

Scott Foresman
SCIENCE

Grade 2
Equipment Kit
Guide

Unit A
Life Science

ISBN: 0-673-59435-1

Copyright © Addison-Wesley Educational Publishers, Inc.
All Rights Reserved. Printed in the United States of America.

Copies of materials in this booklet may be made for educational purposes.

This publication is protected by Copyright and permission for any other use should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. For information regarding permission, write to: Scott Foresman, 1900 E. Lake Avenue, Glenview, Illinois 60025.

Scott Foresman SCIENCE ® is a registered trademark of Addison-Wesley Educational Publishers, Inc.

2345678910 DH 050403020100

Contents

Equipment Kits and Teacher’s Guide.	i
--	----------

Activity Notes for Unit A Life Science

Classify plants. (A7)	1
Make a light box. (A9)	1
Experiment with plants. (A10–A11)	2
Describe plants. (A11a)	2
Watch a plant grow. (A17)	3
Make a plant. (A17a)	3
What is inside a seed? (A18–A19)	4
Design a seed. (A23a)	4
Guess the animal. (A29)	5
Make a frog print. (A33a)	5
How can you make a model of a butterfly? (A36–A37)	6
Make a model of a butterfly. (A37a)	6
Make a model of a food chain. (A41)	7
Play a camouflage game. (A43)	7
Camouflage an animal. (A43a)	8
Make a leaf print. (A51)	8
Make an imprint. (A53a)	8
How long were some dinosaurs? (A56–A57)	9
Make a dinosaur rubbing. (A59a)	9

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.

Classify plants.

Explore Activity (A7)

Materials (per group)

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

Advance Prep

Choose a variety of magazines with many pictures of plants. Nature and gardening magazines are good sources.

Make a light box.

Explore Activity (A9)

Video Segment 1

Materials (per group)

Kit Items	School-Supplied Items
pinto bean seeds plastic cup, 9 oz soil/seed starter mix	shoe box with a lid

Material Substitutions

Other types of bean plants or rapidly growing vines such as squash or pumpkin can be used in place of pinto bean seeds.

Advance Prep

- Begin growing bean plants at least 10 days prior to beginning this activity. Grow enough plants for each group of children to have one plant.
- Cut a hole about 2 inches wide in one end of each shoe box.

Hints and Tips

Children should water their plants before putting them into the boxes and continue watering as needed during the week.

Experiment with plants.

Experiment Activity (A10–A11)

Video Segment 2

Materials (per group)

Kit Items	School-Supplied Items
pinto bean seeds 2 plastic cups, 9 oz soil/seed starter mix	water grocery bag

Material Substitutions

Other types of plants can be used in place of pinto bean plants. Some possible substitutes are pea, grass, or ivy plants.

Advance Prep

Begin growing pinto bean plants at least 10 days prior to beginning this activity. Grow enough plants for each group of children to have two plants.

Hints and Tips

- Each group should have two plants of the same type in order to control variables.
- Children may need to water the plants during the week.

Additional Comments

Have children cover one leaf of a fully-grown plant with dark construction paper. After several days, children can compare the difference between the covered leaf and the uncovered leaves.

Describe plants.

Science Center Activity (A11a)

Materials (per group)

Kit Items	School-Supplied Items
none	pictures of plants

Material Substitutions

If available, children may use live classroom plants for this activity.

Hints and Tips

Provide children with the word bank on the Flip Chart to help them write descriptions of their plants. You may also generate a class list of words that describe plants and allow children to use these words in their descriptions.

Watch a plant grow.

Explore Activity (A17)

Materials (per group)

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

Material Substitutions

Children can grow other seeds such as watermelon, green pepper, pumpkin, or tomato.

Advance Prep

- Punch three small holes in the bottom of each cup to allow water to drain.
- Soak the pinto bean seeds overnight to help them grow faster.

Hints and Tips

- Have children plant at least 2–3 seeds per cup.
- If possible, provide a lamp to give plants a source of light and warmth.
- Monitor the plants carefully and water them when necessary. Be sure the plant cups are on a tray or plate to prevent excess water from spilling onto the floor.

Additional Comments

Have children keep a plant growth journal as a writing connection.

Make a plant.

Science Center Activity (A17a)

Materials (per group)

Kit Items	School-Supplied Items
none	art supplies

Advance Prep

Obtain plants for children to observe in the classroom or plan for children to go outside and look at plants.

What is inside a seed?

Investigate Activity (A18–A19)

Video Segment 3

Materials (per group)

Kit Items	School-Supplied Items
lima bean seeds hand lens	none

Advance Prep

Soak lima bean seeds for at least two hours before doing this activity. Soaking them overnight would be best.

Hints and Tips

- Provide paper towels for working with wet seeds.
- Invite children to use a hand lens to see the smaller structures of the seed.
- Native American cultures may prohibit dissecting plants. Children with this belief should not be encouraged to participate in this activity.

Additional Comments

Have a class discussion prior to the activity allowing children to brainstorm possible characteristics of a seed.

Design a seed.

Science Center Activity (A23a)

Materials (per group)

Kit Items	School-Supplied Items
modeling clay sponge down feathers cork	art supplies meter stick

Hints and Tips

Children should try to use the same starting point and the same amount of air when comparing the flotation times of their seeds. Controlling these variables will yield more accurate results.

Guess the animal.

Explore Activity (A29)

Materials (per group)

Kit Items	School-Supplied Items
none	drawing paper pencil or crayons

Material Substitutions

You may use magazines as a source for animal pictures instead of children's drawings.

Hints and Tips

Children may wish to refer to photographs of animals when drawing their pictures.

Make a frog print.

Science Center Activity (A33a)

Materials (per group)

Kit Items	School-Supplied Items
none	stamp pad paper art supplies frog picture book (with pictures of frog's life cycle)

Hints and Tips

Help children identify and name the stages of a frog's life cycle.

Safety Note

Make sure children wash their hands with soap and water after using the stamp pad.

How can you make a model of a butterfly?

Investigate Activity (A36–A37)

Video Segment 4

Materials (per group)

Kit Items	School-Supplied Items
modeling clay pipe cleaners	safety goggles construction paper scissors

Advance Prep

Have pictures of butterflies in the various stages of their life cycle available for reference. Photos should include egg, caterpillar, pupa/chrysalis, and butterfly.

Hints and Tips

- Make sure children make four separate models to represent the four stages of the butterfly life cycle (egg, caterpillar, pupa/chrysalis, and butterfly).
- Children can make a label for each stage of a butterfly's life cycle to display with the clay models.

Additional Comments

An alternate activity would be to use various types of pasta to represent a butterfly's life cycle: couscous (egg), spiral pasta (caterpillar), pasta shells (pupa/chrysalis), and bowtie pasta (adult butterfly).

Make a model of a butterfly.

Science Center Activity (A37a)

Materials (per group)

Kit Items	School-Supplied Items
none	construction paper paint scissors pencil

Hints and Tips

Help children fold their construction paper and cut a butterfly shape. Be sure they paint only on one side of the fold. When children fold the painted side over onto the unpainted side, they will observe the symmetrical pattern on the butterfly's wings.

Safety Note

Talk with children about the proper use of scissors.

Make a model of a food chain.

Explore Activity (A41)

Materials (per group)

Kit Items	School-Supplied Items
paper plate yarn	index cards crayons masking tape

Material Substitutions

Magazine pictures could be used in place of children's drawings.

Additional Comments

Children may work in cooperative groups of four. Each child can design a card, then put the cards together to create a food chain.

Play a camouflage game.

Explore Activity (A43)

Materials (per group)

Kit Items	School-Supplied Items
none	green construction paper (11 x 17 inches) 20 green paper squares (1-inch squares) 20 yellow paper squares (1-inch squares) clock with a second hand

Material Substitutions

You can use a large sheet of newspaper, small newspaper squares, and small squares of black paper instead of green and yellow construction paper for this activity.

Advance Prep

Cut green and yellow paper squares in advance. Make sure the large green paper is the same color as the small green squares.

Hints and Tips

Suggest that children cover their eyes while partners put the squares in place. Instruct children to use only one hand and pick up only one square at a time.

Camouflage an animal.

Science Center Activity (A43a)

Materials (per group)

Kit Items	School-Supplied Items
none	art supplies

Advance Prep

Gather pictures demonstrating how camouflage helps conceal animals in their natural habitats.

Make a leaf print.

Explore Activity (A51)

Materials (per group)

Kit Items	School-Supplied Items
modeling clay in assorted colors	leaves

Advance Prep

Gather leaves in advance, or ask children to bring leaves to class for this activity.

Hints and Tips

- Leaves should be moist. Dry leaves will crumble if you try to make an imprint of them.
- A flat, thin piece of modeling clay will work best for leaf printing.

Make an imprint.

Science Center Activity (A53a)

Materials (per group)

Kit Items	School-Supplied Items
sand (fine) foil pan	water objects to imprint

Material Substitutions

Some possible objects for imprinting include pasta, combs, eraser, spoon, coins, and shells. Clay, salt, sugar, or flour may be substituted for the sand.

Advance Prep

Fill the pans with sand about 1/2 inch deep.

Safety Note

Be sure that children wash their hands after handling the sand.

How long were some dinosaurs?

Investigate Activity (A56–A57)

Video Segment 5

Materials (per group)

Kit Items	School-Supplied Items
red yarn	scissors meter stick

Advance Prep

Clear an area large enough for several groups of children to measure and roll out their yarn.

Hints and Tips

Allow children to practice measuring objects with a meter stick. Make sure they understand the difference between a metric ruler, a tape measure, and a meter stick.

Make a dinosaur rubbing.

Science Center Activity (A59a)

Materials (per group)

Kit Items	School-Supplied Items
none	foam tray paper unwrapped crayon pencil

Advance Prep

- Cut the paper to fit in the bottom of the foam tray.
- Remove wrappers from the crayons.

Hints and Tips

You may wish to provide dinosaur pictures for children to refer to when drawing their dinosaur outlines.