Scott Foresman

SCIENCE

Grade 1

Equipment Kit Guide

Unit A

Life Science

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Contents

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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.

Observe roots.

Explore Activity (A9)

Materials (per group)

Kit Items	School-Supplied Items
aluminum foil plastic cup, 9 oz pinto bean seeds soil/seed starter mix	water masking tape crayon

Advance Prep

- Plant the pinto bean seeds at least 14 days prior to conducting the activity. The plant roots will be substantial enough for observation.
- Cut a hole in the foil before covering the top of the cup. The hole should be just large enough for the plant stem to fit.

Hints and Tips

Make sure the plant leaves are not in the water and that the foil is secured around the rim of the cup to prevent evaporation.

Additional Comments

Calibrating the cup before using it is a great way to encourage math measurement.

How does water move through plants?

Investigate Activity (A10–A11)

Video Segment 1

Materials (per group)

Kit Items	School-Supplied Items
plastic cup, 10 oz red food coloring	water paper towels celery

Material Substitutions

A flower with white leaves (carnation, daisy) can be used in place of the celery. Children would observe the flower petals change color.

Advance Prep

Cut the celery just before use so the openings will be fresh.

Hints and Tips

Use 10 drops of food coloring per 1/4 or 1/2 cup of water. This will make the color inside the celery stem clearly visible.

Make a leaf rubbing.

Explore Activity (A13)

Materials (per group)

Kit Items	School-Supplied Items
none	paper crayon (no wrapper) leaf

Material Substitutions
Chalk or charcoal can be used instead of crayons to make leaf rubbings.

Hints and Tips
- Be certain the leaves are not too dry. Dry leaves will crumble when children apply pressure to make the rubbing.
- Place leaves so that the back of the leaf is facing up. This will make the leaf veins show up clearly in the rubbing.
- Taping the leaves to children's desks will help them achieve a good rubbing.
- Dark-colored crayons make it easy to see leaf rubbings.

Sort leaves.

Science Center Activity (A13a)

Materials (per group)

Kit Items	School-Supplied Items
none	leaves

Advance Prep
Gather leaves with different characteristics. You may wish to plan a nature walk to allow children to gather leaves themselves.

Safety Note
Children should not put the leaves in their mouths. Some leaves may be poisonous.

Grow a plant.

Explore Activity (A15)

Materials (per group)

Kit Items	School-Supplied Items
plastic resealable bag plastic cup, 9 oz pinto bean seeds soil/seed starter mix	water paper towels stapler

Material Substitutions
You may use any type of seed to grow a plant. Make sure the seeds will sprout quickly (in 5–7 days).

Advance Prep
Soak the pinto bean seeds overnight prior to conducting this activity.

Hints and Tips
Position a paper towel inside the plastic bag. Put a row of staples across the center of the bag. Then place the seeds in the bag above the row of staples to prevent the seeds from slipping to the bottom.

Experiment with plant growth.

Experiment Activity (A18–A19)

Video Segment 2

Materials (per group)

Kit Items	School-Supplied Items
plastic cup, 9 oz pinto bean seeds soil/seed starter mix	water index cards

Advance Prep
Plant the pinto bean seeds at least 14 days prior to conducting this activity.

Hints and Tips
- The plants used in this activity should be the same type and about the same size.
- Do not water your plants too much. The soil should be moist, but not soaked.

Additional Comments
This activity could provide the initial data for a plant journal. Children may record information in the journal for this and other activities.

Predict and count seeds.

Science Center Activity (A19a)

Materials (per group)

Kit Items	School-Supplied Items
plastic knife	fruits and vegetables with seeds, such as apples, beans, cherries glue paper towel

Material Substitutions
Any variety of fruits and vegetables with seeds can be used in this activity.

Safety Note
Be sure children understand how to use knives properly. Children may need assistance cutting the foods.

Classify the plants you eat.

Explore Activity (A21)

Materials (per group)

Kit Items	School-Supplied Items
none	pictures of food construction paper glue

Advance Prep
Gather pictures of food from grocery store advertisements, food-related magazines, gardening magazines, and so on. If printed pictures are not available, have children draw pictures of foods to classify.

Additional Comments
- Use the completed projects as assessment for the activity. Develop a rubric for consistency.
- As an extension, take children on a field trip to visit a grocery store or a farm and have them identify and classify foods they see.

Classify objects made from plants.

Explore Activity (A23)

Materials (per group)

Kit Items	School-Supplied Items
none	classroom objects such as pens, paper, ruler, markers, math cubes index cards

Additional Comments
Using a Venn Diagram will help demonstrate how some objects can be classified into both the "made from plants" and "not made from plants" categories.

Make a meal.

Science Center Activity (A23a)

Materials (per group)

Kit Items	School-Supplied Items
paper plate	construction paper magazines scissors crayons glue

Hints and Tips
- It may be helpful to generate a class list that identifies the plant parts of various foods.
- Each child's meal should include all five plant parts.

Safety Note
Remind children how to use scissors properly.

Classify animals.

Explore Activity (A31)

Materials (per group))

Kit Items	School-Supplied Items
none	animal pictures (cut from magazines) construction paper

Advance Prep
Cut animal pictures from magazines prior to beginning this activity.

Hints and Tips
Some children may need suggestions for ways to classify their animals. Give them examples such as noisy/not noisy, fur/no fur, fly/do not fly, and feathers/no feathers.

Move like an animal.

Explore Activity (A33)

Materials (per group)

Kit Items	School-Supplied Items
none	index cards animal pictures (use pictures from the Explore Activity, p. A31)

Advance Prep
Make animal cards using the animal pictures cut out for the previous activity. Mount the pictures on index cards.

Additional Comments
For further inquiry, have children design an imaginary animal and describe its movements.

Observe a feather.

Explore Activity (A35)

Materials (per group)

Kit Items	School-Supplied Items
contour feathers hand lens	none

Material Substitutions
Any feathers that clearly show the quill, down, and barb (parts of the vane joined together in rows) can be used in this activity.

Hints and Tips
Placing a sheet of black construction paper under the feather may help children see the parts of a feather more clearly.

Play an animal game.

Science Center Activity (A35a)

Materials (per group)

Kit Items	School-Supplied Items
none	animal covering cards animal movement cards crayons

Advance Prep
Make animal movement cards labeled *walk, run, swim, jump,* and so on. Also make animal covering cards labeled *fur, feathers, scales,* and so on. Or, you may wish to use the animal cards from Lab Manual page 21 and write *covering* or *movement* on the back of each card.

Hints and Tips
If children cannot think of animals to fit the covering and movement categories, allow them to choose two new cards.

What are the parts of an ant?

Investigate Activity (A38–A39)

Video Segment 3

Materials (per group)

Kit Items	School-Supplied Items
modeling clay pipe cleaners	safety goggles

Hints and Tips

- Children can work on wax paper or newspaper to keep the table surface clean.
- Flat toothpicks help to keep the ant's body parts together.
- Cutting pipe cleaners in half will make them a good size for the ant's legs and antennae.

Make an insect mobile.

Science Center Activity (A39a)

Materials (per group)

Kit Items	School-Supplied Items
yarn wax paper	hanger construction paper tape tissue paper scissors crayons glue

Advance Prep

Gather enough hangers for each group or child to make a mobile. Plastic hangers may work best (see safety note below).

Safety Note

Use plastic hangers or cover the sharp ends of wire hangers with masking tape.

Observe an animal.

Science Center Activity (A43a)

Materials (per group)

Kit Items	School-Supplied Items
none	paper pencil

Advance Prep
Children will need to observe a class pet or a live animal outdoors. Plan accordingly.

Hints and Tips
You may decide to allow children to make observations at different times throughout the day. All children should have the chance to observe the animal for five minutes.

Tally living and nonliving things.

Explore Activity (A51)

Materials (per group)

Kit Items	School-Supplied Items
none	paper pencil

Advance Prep
If conducting this activity outdoors, plan your route of exploration ahead of time.

Hints and Tips
If you are unable to go outdoors, children should observe living and nonliving things outside by looking out a classroom window.

Additional Comments
As an extension, children can create a graph comparing lists of living and nonliving things inside the classroom to lists of living and nonliving things outdoors. They can add to the graph by doing lists of living and nonliving things found at home.

Make a model of a garden habitat.

Explore Activity (A53)

Materials (per group)

Kit Items	School-Supplied Items
tagboard, 9 x 12 inches	glue crayons scissors craft stick

Material Substitutions
Construction paper can be used in place of tagboard.

Advance Prep
Cut a slit in the tagboard near the bottom so the stick puppet can move back, forth, up, and down.

Hints and Tips
If necessary, reinforce the area around the slit in the tagboard with masking tape to help prevent tearing.

Make a collage.

Science Center Activity (A53a)

Materials (per group)

Kit Items	School-Supplied Items
none	magazines or catalogs scissors construction paper glue

Advance Prep
Provide a variety of magazines or catalogs from which children can select pictures of living and nonliving things.

Safety Note
Talk to children about the proper use of scissors.

How can you make a habitat?

Investigate Activity (A58–A59)

Video Segment 4

Materials (per group)

Kit Items	School-Supplied Items
plastic jar, 16 oz cheesecloth live coupon, pill bugs (24) rubber band potting soil	safety goggles flat rock dead leaves food (potato slices) water

Material Substitutions
While plastic is preferable, any type of jar can be used. Baby food jars brought from home would allow each child to make his/her own habitat. The jar can be covered with a cut piece of pantyhose instead of cheesecloth.

Advance Prep
Order pill bugs at least 2 weeks in advance. Cut potato slices to use as food for the pill bugs.

Hints and Tips
- Add water initially to moisten the soil, then as needed to keep the soil damp.
- Add leaves and potato slices every week or two to feed the pill bugs.
- A large fish tank can be a permanent classroom habitat for the pill bugs, other small animals, or plants.

Make a habitat display.

Science Center Activity (A59a)

Materials (per group)

Kit Items	School-Supplied Items
none	crayons 2 index cards watercolor paints paintbrush

Hints and Tips
Tell children to keep the index cards flat as they draw on them. When they are finished drawing, children should assemble the cards as shown on the Flip Chart.