

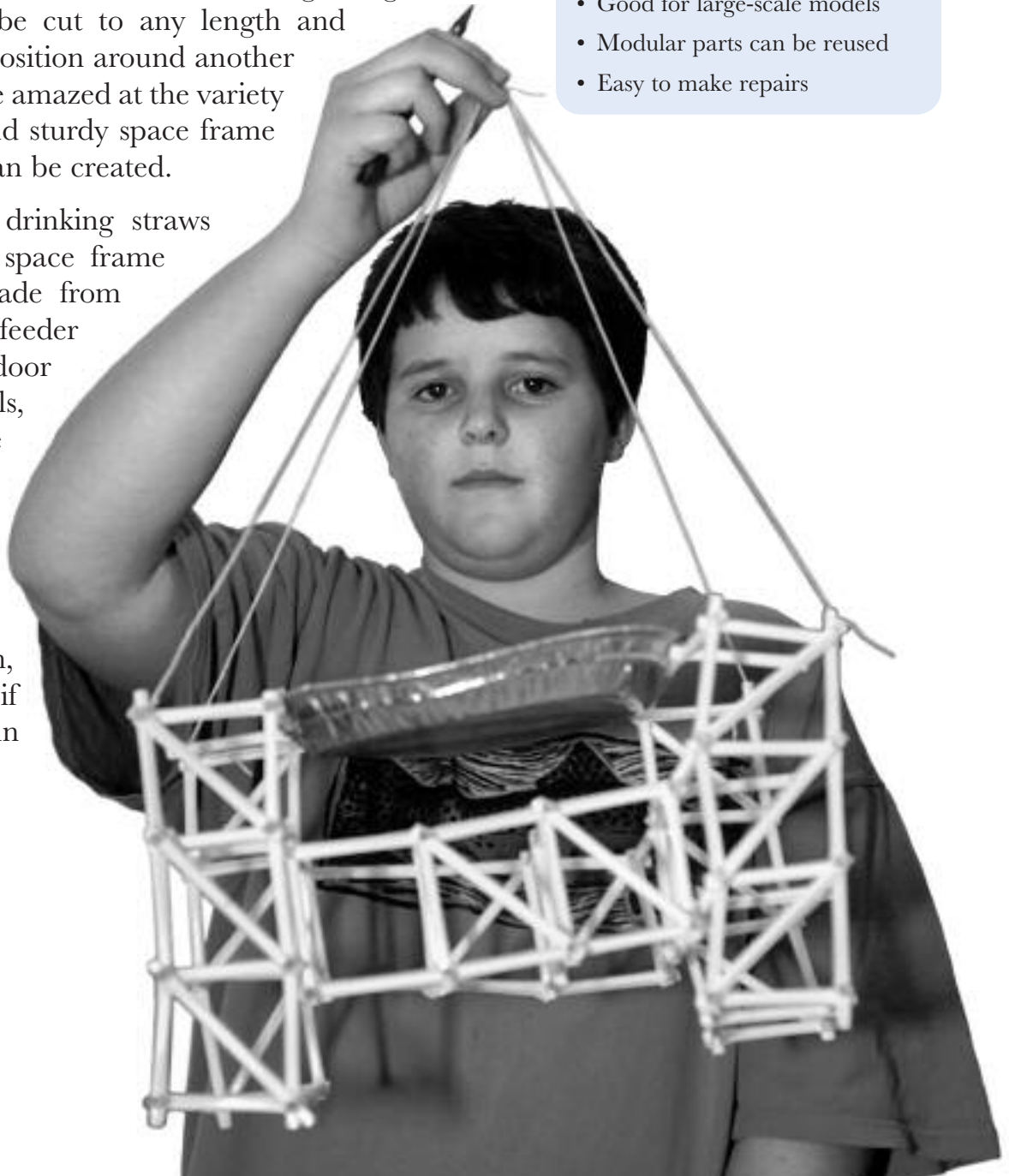
PUNCH AND POKE STICKS BUILDING SYSTEM

What's so neat about this construction system is that it requires only one material—drinking straws—for both the rods and the connectors. No separate fasteners are used. Using ordinary, regular-size drinking straws that are $\frac{1}{4}$ -inch in diameter, plus a standard-size paper hole punch that makes a $\frac{1}{4}$ -inch diameter hole, you can insert one straw through another straw to make a secure connection. And even though the connections are all at right angles, the straws can be cut to any length and inserted at any position around another straw. You will be amazed at the variety of large-scale and sturdy space frame structures that can be created.

Because plastic drinking straws are waterproof, space frame constructions made from them, like bird feeder stations or outdoor toys and models, will weather fine in rain or snow. However, like many other plastics, drinking straws will eventually weaken, crack, and break if left too long in direct sunlight.

SYSTEM FEATURES

- Straws are the only material
- Straws are available in colors
- Straws are easily cut to lengths
- Constructions are rigid
- Makes waterproof structures
- Good for large-scale models
- Modular parts can be reused
- Easy to make repairs



Construction

Builder's age

8+

Materials

- Drinking straws, 1/4" diameter (Nonbendable straws work best.)

Tools

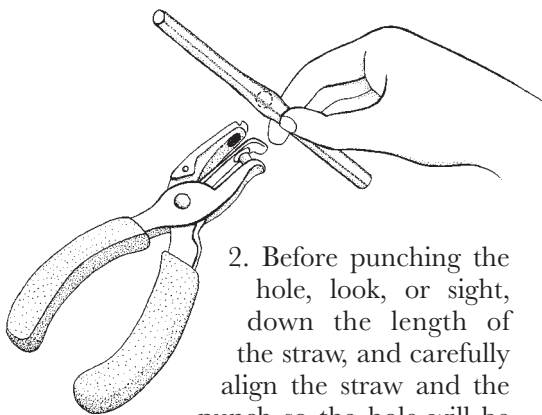
- Paper hole punch, 1/4" diameter
- Scissors

Building techniques

Attaching straws at right angles

A Punch and Poke Sticks straw can be connected to another straw in only two ways: at a right angle or end to end. For right angle connections, punch a hole in one straw and push another straw through the hole. It may take a little practice to punch holes in the exact center of the straw so the sides stay intact.

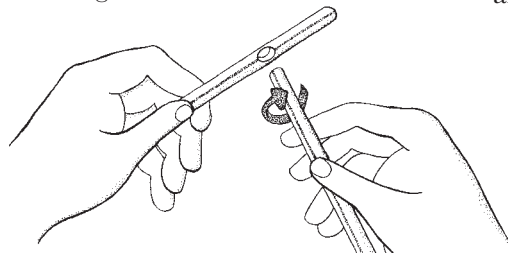
1. First, select the location along the length of a straw where you want to punch a hole, and flatten the straw between your fingers just enough that the flattened straw will easily slide into the hole punch.



2. Before punching the hole, look, or sight, down the length of the straw, and carefully align the straw and the punch so the hole will be in the middle of the flattened area. Try to not punch too close to an edge or punch through the edge of the flattened straw.

Sighting down the length of the straw is also helpful when punching two or more holes to

make the inserted straws parallel. If the holes are not exactly in line, the inserted straws will be at angles to each other.

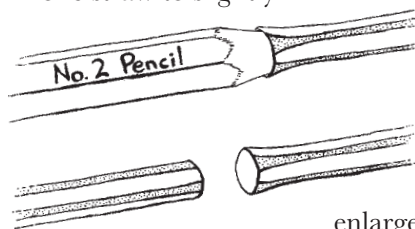


To avoid getting a straw caught or stuck when inserting it into a hole in another straw, it helps to spin the straw as you push it through.

Attaching straws end to end

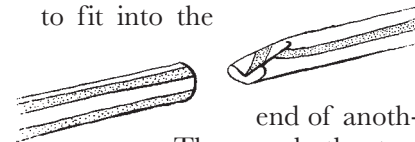
There are three good methods for attaching straws end to end.

3. You can first insert, push, and twist the pointed end of a pencil or ballpoint pen into the end of one straw to slightly



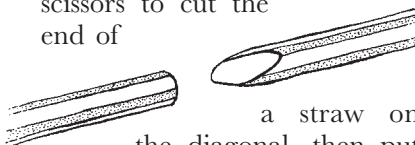
enlarge the opening, then another straw can be securely pushed in about an inch for a tight fit.

4. Another method is to fold the tip of one straw so it will start to fit into the



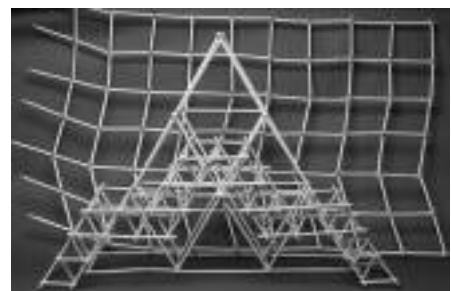
end of another. Then push the two straws together so they overlap about an inch for a tight fit.

5. The third way to connect straws end to end is to use a pair of scissors to cut the end of



a straw on the diagonal, then put that pointed end into the end opening of another straw.

Using both connection techniques either separately or combined, experiment to learn what type of angles and shapes you can build.



PUNCH AND POKE STICKS BUILD-IT PROJECTS

MARBLE COASTER TRACKS AND
TRESTLES

BIRD FEEDER SPACE STATION
PLATFORM

CLASSIC KITES

WIND WHIRLIES