

SLED KITES

Courtesy of Laura Million, modified for the EAA.

Concepts Illustrated:

(1) Construction and flight of a simple kite.

Time Requirements: Approximately 30 minutes plus time for to fly and evaluate the kite

Grade Level of Audience: This activity is primarily suited for kids in grades K-4.

I. Materials and Equipment Utilized

(Materials needed for a group of 20 students)

1. Sled kite template for each student
2. 40 pieces of 1/8" dowel, 12" long
3. Scotch tape
4. string
5. Metric ruler
6. 5-single hole, hand held, paper punches
7. plastic grocery bag



II. Description of Set-up and/or Construction of Apparatus

1. Lay the plastic grocery bag flat and place the pattern along the folded part of the bag.
2. Draw an outline of the pattern on the bag.



3. Cut along the outline. Be careful not to cut along the fold. Save the scraps.



4. Open the flat bag.
Place the dowel rods, such that, they form the bases of the two triangles. SEE PICTURE BELOW. Tape the top ends of the dowel rods.



5. Reinforce the corners with tape. Punch holes through the reinforced tape.



6. Cut a piece of string about 12" long. Tie each end in the holes. Tie a small loop in the center of the string.

7. Cut two 1" x 12" strips from the remaining grocery bag (these will form the tails of the kite). Tape the strips to the bottom of the kite, in about 1" from the dowels.



8. Tie the remaining string to the loop. Take the kite outside and fly.





III. Details of Student Implementation

In an outside area (or large indoor area), have students hold the 100 cm piece of string and run with the kite to make it fly. Have students observe how the kite flies at different towing speeds.

Can kites be used to lift objects? Why are kites made of lightweight materials?

The sled kite in this activity is a model of a type of airfoil called a parawing. Like any wing, the parawing depends on the movement of air over its shape to generate a lifting force. (Parasails, parafoils, and paragliders are similar lift-generating devices.)

IV. Preparations Ahead of Time

1. Precut dowels into 12" sections.
2. One inch wide "Warning" tape can be purchased in various colors from a local hardware store to be used for the tails. Precut this into 12" –15" sections. This saves time so students do not have to cut strips from the bag.
3. Have several pairs of scissors, markers, rolls of tape, and hole punches if you are assisting a group.
4. Precut several patterns out of cardboard or poster board to make it easier for students to trace the pattern.
5. Wrap about 20 ft of string around a Popsicle stick and tape the end so that it won't unravel. This gives each student a small amount of string with which to fly their kite. Too much string will just get tangled.
6. For distribution purposes, place the string, tail, and dowel rods inside the plastic grocery bag that will be used for the kite.
7. Tape a copy of the instructions to the table so parents may help their children assemble the kites.
8. Assemble a sample kite yourself to make sure that you understand how the pattern works and as a model for the kids.