

PREPARING FOR THE ACTIVITIES

CLASSROOM MANAGEMENT

Materials

You may want to familiarize yourself with the kit materials before beginning the module. The contents of each drawer are listed on the drawer labels. We suggest that you refer to the Materials List on page 7 of this guide as you review the materials in each drawer.

Before beginning each activity, review the Materials list and the Preparation required for the activity. The Materials list indicates which items will be used in the activity, how many of each item will be needed for each individual and each student team, and the size of each team. We recommend that you ask student helpers to assist you in locating materials and preparing for each activity.

After you have completed the unit, make a list of any items that need to be ordered for the next use. Use the Replacement Parts catalog supplied in the kit or online at www.deltaeducation.com.

Distribution Stations

The most efficient way to distribute materials during an activity is to set up distribution stations from which students can obtain materials as needed. If space in your classroom is limited, you may have room for only one station. If you have more space, we recommend setting up two or three distribution stations, each containing about a half or third of all the materials listed in the Materials list for each activity. In this way, each distribution station will contain all of the different items used in the activity, and students will not need to visit more than one station to obtain all of their materials.

Cooperative Learning

Delta Science Modules encourage and promote cooperative learning strategies. The quantity of materials included in each kit allows small

groups of students to investigate phenomena and individual students to make observations and report what they have learned. The interaction between team members is an integral part of each activity and enhances individual outcomes.

ADVANCE PREPARATION

Throughout this Delta Science Module, you will need to make photocopies of activity sheets as well as a variety of other student handouts. Ensure access to a working photocopier.

Activities 1, 4, and 7: A classroom globe is used in these activities. Try to find one that shows the physical features of Earth rather than political boundaries.

Activities 1 and 9: You will need an overhead projector for these activities.

Activities 2, 3, and 8: You will need to prepare salt water samples ahead of time. Doing so several hours in advance gives the salty water time to clear up. It also prevents students from seeing which samples contain salt.

Activity 3: You will need a fresh (not hard-boiled) egg for a classroom demonstration.

Activity 4: Borrow a soccer ball or basketball from the school gym for a demonstration. You may also wish to review the concepts of longitude and latitude with students before beginning the activity.

Activity 5: Plan to conduct this activity on a sunny day. Find a place in the school or classroom where students can leave their water cycle chambers in direct sunlight, undisturbed, for several hours. If there is no such place, use two or more table lamps as light sources. You will need to provide these.

Activities 5, 8, and 10: You will need to purchase a 5-lb bag of ice cubes for students to use in these activities.

Activity 6: Make the wave bottle used in this activity ahead of time. You will need a 1-L soda bottle for the wave demonstration. After adding ingredients, let the bottle sit undisturbed for at least 1 hour to give the oil and colored water time to separate and stabilize.

Activity 8: Students need to collect and bring in some rocks for this activity.

Activity 10: Plastic 2-L bottles are used in this activity. Invite students to bring some to class.

Activity 11: You will need to locate and cut out pictures of different types of seashores (or have books with pictures on hand).

MATERIALS MANAGEMENT

Many of the activities in this Delta Science Module use water to demonstrate oceanographic principles. Have plenty of paper towels on hand in case of spills. (You can also use paper towels to distribute dry materials, such as sand, to each team.)

Several activities use food coloring. Although nontoxic, food coloring can stain clothing and skin. Tell students to be careful when handling the bottles of food coloring and colored water. You might also ask students to bring in smocks or large shirts to wear over their clothing.

Teams will need to share some of the materials: the classroom globe, container of cinnamon, bottles of glue and food coloring, and some of the life science specimens. You may want to come up with a system for sharing in advance.

Several activities use modeling clay. Have plastic reclosable bags on hand (in the kit) to store unused or recyclable clay.

More specifically, note that in **Activity 8, Session I**, it is important that the colored water in both pitchers be the same temperature, as differences in temperature could skew the results. You can use a thermometer to test the water temperature or simply let the pitchers of water stand for a time until both are at room temperature.

Finally, prior to Session II of **Activity 10**, the shortening should be stored at room temperature for at least several hours.

Using Chemicals in Classroom Investigations

The chemical used in this kit is salt.

Follow these guidelines for using chemicals in the classroom:

- As you unpack the kit, store the chemicals separately so that students do not have access to them until you are supervising their use in an activity.
- Always read the label on the container before using any chemical.
- Prior to an activity that involves chemicals, familiarize yourself with the preparation and steps outlined in this teacher's guide.
- Remind students to follow your instructions carefully. These may include using safety goggles, washing hands before and after chemical use, and handling chemicals with caution.
- After completing the activity, dispose of or store the chemicals properly.
- Material Safety Data Sheets (MSDS) are available from Delta Education (call 1-800-258-1302, M-F, 8 am-6 pm EST, or visit www.deltaeducation.com).

A warning label, required by the U.S. Consumer Product Safety Commission (CPSC), appears on each student activity sheet used in an activity with chemicals. This label is a reminder to use caution when conducting the activity.