

ASSIGNMENT

OBJECTIVE: to construct a kite that flies.

1. Make a kite. You must construct the kite yourself but you may use sticks, rings, swivels, etc. from purchased kites. You may make any type of kite from any type of material.
2. You will be graded on construction, design, color, use of **Physics**, neatness, creativity, and flyability.
3. Flyability: Your kite should fly for at least three minutes. Definition of flying: the kite remains airborne while the flyer remains **ALMOST** stationary. Slight movements will be permitted for adjustment purposes but running will not.
4. This project will count as 50 points
5. This project is due _____.
6. If you need some directions for making simple kites, I have a handout. See me if you are interested.
7. After I grade the physical appearance of your kite, we will take a day or two to fly them, weather and class behavior permitting.
8. **HAVE FUN!!**

Kites

Kite Terms

Flying line holds the kite into the wind and is your control device.

Bridle connects the kite to the flying line and forms a tow point. A bridle can be either single or multiple.

Tow point is the point at which the flying line is connected to the bridle or kite and sets the kite at the correct angle to the wind. It will vary according to wind conditions.

Spine (usually a dowel) is the backbone of your kite and helps hold it taut where necessary.

Struts (usually dowels) are side and cross members that stretch and support the kite frame.

Tails are added to the bottom of a kite to add drag, but not weight. A good tail should act as a stabilizer.

Sail is the main body, or cover, of the kite.

Winders hold flying line and make the launching and retrieving of a kite simpler.

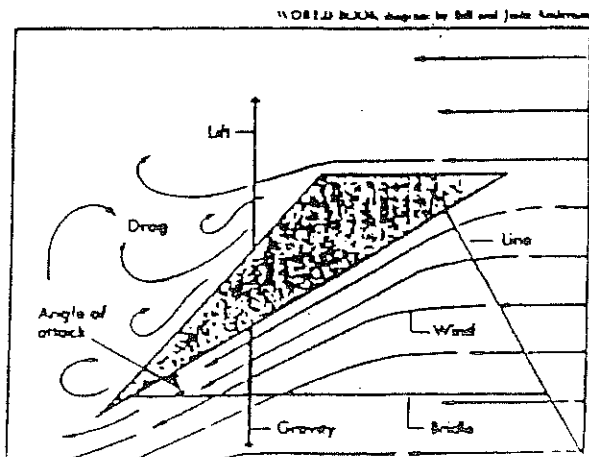
Tips on flying kites

1. Find an open area away from trees, power lines, cars, etc.
2. Use the right weight flying line.
3. Limit amount of line let out to maintain control.
4. Keep a slight tension on your line unless stunting or stopping a dive.
5. Give flying line slack and a slight jerk to change direction of kite.
6. Fly a kite rated for the amount of

- wind in your particular location.
7. Add a tail to stabilize a kite.
8. If kite becomes entangled in a tree or power lines, cut it free and the wind untangle it.
9. To untangle crossed kite lines, the holders should stand next to each other holding winders slightly away from bodies. The cross will run down the lines so you can untangle them.
10. Pull line to release tension or let line before winding onto winder. If you wind the line too tight, it may break the line or winder.
11. Use gloves to fly large kites.

How Kites Fly

The forces of lift, drag, and gravity combine to keep a kite in the air. The kite must be flown in such a way that its angle against the wind, called the *angle of attack*, provides maximum lift to overcome both drag and gravity. The angle of attack can be controlled by one or more short lines called *bridles*.





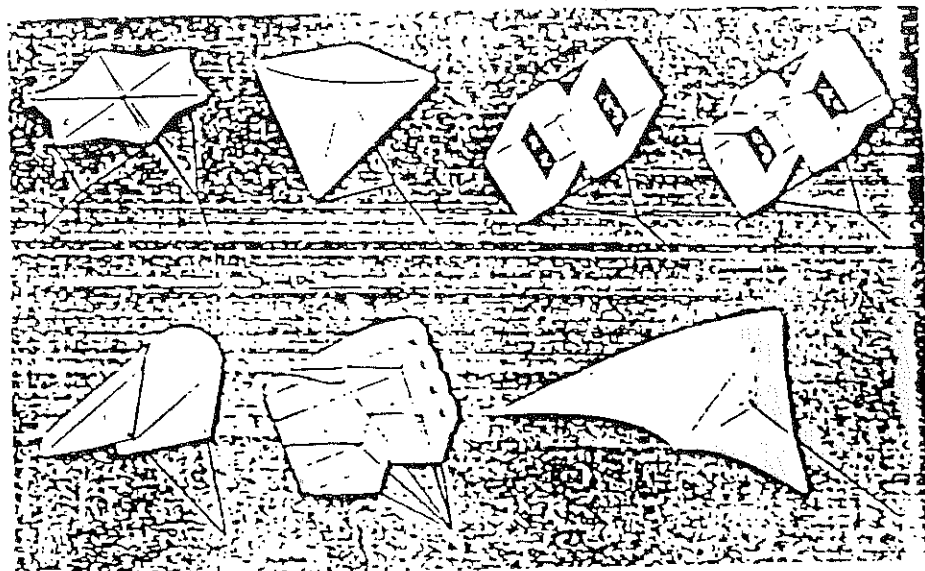
GO FLY A KITE

and LET YOUR DREAMS FLY HIGH

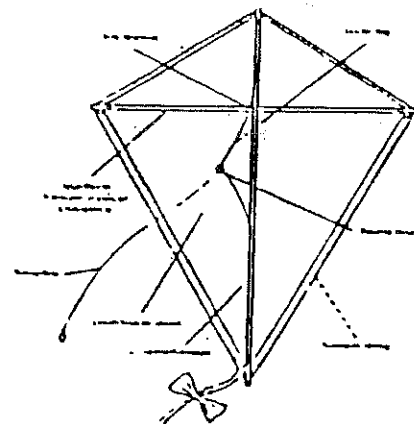
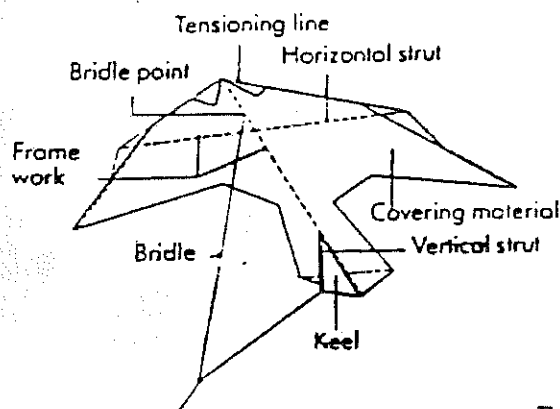
A KITE is an object that is flown in the air at the end of a line. The name comes from a graceful, soaring bird called a KITE. Most kites consist of material such as paper or cloth mounted on a frame made of sticks to which a line is attached. However, many kite builders use lighter, more durable synthetic coverings, such as plastics or nylon. They also use fiberglass or aluminum instead of wood for the frame, and nylon or polyester instead of cotton for the line. Kites can be made in hundreds of sizes, shapes, and colors.

There are hundreds of different types of kites. The most basic types include 1. flat kites 2. bowed kites 3. box kites 4. delta kites 5. flexible kites 6. parafoil kites 7. sled kites 8. Aussie Fighter. Some illustrations follow:

Into The Wind
1408 Pearl Street
Boulder, CO 80302-5307



The following diagrams label the parts of 2 common types of kites.



The different parts of a kite.

Kites are the oldest form of aircraft. They probably originated in China about 3000 years ago. Kites have been used to measure the weather, to aid the military, and to help in the development of the airplane. Kiting is a recognized year-round sport. Kites are also exhibited in museums as works of art.

KITES SCORESHEET

NAME _____

	MAXIMUM NUMBER OF POSSIBLE POINTS	SCORE
NEATNESS/APPEARANCE	10	_____
CONSTRUCTION/DESIGN	10	_____
USE OF Physics	5	_____
USE OF COLOR	5	_____
CREATIVITY/UNIQUENESS	5	_____
LEVEL OF DIFFICULTY	5	_____
FLYING TIME	10	_____
	=====	=====
	50	SUBTOTAL

BONUS POINTS:

one point per minute for each minute past required flying time	MAXIMUM: 5 POINTS	_____
longest flying time in class	5 POINTS	_____
second longest flying time in class	3 POINTS	_____

COMMENTS:

***** TOTAL POINTS

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GENIUS

