

How to Fly a Kite

<http://www.gkites.com/howtofly/sl-htf.html>

<http://www.aka.kite.org/resources/educational-resources>

What could be more fun than a wide open field, a warm breeze, and a dancing kite?

For young fliers, it's an educational adventure. You can learn about science, physics, history, culture, weather and ecology -- without even thinking hard. And for adults, it's a chance to feel young again.

Kite flying is great fun - and it's easy when you know how.

CHECK YOUR FLYING SPACE FIRST

Kites like lots of room. The bigger your flying space is, the happier your kite will be.

As the wind goes around trees, buildings, and hills, it gets bumpy. This bumpy wind is called "turbulence". You can't see it, but it's very difficult to fly a kite well in turbulent wind. So stay far away from obstacles that cause turbulence.



The "rule of turbulence" is that wind will be bumpy for ten times as far downwind as an obstacle is high.

Also look out for obstacles behind your kite. Ever hear of a "kite eating tree"? Because the wind gets turbulent as it gets close to large objects, kites may get drawn in and crash. So don't even let your kite close to trees downwind.



And of course, stay far away from roads and dangerous electric power lines.

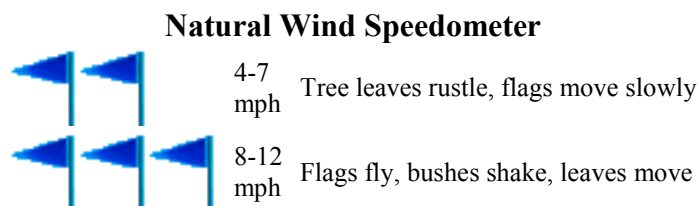
The best places for flying are large open fields, parks, and beaches. The more room you have, the more fun you can have flying.

CHECK THE WIND

Before you can fly your kite, you need wind.

The amount of wind you need depends on the kind of kite you have. Some kites are heavier and need more wind. Others are especially made to fly in light wind. But most kites are made to fly in average winds of between four and ten miles per hour.

If you can feel the wind on your face, there is probably enough to fly. Look for leaves rustling and flags waving. That's another good way to measure the wind.



If leaves in the trees are hardly moving, then the wind may be too light. And if the whole tree is swaying, or if you can hear a flag flapping in the wind, there may be too much for most kinds of kites.

A good, experienced kiteflier learns to watch the wind, even though it is invisible, by watching how it affects things around them.

CHECK YOUR KITE

There are many different types of kites. Each has been designed to do something different in the sky.

There are bowed kites like the diamond, cellular kites like a box, delta kites, and inflatable kites like the parafoil. There are also maneuverable stunt kites with two or four lines.



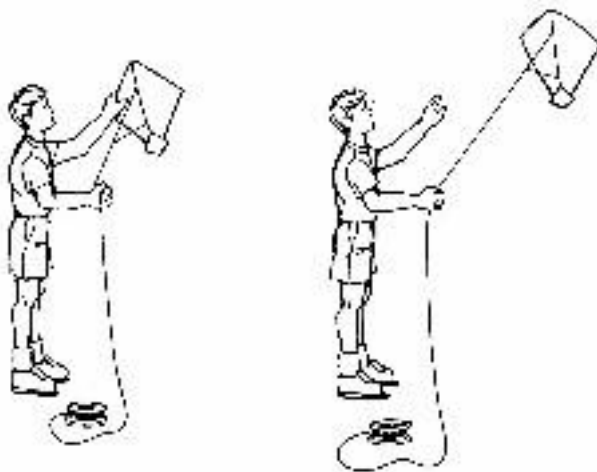
Before you try and launch your kite, make sure that yours has been put together properly. Is it adjusted for the wind? Does it need a tail? Is the flying line attached well. Once everything is right, you are ready to launch.

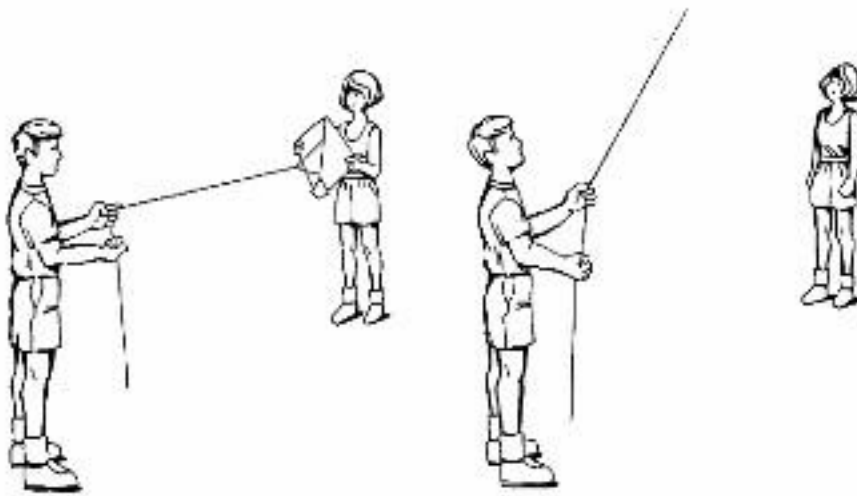
LAUNCHING

Running with a kite is fun, but it's not very smart. You can't watch where you are going, and watch the kite too. That makes it easy for you or the kite to crash. Instead, try launching the smart way.

Stand with your back to the wind and hold your kite up as high as you can. Make sure the nose is pointing straight up, and then gently let it go. Don't get excited and throw it into the air, just gently release it into the wind.

If the breeze is strong enough, the kite will start to rise. Slowly let out a little flying line, and the kite will fly back. Then, before it reaches the ground, tighten your grip on the line and the kite will start to rise again. All you need to do is repeat this process until the kite gets up into steady winds.





In lighter winds, have a friend hold your kite about fifty feet away. They can release it into the wind as you pull in on the flying line. The kite should shoot up into the sky, just like if you were running. When you get a little height, let out more line, then pull in again to gain altitude.

Soon you will be up in the stronger winds and flying just fine. And you'll look a lot smarter than all those other people who are running around!

FLIGHT CONTROL

Always keep an eye on your kite while it is flying. If something goes wrong, you want to see it and fix things before a crash. Don't be tempted to let out too much line. One or two hundred feet is plenty. It's hard for people to see and enjoy if a kite gets too high. Accidents can happen way up there. And besides, the more line you let out, the longer it takes to wind in.

If your flying line becomes slack, bring in a little. If the kite begins to pull too hard or act unstable, let some line out. The idea is to fly the kite, not to let it fly itself.

If you want to increase altitude, try gently pumping the line. Each time you pull in, the kite will rise a few feet. For more lift, try pulling the line in a few feet and then slowly letting it out. Just remember to keep the kite at a good height where the winds are strong and smooth.

When the time comes to bring your kite down, you can slowly wind it onto your reel. If the wind suddenly gets lighter, you may need to pull the line in more quickly. Just drop it on the ground in big, loose loops so you can wind it up later without tangles.



If the wind gets strong, you can tie the flying line to a solid anchor. Walk toward the kite, pulling line down as you go. In strong winds, you should wear gloves to keep from hurting your hands.

Remember that as you pull in, the force of the wind increases on the kite. This will make it climb higher and pull harder. If the kite is unstable, pulling makes it more unstable. Letting out line will temporarily stabilize things, but sooner or later, you have to come down.

If the kite starts spinning in big loops, closer and closer to the ground, about the only thing you can do is wait until it approaches the ground, and then let out line very quickly. The extra slack will let the kite fall down gently. Now aren't you glad you didn't let out too much line?

FLYING LINES

You can buy good kite flying line at the same place you buy kites. Often kites will even come with line attached.

Special line is usually better because it is lighter, stronger and thinner. All of these things will help. Thicker line will drag in the wind and make your kite fly lower. Heavier line will need to be lifted by the kite. So remember to use the thinnest flying line that is strong enough to hold your kite.

ADJUSTING FOR DIFFERENT WINDS



Most kites can be adjusted for different types of wind. Adjustments are made by changing the point where your flying line attaches to the kite. Usually this "tow-point" is about one third from the top.

By moving the tow-point slightly, you change the angle that the kite leans into the wind. Leaning more forward will decrease pull and allow more stable flying in stronger winds. Leaning less forward will allow the sail to catch more breeze when winds are light.

If you lean the kite too far forward, the top will flip under and crash. And if you lean the kite too far back, it won't even try to fly.

Experiment! Move your tow-point around a little. You'll be surprised what a difference small changes make.

TAILS and BOWS

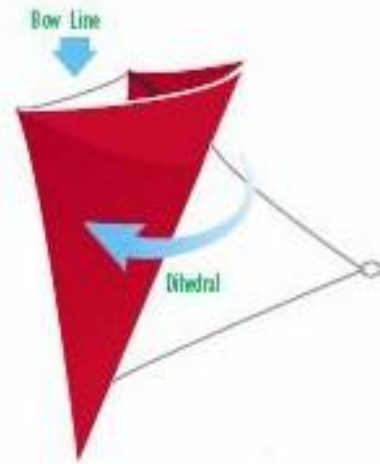
Many kite designs come with tails. A long tail fluttering behind almost any kite adds beauty and fun. But tails have a special purpose too. By adding drag at the bottom of the kite, they keep the nose pointed to the sky and add stability.

So if your kite is unstable, try adding tail. If your kite is getting dragged back to the ground, try reducing the length of your tail.

Remember to keep things properly balanced. Put tails in the center of the kite. If you add them in more than one place, make sure the tails are equal in length and equal distance from the center of the kite.

Another important part of some kite designs is the bow. A bow is a string that goes from side to side and keeps the edges of your kite bent back. Scientists call this bend or curve a "dihedral". Remember that the bow goes behind the kite, not in front.

Like a tail, the dihedral helps keep your kite balanced in the sky. The wind will go around the curved surface and push the kite straight up. That's why curved kites usually fly better than flat ones.



When the wind gets stronger, try increasing the amount of bend by tightening the bow string. In lighter winds, loosen the bow. But always be careful when making adjustments not to break the sticks in your kite by bending too much.

TANGLES

Even the best kiteflier sometimes ends up with their line in a tangle or their kite in a tree. Don't panic. Just be patient and smart, and everything will be fine.

Kite in a tree? Don't climb the tree. Falling out can hurt! And don't tug on the line either. That may break the kite. Instead, just let the wind carry your kite past the tree and let out enough line to bring it to the ground. Then disconnect the kite and pull the line back through the tree.



If your kite line wraps around another kite line, just walk over to the other flier and say hello. Amazingly, the twist will come right down to where you are standing and can be easily undone.

And what about knots and twists? Usually you can avoid this problem by carefully managing your line on the winder or on the ground. But if you do get your line tangled on the ground, about all you can do is patiently undo the mess. Life isn't perfect.

KITE WON'T FLY?

Not every flight goes well. If your kite isn't flying right, maybe you have one of these problems:

- **Lousy Wind:** There may not be enough wind. Or maybe there is too much. The amount of wind you need to fly easily depends on the design of your kite. If your kite uses a tail, try adding or reducing the tail's length in different winds.
- **Turbulence:** Are you trying to fly behind a big tree or building? The wind is going to be really bad there.
- **Tuned Out:** Remember that you can adjust the towpoint on most kites for different winds. This is called "tuning". If your tow-point is too high or too low, your kite won't fly. Try setting it about 1/3 from the top of the kite for starters.
- **Loopy:** If your kite loops around in circles, try adding tail, adjusting the tow-point, or tightening the bow line.
- **Dragging:** If your kite won't lift, try reducing tail, adjusting the tow-point, or loosening the bow line. Is your flying line wet or too heavy? Is the sail of the kite too loose to catch the wind? Make adjustments to lighten the load and increase efficiency.
- **Unstable:** Winds close to the ground aren't as good as the wind up fifty feet or so. Get a good launch and fly up into smoother winds.
- **Technical Difficulties:** When all else fails, make sure your kite is put together right. Always read (and save) the instructions that come with your kite.

SAFETY



Every kiteflier needs to be concerned about safety. A crashing kite, or a loose winder being pulled across the field can hurt someone. Flying line laying on the ground is a hazard to people and animals. So please be very careful when you fly around others.

In particular, never fly with your line across a road. If the kite comes down, you can cause a serious accident. Never fly near airports or high enough to reach airplanes. Don't fly in electrical storms. And definitely stay away from electric power lines.

Along with caution, comes courtesy. Good kitefliers are polite to each other and to non-kiters as well. Share the sky and be considerate. It's more fun that way!



Compiled by [David Gomberg](#).

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