Making a Kite

Have you ever made a kite? Children around the world make kites with simple shapes. They use a few sticks, scrap paper, glue, and string. Some artists make kites with fancy shapes and many sticks, or spars. The artist who made this kite says, "When I see an object that really interests me, I wonder whether I can make a kite in that shape that will fly." His kite is 270 feet long. Five people worked for six months to build it.

Dragon Bones

Dragon Kite

Photos by Buteo Huang

The kite you make need not be fancy. But you do have to think about the materials you will use. You must also plan for the wind that will lift your kite.

What Materials?

People living in different places around the world can find different materials near their homes. People who live in Asia use bamboo to make frames for their kites. Bamboo is light and easy to find. It also bends easily. Long ago Polynesians made kites from leaves. They hung hooks from the kite lines to catch fish. Many kite makers use paper for their kite sails. Paper is light, and it can be strong. Paper also comes in many bright colors.

Kite maker with bamboo

Photo by Drachen Foundation

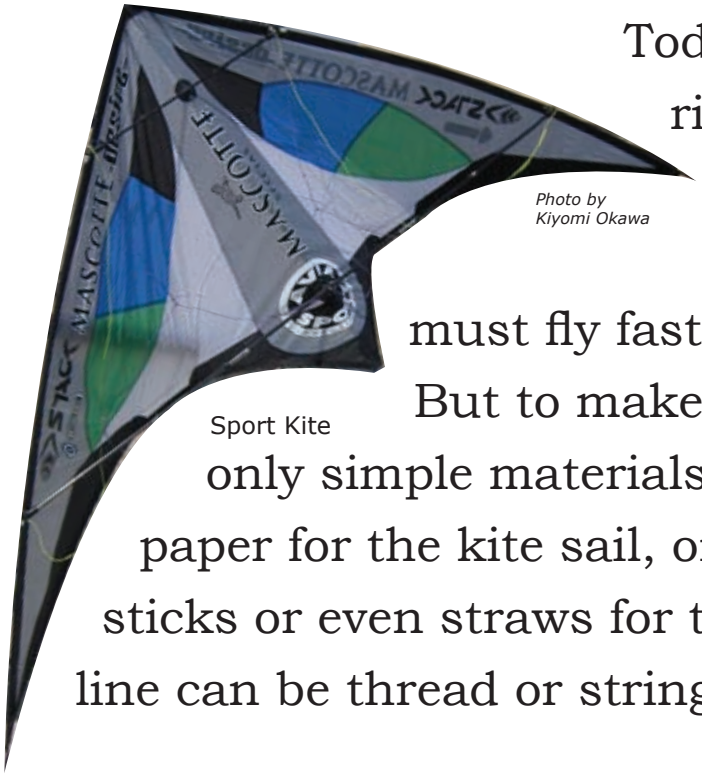


Photo by
Kiyomi Okawa

Sport Kite

Today kite makers may buy ripstop nylon and carbon fiber rods to make sport kites. Sport kites must fly fast and make sharp turns. But to make a simple kite, you need only simple materials. Look for plastic or paper for the kite sail, or skin. You can use light sticks or even straws for the spars. Your flying line can be thread or string.

Matching Materials to the Wind

You must also think about the wind where you will fly your kite. You may be able to find materials in a catalog from anywhere around the world. But you can't order wind on the Worldwide Web! The wind where you live may change from season to season. And winds are different in different parts of the world. In many places, kite flying takes place only when the wind is steady. In Guatemala, some

Giant Kite
in Guatemala

Photo by Ben Ruhe

children and adults fly kites in the fall, for Day of the Dead. In northern China, people fly kites during the Qingming Festival, in early April when it is windy.

Indian Fighter Kite *Photo by Kiyomi Okawa*

If the wind is light where you will fly your kite, your kite should be very light, too. Your kite frame should be light and strong because you may have to tug at your kite to get it up into the air. If the wind is heavier, you can make a heavier frame.

Testing a Design

Kite makers Ali and Greg in Seattle wanted to help schoolchildren make a simple kite. Ali told Greg, "The kite should fly well in most kinds of wind. It should be light and sturdy. The materials have to be cheap and easy to find."

Making a Kite *Photo by Stuart Allen*

Ali and Greg tested two designs. They could make the sail for each kite from only one piece of copier paper. The first kite needed just two folds, and one spar. But the correct tow point was hard to find. The tow point is the place where you tie your flying line. If you pick the wrong point, your kite will be in the dust instead of in the sky.

At an Islamic School *Photo by Kiyomi Okawa*

So Ali and Greg tried a second design, by a Canadian kite maker named Robert Trépanier. They folded one piece of copier paper in half. They cut diagonally along the line of Robert's pattern. From one piece of paper they could make a sail, in the shape of a trapezoid, and two pieces for the kite tails.

Robert had also designed a vent, an opening in the middle of the kite. Ali and Greg tied the flying line to the spars, at the point where they cross in the

middle of the vent. With this design the tow point is easy to find. Children around the world, from Palestine to Taiwan, have made this kite and flown it.

Heavy wind in Taiwan *Photo by Cathy Palmer*

Rising with the Wind

You may have to adapt your kite to the wind each time you fly it. What should you do if the wind is very light? With the Trépanier Trapezoid, you can make a lighter tail from tissue paper instead of copier paper. Or you can make the lifting surface of the kite sail bigger by making the vent smaller. If the wind is heavy, you can double the number of spars on your Trépanier Trapezoid so that they will not break.

If there is no wind at all, what should you do? To fly a kite you need at least a little wind. Better go for a walk or play another game. Come back to fly your kite another day!

Key Vocabulary for the reading

Carbon Fiber: a light, strong material used in all kinds of structures, from bicycles to fishing rods to airplanes to kites

Frame (bones): the support structure for the kite

Lift: the upward force acting on a kite because it is deflecting the wind

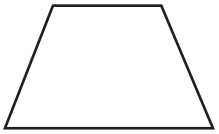
Ripstop: a kind of fabric that is lightweight and strong. It does not tear easily, and it comes in many colors.

Sail (skin): the material that covers the frame

Spar (stick): one of the parts of the frame

Tow point: the place where the flying line is attached to the kite.

Trapezoid: a quadrilateral shape with exactly one pair of parallel sides. It looks like this:



Vent: an opening in the sail