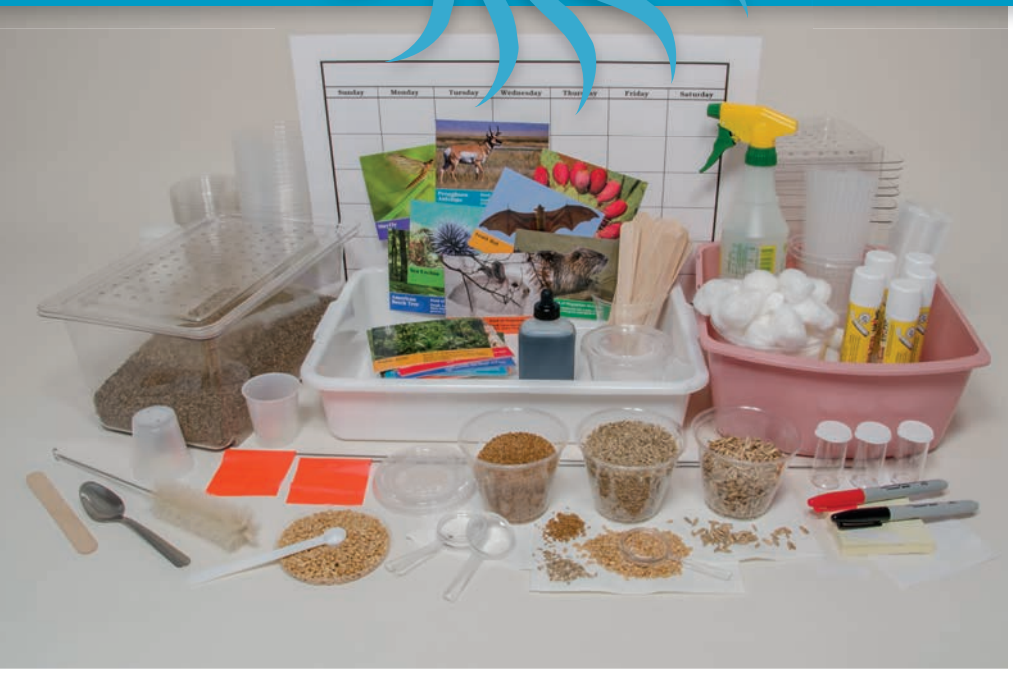

Contents

INTRODUCTION

The Plants and Animals kit contains

- *Teacher Toolkit: Plants and Animals*
  1 *Investigations Guide: Plants and Animals*
  1 *Teacher Resources: Plants and Animals*
  1 *FOSS Grade 1 Science Resources*
- *FOSS Science Resources: Plants and Animals* big book
- Equipment for 32 students

A new kit contains enough consumable items for at least two classroom uses before you need to restock. FOSS modules use central materials distribution. You organize all the materials for an investigation on a single table called the materials station. As the investigation progresses, one member of each group gets materials as they are needed, and another returns the materials when the investigation is completed. You place items at the station—students do the rest.

Individual photos of each piece of FOSS equipment are available online for printing. For updates to information on materials used in this module and access to the Materials Safety Data Sheets (MSDS), go to www.FOSSweb.com. Links to replacement-part lists and customer service are also available on FOSSweb.

NOTE
Delta Education Customer Service can be reached at 1-800-258-1302.

KIT INVENTORY *List*

Drawer 1—permanent equipment

		Equipment Condition
1	*Teacher Toolkit: Plants and Animals* (1 *Investigations Guide*, 1 *Teacher Resources*, and 1 *FOSS Grade 1 Science Resources*)	
1	*FOSS Science Resources: Plants and Animals*, big book	
8	Basins, clear plastic, 6 L	
8	Basin covers	
2	Calendars, laminated, 35 × 50 cm (14" × 20")	
50	Cups, plastic, 250 mL (9 oz.)	
8	Habitat Mats: desert, forest, grassland, ocean, pond, rain forest, tundra, wetland	
1	Habitat organism cards, 8 sets of 8 cards	
16	Hand lenses, 3-power	
2	Marking pens, permanent, black	
1	Poster set, *Conservation*, 4/set	
2	Posters, *Science Safety* and *Outdoor Safety*	
50	Zip bags, 1 L	

Drawer 2—permanent equipment

2	Basins, 8 L	
1	Bottle brush	
16	Boundary marker flags	
25	Containers, plastic, 1/2 L	
10	Container lids	
50	Cup lids, plastic, with 2 holes ✪	
8	Cups, plastic, 500 mL (16 oz.)	
1	Bottle of plant fertilizer, liquid, 118 mL (4 oz.) ✪	
16	Spoons, metal	
8	Spoons, small, 1 mL (1/4 tsp.), white	
1	Spray mister	
100	Tongue depressors	
2	Trays, planter	
20	Vials, 7 dram, with caps	

✪ These items might occasionally need replacement.

Drawer 2—consumable equipment

		Equipment Condition
100	Cotton balls	
100	Cups, plastic planter, with 2 holes, 90 mL (3 oz.)	
504	Labels, white, removable, 1 × 4.5 cm (0.5" × 1.75")	
10	Paper towels, extra absorbent	
1	Seeds, alfalfa, package, 4 oz./pkg	
1	Seeds, oat, package, 2 oz./pkg	
1	Seeds, ryegrass, package, 4 oz./pkg	
1	Seeds, wheat, package, 2 oz./pkg	
1	Self-stick notes, pad, 8 × 8 cm (3" × 3"), 100/pad	
500	Straws, clear, jumbo	
1	Bag of vermiculite, 8 L (8 qt.)/bag	

MATERIALS *Supplied by the Teacher*

Each part of each investigation has a Materials section that describes the materials required for that part. It lists materials needed for each student or group of students and for the class.

Be aware that you must supply some items. These are indicated with an asterisk (★) in the Materials list for each part of the investigation. Here is a summary list of those items by investigation.

For all investigations

- Chart paper and marking pen
- Drawing utensils (pencils, crayons, colored pencils, marking pens)
- Glue sticks

1 Marking pen, wet-erase

- Newspaper
- Paper towels

1 Projection system

- Science notebooks (composition books)

For outdoor investigations

1 Bag for carrying materials

1 Camera (optional)

1 Whistle or bell

Investigation 1: Grass and Grain Seeds

1 Computer with Internet access

4 Pieces of construction paper, 2 brown, 2 green

32 Paper cups or plastic bags (optional)

- White glue

1 Metric ruler

1 Paper cutter (optional)

- Potting soil, 4 L (4 qt.)

8 Scissors

- Transparent tape

1 Weed and leaf from schoolyard

1 Sheet of white paper

- Water

Investigation 2: Stems

- Bottled water (optional)

- Drawing paper
2 Flowerpots, plastic, 15–20 cm, with coasters
1 Flowerpot, large (optional)
1 Paring knife
- Paint (optional)
1 Pitcher or recycled soft-drink bottle, 2 L
- Plants for cuttings
1 Plastic bag, large
- Plastic bags, small (optional)
8 Potatoes, small, white
16 Scissors
- Potting soil, 6 L (6 qt.)

Investigation 3: Terrariums

- Collecting nets
1 Computer with Internet access
- Food for animals (apple, carrot, lettuce)
20 Index cards (optional)
- Isopods (optional)
- Pasta, large, uncooked, two varieties, such as large elbow macaroni and rotini, about 200 pieces of each variety
1 Pitcher or recycled soft-drink bottle, 2 L
- Potting soil, 8 L (8 qt.)
8 Teaspoons, plastic
1 Timer or stopwatch
1 Whiteboard, portable (optional)
- Water

Investigation 4: Growth and Change

- Bottled water (optional)
34 Bulbs, onion or garlic
2 Paring knives
- Paint (optional)
40 Plastic bags, small (optional)
16 Roots (carrots, radishes) to plant
- Rulers (optional)
1 Scissors
1 Transparent tape
16 Sheets of white paper

PREPARING *the Kit for Your Classroom*

Some preparation is required each time you use the kit. Doing these things before beginning the module will make setup quicker and easier.

1. Check consumable materials

A number of items in the kit are listed as consumable and will be used up during the investigations (seeds, straws, labels, cotton balls, paper towels, small planter cups). Some permanent items will wear out or eventually get used up (plastic cup lids, plant fertilizer). Items that cannot be reused for the particular FOSS investigation may be usable in another part of the curriculum. Before throwing items out, consider ways to recycle them, and get your students involved in this process.

2. Become familiar with the seeds

NOTE

In some areas it is advisable to store all the seeds in a metal can with a tight-fitting lid so rodents and insects won't be able to invade the kit and make a meal of your seed supply.

The following organisms are included in the kit:

- Alfalfa seeds (legumes)
- Oat seeds
- Ryegrass seeds (spring, not winter, grass seeds)
- Wheat seeds

It's a good idea to test the seeds if the packages have been opened or if the date on the package is more than 2 years old. Plant five of each kind of seed in separate planter cups with soil, according to the instructions in each investigation. You should get 80 percent germination. If you get less than four seeds of any kind sprouting, order new seeds.

All seeds are packaged in quantities for two class uses. To order more seeds, refer to the FOSS replacement-part catalog. If you wish to purchase seeds locally, get seeds that have not been treated with chemicals (such as a fungicide). Treated seeds often have a pink powder on them.

3. Get organisms

You must supply the following organisms for Investigations 2–4:

- Isopods and snails
- Plant cuttings (e.g., ivy)
- Garlic or onion bulbs
- Radishes and carrots
- White potatoes

NOTE

White refers to the color of the inside of the potato, so any russet, red, new, or other kind of white spud will do. Red potatoes seem to sprout a little quicker than others. Buy the potatoes a few weeks or even a month before you plan to use them. Store them in a dark, warm, moist location (see Investigation 2, Part 2, Getting Ready).

- Isopods (pill bugs, sow bugs), can be ordered from Delta Education at 800-258-1302.

Families might help by providing cuttings from houseplants for the class. See the *Letter to Family* and *Wanted: Plants or Stems* in the teacher masters.

4. Consider your local water

If your local tap water has lots of minerals, we suggest that you purchase spring water for rooting cuttings and for starting bulbs in Investigation 4. Water with high iron content will retard root growth.

5. Acquire potting soil

Purchase 18 liters (L) of potting soil for each class using the module. Soil can be recycled and used again. Look for packaged soil that is high in humus.

6. Plan for basins and planter trays

The eight clear plastic basins (6 L) with covers are used as terrariums.

The two 8 L rectangular basins (not clear) in the kit are used to dispense soil and vermiculite to students. The two plastic trays in the kit hold small planter cups with drainage holes. The trays are needed for Investigations 1 and 2 only.

7. Check habitat mats and organism cards

There are eight sets of organism cards. Each set has a habitat mat. Check Getting Ready for Investigation 3, Part 3, for a list of the organism cards in each set.

8. Photocopy notebook sheets

You will need to make copies of science notebook sheets before each investigation. See Getting Ready for Investigation 1, Part 1, for ways to organize the notebook sheets for this module. If you use a projection system, you can download electronic copies of the sheets from FOSSweb.

9. Plan for word wall and pocket chart

As the module progresses, you will add new vocabulary words to a word wall or pocket chart and model writing and responding to focus questions. See Investigation 1, Part 1, for suggestions about how to do this in your classroom.

10. Review indoor and outdoor safety rules

Two safety posters are included in the kit—*Science Safety* and *Outdoor Safety*. You should review the guidelines with students and hang the posters in the room as a reminder.

NOTE

Plants and animals should not be released into the wild unless they have been collected there.

ELL NOTE

You might want to print out the FOSS equipment photo cards (from FOSSweb) to add to the word wall to help students with vocabulary.

Getting Ready for Investigation 1, Part 1, offers suggestions for this discussion. Emphasize that materials do not go in mouths, ears, noses, or eyes. Encourage responsible actions toward other students.

Be aware of any allergies that students in your class might have, particularly allergies to plants (such as wheat seeds or alfalfa seeds which are legumes). Before going outdoors, check to see if any students have allergies to any insects or plants, and be prepared with appropriate first aid.

NOTE

The ***Letter to Family*** and ***Home/School Connections*** are also available electronically on FOSSweb.

11. Plan for letter home and home/school connections

Teacher master 1, *Letter to Family*, is a letter you can use to inform families about this module. The letter states the goals of the module and suggests some home experiences that can contribute to students' learning. Space is left at the top so you can copy the letter onto your school letterhead.

There is a home/school connection for every investigation. Check the last page of each investigation for details, and plan to make copies and send them home with students.

12. Obtain books from library

Check your local library for books related to this module. Visit FOSSweb for a list of appropriate trade books.

13. Check FOSSweb for resources

Go to FOSSweb to review the print and digital resources available for this module.

CARE, *Reuse, and Recycling*

When you finish teaching the module, inventory the kit carefully. Note the items that were used up, lost, or broken, and immediately arrange to replace the items. Use a photocopy of the Kit Inventory List and put your marks in the "Equipment Condition" column. Refill packages and replacement parts are available for FOSS by calling Delta Education at 1-800-258-1302 or by using the online replacement-part catalog (www.DeltaEducation.com).

Standard refill packages of consumable items are available from Delta Education. A refill package for a module includes sufficient quantities of all consumable materials (except those provided by the teacher) to use the kit with two classes of 32 students.

Here are a few tips on storing the equipment after use.

- Sort and inventory all items and secure them in plastic bags.
- Wipe off the laminated class calendars before storing them in the kit.
- Remove labels from all planting containers.
- Use the bottle brush and hot water to clean the cups and other containers. Be sure they are completely dry before storing them in the kit.
- Bag remaining seeds and make sure the packages are closed.
- Clean terrarium basins and covers.
- Make sure posters and habitat mats are stored flat on the bottom of the box.

The items in the kit have been selected for their ease of use and durability. Small items should be inventoried (a good job for students under your supervision) and put into zip bags for storage. Any items that are no longer useful for science should be properly recycled.