

## HOW TO GET YOUR BRIDGE UNIT UNDER CONSTRUCTION

Here are some suggestions on how to get started on the bridge unit.

### One to two weeks before you begin:

1. Gather the following supplies for this activity.
  - coffee stirrers (wooden – check with a local restaurant supply company)
  - construction paper (4" x 14" and 3" x 4")
  - masking tape (Give teams enough to wrap around the platform or several coffee stirrers/straws that have been placed side by side.)
  - modeling clay (non-drying)
  - straws

The above materials are recommended for use during this engineering challenge. Please feel free to add to or delete from this list.

2. Build the wooden platforms described after the “Designing, Building, and Testing the Bridges” overview.
3. Each team will need a container to store supplies and money. You may want to send a note to parents asking them to send in large plastic containers or shoe boxes.
4. The students will be using “money” during this unit. It takes about a week to duplicate, laminate, and cut out all the coins and dollar bills. (Please look in the *Store* section.) You will want to buy or make containers to hold change in the store.
5. There are price tags in the store section you may want to cut apart, mount on construction paper, and laminate.
6. Prepare a store window.
7. There are word cards provided in the unit. It is suggested they be mounted on construction paper and laminated.
8. Have parent volunteers help you prepare the center ideas.
9. Ask a local hardware store if they will donate painters’ hats for the children to wear during the building process. (This really makes them feel like engineers!) Some companies do sell plastic construction hats for a reasonable amount.
10. Run off the Engineering Portfolio for each student. Place in a folder with prongs. (See *Engineering Portfolio* section.)

**One to two days before you begin the unit:**

1. Set up your classroom store.
2. Decide which children will be working together. (It is suggested students work in teams of two.)
3. Organize materials for the bulletin boards.
4. Prepare the bridge flannelboard pieces mentioned in this section.
5. Familiarize yourself with the *Environmental Impact* activity that is located in the *Social Studies* section.

**To begin the unit:**

1. Do the flannelboard story.
2. Familiarize the students with the parts of a bridge.
  - Use pictures and the word cards.
  - Define each part with the students.
3. Read books about bridges to the children or have them read books independently. (See the *Bibliography*.)
4. Introduce the terms on the word cards. Send the vocabulary list home with students.
5. Before the students actually start building, the engineering portfolio needs to be reviewed with them. They need to do the Engineering Team Information and Engineering Worksheet One first. (See *Engineering Portfolio* section.)
6. You may want to have the students read some of the selections in the *Resource Booklet* section and complete some of the worksheets that are related to the readings.
7. Do the *Environmental Impact* in the *Social Studies* section before the students start to build their bridges.

This unit is designed to last approximately two to three weeks. The ideal amount of building time is 30 to 45 minutes each day. Take time to pick and choose the activities you feel will work best for your students and...

**GET YOUR HARD HAT READY!**

