Mars Pathfinder Egg Drop and Landing

Supplies

cereal boxes 10" balloons string newspaper eggs masking tape

scissors rulers and/or meter sticks

pencils hole punch

Object: To build a model of the Mars Pathfinder lander and test it. Encourage team work and problem solving.

1. Divide girls into groups of 4-6. Each group will build a lander.

After extensive testing NASA decided that the best shape for the Mars Pathfinder lander is a tetrahedron. No matter which side the lander falls on it will be level and the payload is secure.

2. To build the lander:

- *Open the cereal box up. On one side of the box trace the triangle pattern and cut out. Punch a hole in each corner.
- *Fold the triangle into a tetrahedron to form a "lander."
- *Tape closed one side of the tetrahedron about half way up.
- *Place the egg in the lander and tape the other two side up halfway.
- *Tie a 1 meter piece of string through the holes. Finish taping up the three sides.

3. Parachute

- *Unfold a large piece of newspaper.
- *Cut off the edge of the newspaper sheet to form a square.
- *Cut off each corner of the square to form an octagon.
- *Using four 1 meter pieces of string, tape each end of each string to adjacent corners of the octagon parachute.

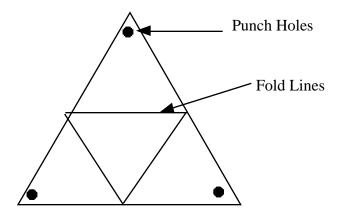
4. Air bags

- *Inflate four balloons and tie.
- *Using tape rolled back on itself, tape each balloon to each face of the lander.
- *Gather the four strings on the parachute and tie them to the string on the lander.

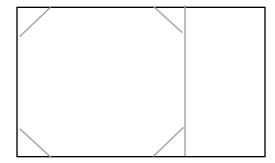
5. Entry, Descent and Landing

*Drop you "Pathfinder" from a high place and see if your payload (egg) survives!

Lander



Parachute - cut on the dotted lines



Add strings with tape - Repeat for all four sides.

