

WIND WHIRLIES

Hang a Wind Whirlie outside, and it will spin in the gentle breeze. Hang one inside over a radiator or by a sunny window, and it will spin in the air currents caused by the rising warm air. Or just walk past a hanging Whirlie, and the air movement may be enough to slowly spin it.

Wind Whirlies are made from Punch and Poke Sticks, which are commonly used to build space frame structures. In this construction, however, the struts are spaced so closely together that they form a solid plane, and that plane can be twisted to form and hold a spiral shape. When hung from a string, air currents and breezes will cause the spiral to rotate and spin. Build several Wind Whirlies using different designs to see which shapes spin best and which ones look best.

Construction

Building system

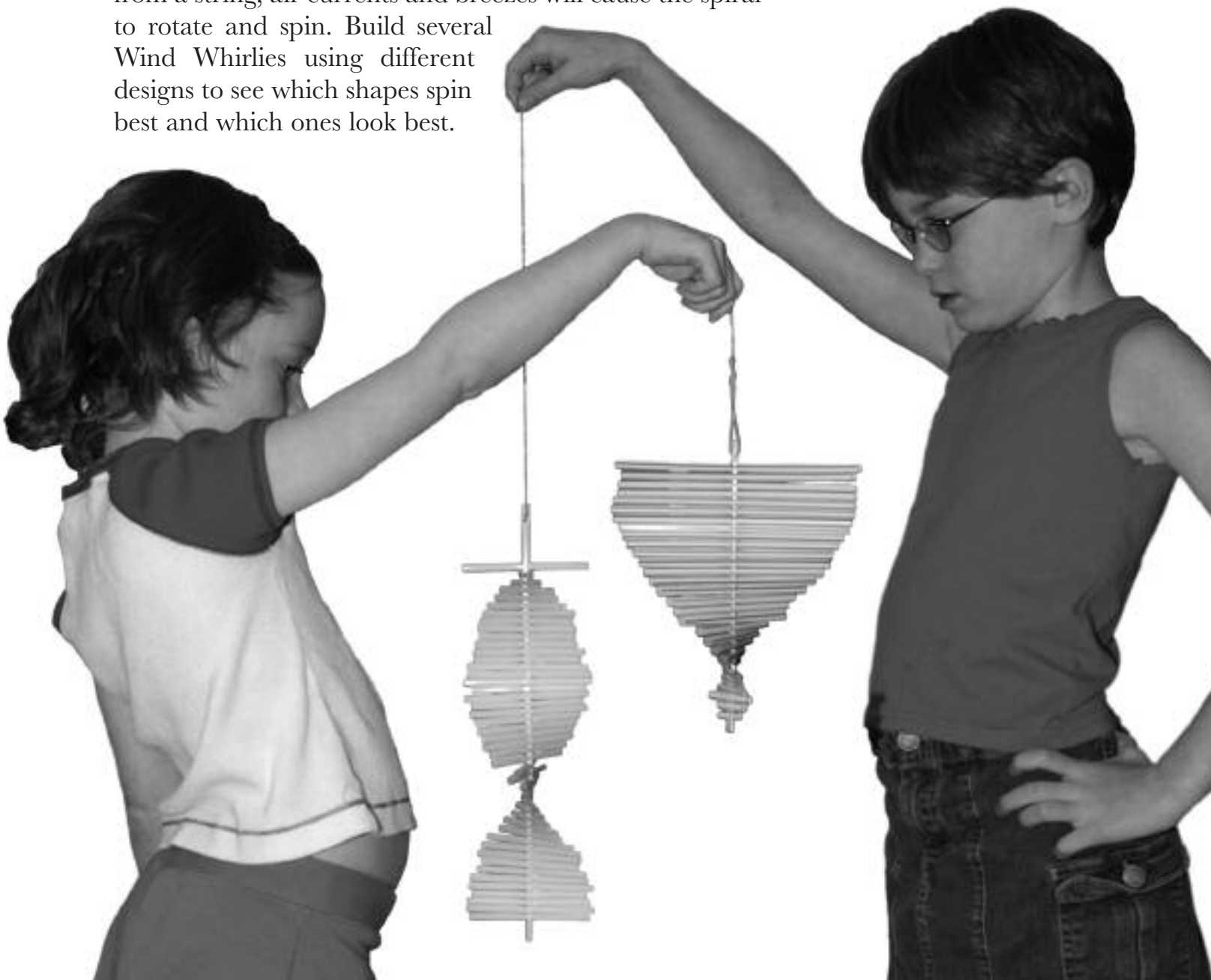
Punch and Poke Sticks

Builder's age

8+

Player's age

3+



Materials

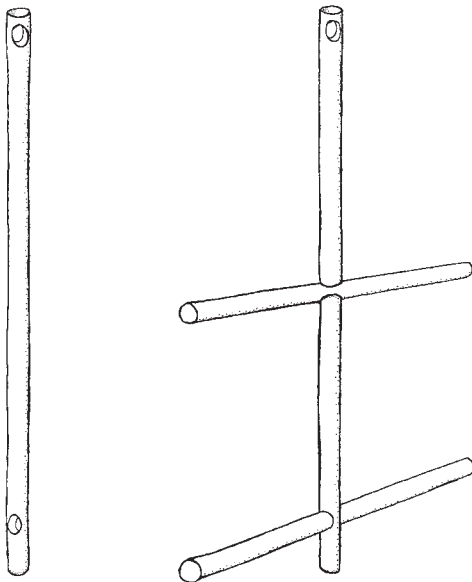
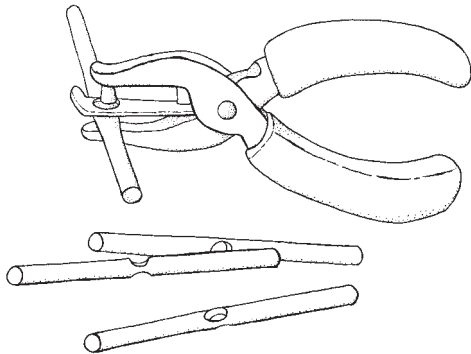
- Drinking straws, 1/4" diameter. The number of straws needed will depend on the design and size of the Wind Whirlie. The smallest Whirlie needs only about 12 straws, and a big Whirlie about 50 straws.
- Short length of sewing thread

Tools

- Paper hole punch, 1/4" diameter
- Scissors

Building instructions

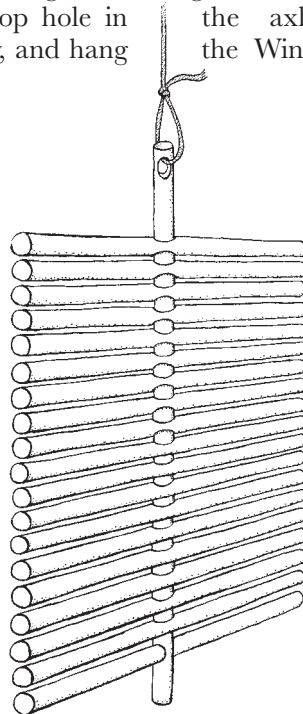
1. To build a basic Wind Whirlie, start with one full-length straw for the axle, and cut twelve straws exactly in half to make twenty-four cross struts.
2. Punch a hole through the center of all but one of the cross struts.



3. Punch a hole through the axle straw at each end. Each hole should be close to the end of the straw, but the two holes do not have to be in alignment with each other.
4. Assemble the Wind Whirlie by first putting the one unpunched cross strut through a punch hole at one end of the axle straw. Center the strut. Now put all the punched cross struts onto the axle straw above it.
5. By aligning all the stacked cross struts with one directly on top of another, you will give the Whirlie the shape of a flat plane. But if you slightly rotate each straw so it is slightly offset in position from the one below it, the plane will take on a spiral twist in the shape of a screw thread.

It is the spiral shape that will catch breezes and air currents and cause the Wind Whirlie to spin. By using different amounts of offset between the cross struts, you can change the pitch of the spiral. Experiment to see what spiral pitch works best for different air conditions.

6. Tie a length of sewing thread to the top hole in the axle straw, and hang the Wind



Whirlie in a location where it will catch indoor air currents or outdoor breezes.

Since the Whirlie is so light in weight, it can be attached indoors to a ceiling or wood molding with a pushpin or a small piece of tape. Outdoors, hang the Whirlie where it can easily be seen through a window. Unless there is a handy branch or overhang nearby, you may have to devise some type of a bracket for hanging the Whirlie.

Design variations

Once you get the knack of building a Wind Whirlie, there are several design variations you can quickly try.

- Build Whirlies using shorter- or longer-length cross struts.
- Build a cone-shaped Whirlie using graduated-length cross struts. Start with a short strut at the bottom and make each successive strut incrementally longer.
- Build longer Wind Whirlies by attaching two or more straws end to end to make a longer axle.
- Experiment with combinations of different color straws to create spiral patterns.

