Voorhees Middle School``
Mr. Alexander
Technology Education

DESIGN BRIEF FOR TECHNOLOGY EDUCATION

Topic: Crash Test Cars

Problem Statement: Auto safety is a major concern to the designers. It is what the customer wants from their car. They also are interested in fuel efficiency to reduce cost and pollution.

Design Brief: Your design team is to design and construct car that must protect a piece of chalk from a head on collision.

Specifications:

- Safely hold the chalk
- Maximum length 8 inches.
- Maximum width 4 inches
- Maximum height 4 inches
- Minimum height 2 inches
- Maximum weight 50 grams (not including chalk)
- Can only use the materials given

Materials:

- Low temperature glue sticks. You may NOT use excessive amount of glue.
- sheets of oak tag (1)
- sheets of white paper (2)
- 3 packing peanuts
- Chalk

Procedures:

1. Research safety ratings using the Internet and provide a rating of your family transportation or your favorite vehicle.
    a. Students record information in log.
    b. Write definitions of force, mass, acceleration, gravity, Give examples of principles in safety features in vehicles. Write a paragraph describing the connections of science principles in vehicle safety.
2. Identify the prospective future uses of technology for vehicle safety.
3. Select/assign design team partners.
4. Review or introduce the steps in the design loop/design process.
5. Individual teams will develop a couple of proposed solutions.
6. Team should decide on one possible solution to model. Develop prototype following safe lab procedures and proper use of equipment and materials.
7. Test prototype. Record information in log and redesign as necessary.
8. Each student must use goggles, lab, materials and equipment safely and appropriately.