

GETTING READY FOR THE RACE



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

One to two weeks before you begin:

1. Gather the following materials for this activity.
 - cardboard (various sizes)
 - cereal boxes (individual sizes)
 - coffee stirrers
 - construction paper (various sizes)
 - glue sticks
 - match boxes
 - nails (small – they can be used to add weight to the car)
 - popsicle sticks
 - sandpaper
 - screws (small – used for weight on the car)
 - steel rods
 - straws
 - Styrofoam (2 _" x 6", 3" x 5", and 4" x 5")
 - tape (masking and/or transparent)
 - toothpicks
 - Velcro
 - wheels (various sizes)
 - wooden dowels (2 sizes – make sure wheels can fit on them)

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

2. Gather these items also:

bolt cutters (small)
glue guns (one per two or three teams)
guttering with two end caps (make sure the bottom is flat)
hammer
hole punchers
safety goggles
saw (mini size)
scale
stopwatch
rulers
vises (2)
yardsticks

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 students will be working together. (It is suggested students work in teams of two.)
3. Organize materials for the bulletin boards.

To begin the unit:

1. Have students read books on Indy cars, and stock cars.
2. Have students do research projects on the many types of race cars and then have them report their findings to the class.
3. Define the parts the two kinds of race cars.
4. 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.)

5. 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.

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...

