

Scott Foresman
SCIENCE

Grade K
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.

Describe landforms.

Explore Activity (C7)

Materials (per group)

Kit Items	School-Supplied Items
modeling clay	index cards cardboard art materials markers

Advance Prep

- Children should have a wide variety of art materials available to them including modeling clay, cotton balls, sand, rocks, building blocks, and so on.
- You may want to have children use newspaper or plastic covering to protect the table or desk surface.

Hints and Tips

Allow children to use pictures of landforms to help them build their own landform models.

Describe bodies of water.

Explore Activity (C7)

Materials (per group)

Kit Items	School-Supplied Items
none	blue construction paper blue tissue paper blue ribbon pictures of landforms pictures of bodies of water

Hints and Tips

Use the landform models from the previous activity. Children will add to them in this activity.

Additional Comments

You can use tap water to make bodies of water on the landform models. A funnel or cup will help children pour water onto the landform models.

Explore water flow.

Science Center Activity (C7a)

Materials (per group)

Kit Items	School-Supplied Items
modeling clay	craft sticks water tray cup paper crayons

Material Substitutions

A beaker or funnel may be helpful for pouring water into channels. A cafeteria tray works well for containing the water.

Hints and Tips

Children may use the landforms they built in the previous activities, adding materials to create additional mountains, valleys, and so on.

Observe the daytime sky.

Explore Activity (C9)

Materials (per group)

Kit Items	School-Supplied Items
none	drawing materials

Advance Prep

Find a suitable location for children to sit comfortably and observe the sky.

Hints and Tips

Have children form small groups before going outside.

Additional Comments

Consider making a book of children's sky drawings.

Observe the sun's position in the daytime sky.

Explore Activity (C9)

Materials (per group)

Kit Items	School-Supplied Items
none	drawing materials

Advance Prep

Check the weather reports for the week to avoid conducting the activity on a rainy or overcast day.

Hints and Tips

Be sure children understand that the sun appears low in the sky in the morning and appears high in the sky by noon.

Safety Note

Caution children not to look directly at the sun.

Additional Comments

As an additional activity, have children view their shadows from the same spot outdoors at different times during the morning and afternoon.

Explore the sky.

Science Center Activity (C9a)

Materials (per group)

Kit Items	School-Supplied Items
none	drawing paper paper towel tubes string

Material Substitutions

Ribbon, yarn, or similar materials can be used in place of string to create a strap on the viewer.

Advance Prep

Punch two holes (one on each side of one end) in the paper towel tubes.

Hints and Tips

Refer to the viewers as scientific instruments to help children think about them as tools of science.

Safety Note

Children should be reminded not to look directly at the sun.

Observe the nighttime sky.

Explore Activity (C11)

Materials (per group)

Kit Items	School-Supplied Items
flashlight with D batteries	drawing materials

Hints and Tips

Allow enough space for children to demonstrate the earth's rotation around the sun.

Safety Note

Children should not shine the flashlights at other children.

Observe stars during the daytime.

Explore Activity (C11)

Materials (per group)

Kit Items	School-Supplied Items
flashlight with D batteries	rubber band pencil black construction paper

Advance Prep

Cut construction paper into circles about 3 inches in diameter.

Safety Note

Tell children to exercise caution when using pencils to punch holes in the construction paper.

Explore star patterns.

Science Center Activity (C11a)

Materials (per group)

Kit Items	School-Supplied Items
none	star chart toothpicks black construction paper

Material Substitutions

Pictures of the constellations can be used instead of the star chart.

Identify types of weather.

Explore Activity (C17)

Materials (per group)

Kit Items	School-Supplied Items
none	old magazines or catalogs calendar scissors drawing paper

Material Substitutions

Instead of cutting out magazine pictures, children may draw pictures of different types of weather.

Advance Prep

Plan your walking route in advance. Check the weather conditions prior to scheduling this activity and plan accordingly.

Hints and Tips

While on the weather walk, talk with children about different weather conditions, such as wind, snow, rain, and so on.

Explore how weather affects people.

Explore Activity (C17)

Materials (per group)

Kit Items	School-Supplied Items
wool cloth cotton cloth vinyl cloth	glue chart paper crayons

Material Substitutions

Any type of material clearly associated with different types of weather can be used (fake fur, silk, nylon, etc.).

Advance Prep

Cut cloth into small pieces. One small piece of cloth is adequate for each group or child.

Hints and Tips

Help children think about how to classify the pieces of material by asking them what people wear during various types of weather.

Additional Comments

Have children bring in photos of places to which they've traveled. Discuss the clothing worn in various places.

Explore waterproof material.

Science Center Activity (C17a)

Materials (per group)

Kit Items	School-Supplied Items
cotton cloth wool cloth vinyl cloth dropper	paper colored water (water tinted with food coloring)

Advance Prep

- Cut cloth into small pieces and attach each piece to a numbered sheet of paper.
- Mix food coloring and water in a cup for each group.

Hints and Tips

Use a dark food coloring to color the water (green or blue).

Compare the seasons.

Explore Activity (C19)

Materials (per group)

Kit Items	School-Supplied Items
none	drawing materials self-stick notes

Advance Prep

Prepare a large circle and label the seasons beforehand. Think about the number of children in your class to plan the size of your circle.

Additional Comments

Include months on the seasonal chart and have children place their self-stick notes on the months that correspond to their birthdays. Point out the months that fall in each season.

Observe seasonal weather changes.

Explore Activity (C19)

Materials (per group)

Kit Items	School-Supplied Items
none	calendar

Material Substitutions

Have children make their own calendars using an empty grid.

Hints and Tips

Create a chart of children's suggested weather symbols to reference each day as they complete their weather journals.

Additional Comments

To encourage higher order thinking skills, have children tally the number of days per month of each type of weather and make a graph on chart paper.

Explore evaporation.

Science Center Activity (C19a)

Materials (per group)

Kit Items	School-Supplied Items
blue food coloring plastic cup, 10 oz	pitcher water masking tape

Material Substitutions

Food coloring of other colors will also work for this activity.

Advance Prep

- Put masking tape on each cup.
- Mix the food coloring and water in the pitcher.

Identify natural resources.

Explore Activity (C25)

Materials (per group)

Kit Items	School-Supplied Items
none	scissors old magazines glue

Advance Prep

Gather a variety of magazines with photos of the environment. Nature magazines and travel magazines may be good sources for environmental pictures.

Additional Comments

Discuss with children the ways in which we use natural resources, the quantities we use, and what would happen without certain resources.

Observe how people use natural resources.

Explore Activity (C25)

Materials (per group)

Kit Items	School-Supplied Items
none	drawing paper crayons

Hints and Tips

To introduce the activity, have children make a list of objects they use that are made of wood.

Additional Comments

Have children make a list of ways in which natural resources are used at home or in the neighborhood.

Explore oil and water.

Science Center Activity (C25a)

Materials (per group)

Kit Items	School-Supplied Items
plastic resealable bag food coloring mineral oil	spoon bowls water

Material Substitutions

You may substitute vegetable oil for mineral oil.

Advance Prep

Mix water and food coloring in the bowls.

Additional Comments

Address oil spills directly by discussing the consequences to animals and people.

What is conservation?

Explore Activity (C27)

Materials (per group)

Kit Items	School-Supplied Items
none	old magazines chart paper marker scissors glue

Hints and Tips

You may wish to have children point out things that use energy in the classroom—lights, computers, and so on—prior to cutting and gluing pictures from magazines.

Additional Comments

Talk about ways to save electricity. Make lists of things children can do in school and at home to reduce use of electricity.

Conserve water.

Explore Activity (C27)

Materials (per group)

Kit Items	School-Supplied Items
2 pails	water drawing paper sink crayons

Material Substitutions

Any large container can be used instead of the pail to catch water.

Advance Prep

Find a location with a sink to conduct this activity.

Hints and Tips

Be sure children continue pantomiming for the same amount of time to ensure accurate comparisons of the water level in each pail.

Explore how water moves.

Science Center Activity (C27a)

Materials (per group)

Kit Items	School-Supplied Items
none	pushpin plastic screw-top bottle (16–20 oz) plastic tub water

Material Substitutions

The plastic pail provided in the kit can be used if you do not have a plastic tub.

Hints and Tips

Help children make the pushpin hole in the plastic bottle.

Experiment with filtering water.

Experiment Activity (C28–C29)

Video Segment 3

Kit Items	School-Supplied Items
2 funnels 5 plastic cups, 10 oz spoon pebbles coffee filter	dirty water drawing paper crayons

Materials (per group)

Advance Prep

- Rinse the pebbles to remove dust and make sure they are clean.
- Make dirty water by mixing soil, sand, or other similar materials in a container of water.

Hints and Tips

Make sure children use identical amounts of dirty water. Leave one cup of unfiltered dirty water as a control.

Safety Note

Children should not taste the dirty water.

Additional Comments

Compare filter quality by using cloth, strainers, and other items as filters.

Why should you recycle?

Explore Activity (C31)

Materials (per group)

Kit Items	School-Supplied Items
none	paper bag large boxes or tubs

Material Substitutions

Plastic bins, cardboard boxes, trash bins, or paper bags can be used as containers for the recycling center.

Hints and Tips

Help children understand recycling by showing them examples of recycled items and materials from which the items were recycled.

Use recycled items.

Explore Activity (C31)

Materials (per group)

Kit Items	School-Supplied Items
none	materials to recycle art supplies

Advance Prep

Gather classroom materials (used construction paper, etc.) appropriate for recycling. Children may also bring items from home.

Hints and Tips

- Children may obtain items to recycle from the classroom recycling center.
- Be sure to carefully rinse any items that previously contained food products (cans, cups, cartons, etc.)

Additional Comments

Turn the classroom exhibit of recycled items into a recycling museum. Invite other classes to come and see the exhibit.

Explore packaging.

Science Center Activity (C31a)

Materials (per group)

Kit Items	School-Supplied Items
none	collection of packaged products

Advance Prep

Gather products with different types of packaging. You may wish to invite each child to bring in a product with a specific type of packaging.

Hints and Tips

A labeled display with an example of each type of packaging may help children in sorting the products.