Making a Sled Kite – Teacher Directions

The Sled Kite is a very simple design to make and it flies well in medium to strong wind. I have used these instructions to have classes of third grade students make their own kites from scratch. For even easier assembly, you can make a template that the students can simply trace around and cut out. I like my students to apply fractions, division, and measurement to produce the final product. Either way, hopefully the following directions will lead to high-flying works of art.

Materials: the sail can be made from either paper or plastic. Those rolls of colored bulletin board paper or butcher paper works well. Paper bags can be cut apart also. Garbage bags work well for lightweight plastic (just be sure to teach the students the importance keeping plastic out of nature). 1/8” wooden dowels or bamboo skewers are needed for the spars. I have also used bamboo rods from old window blinds. You will need some sort of non-metallic ribbon or streamers for tails – strips of cloth or paper work fine.

All Sled Kites follow the same proportions: 3” tall by 4” wide. (I will include metric conversions for each of the different size kites). Of course, this is too small for a kite, so I start the students with a 6”x 8” (15 cm x 20 cm) rectangle to practice.

A small kite would be doubled to 12”x 16”, a medium tripled to 18”x 24”, and a large kite quadrupled to 24”x 32” (centimeters: small 30 cm x 40 cm, medium 45 cm x 60 cm, and large 60 cm x 80 cm).

Sled Kites follow pretty easy measurements: To find the wing lines, divide the width by four and mark the ¼ and ¾ divisions on the top and bottom of the rectangle. Draw lines connecting these lines.

For a medium 18”x 24” (45 cm. x 60 cm.) kite this would be at 6” and 18” (15 cm. and 45 cm.) of the width.
To find the wing tips, divide the height by three and make a mark 1/3 down on both sides. Again, for a medium kite this would be 6” (15 cm.) down from the top. Then draw lines connecting the wing tips to the top and bottom of the ¼ and ¾ wing lines like this:

1/3 down from top

Now cut off the corners to make the kite sail:

Decorate with crayons, colored pencil or markers. Paint also works, but it may warp the paper or weigh it down.

Measure and cut the spars (dowels) to the height of the kite and secure them on the wing lines (the ¼ and ¾ dividers) with packing tape – a strip on the top and bottom and on in the middle.)

To punch the bridle holes in the wing tips, first reinforce the tips with plastic tape or packing tape. This will stop the holes from ripping in the wind. Then use a hole puncher to make the bridle holes on each wing tip.

The bridle string should be five times as long as the height of the kite. Shorter bridles may keep the sail from catching the full wind. Tie the ends into the bridle holes. To ensure that the bridle is even, fold the kite so that the wingtips are touching. Then pull the bridle straight out and find the exact midpoint of the string. This is a critical step. If the loop is not at the midpoint, the kite will dive to one side. Now tie a knot, leaving a small loop. Tie your flying line to the loop and you are almost ready to fly.
Attach two tails at the bottoms of each spar for stability. The tails can be cloth, paper, or ribbon. They should be about two to three times the height of the kite.

These kites are simple, but they really fly quite well!