SPACE TRANSPORTATION TECHNOLOGY

PROPELLING A PAYLOAD

Introduction: Payloads are carried to and from spacecrafts every time a space transporting vehicle leaves the ground and returns from orbit. It is your job to design as a group, a vehicle that will propel a payload across the classroom on a piece of fishing line. The payloads will be given to the class.

OBJECTIVES: After completing this technology education lesson, the student will be able to:

1. Design a balloon-powered payload carrying device.
2. Construct the vehicle.
3. Test the vehicle.

MATERIALS:

1. balloons
2. paper and pencil
3. payloads (to be given)
4. fasteners for the payload
5. drinking straw

PROCEDURE:

1. Design a vehicle that will propel the payload across the classroom.
2. Construct the vehicle.
3. Add the payload.
4. Test the vehicle.
5. Redesign the vehicle.
6. Test the vehicle.
7. Compete against other classmates for the best propelling vehicle.

REVIEW QUESTIONS:

On a separate piece of paper, answer the following questions. You must write out each question before answering. Make sure all group members names appear in the upper right hand corner.

1. What produces the power to propel the vehicle forward?

2. What frictional losses were reduced to improve the design of the vehicle?

3. What was the biggest design change the group made?