newspaper

### Advance Prep

- Cut away one side of a paper milk carton.
- Pre-moisten potting soil.

### Hints and Tips

- Show students how to moisten the soil just enough to shape it firmly. Check students' "plowing" before the soil is set aside to dry. It is important that all of the terraced setups resemble each other and that they are significantly more deeply trenched than the contoured setups. The contoured setups must resemble each other as well.
- Your students should understand that both terraces and furrows, or contour plowing, are methods of controlling erosion. Depending on the depth of the furrows and the width of the terraces, students' results may vary. Look for patterns within your own class.
- You may consider having students wear lab aprons for this activity.

### Safety Note

Instruct students to wash their hands thoroughly after handling soil.