NATURE KIDS

Science Projects Just For Fun

Make your own insect- catching pitcher plant!

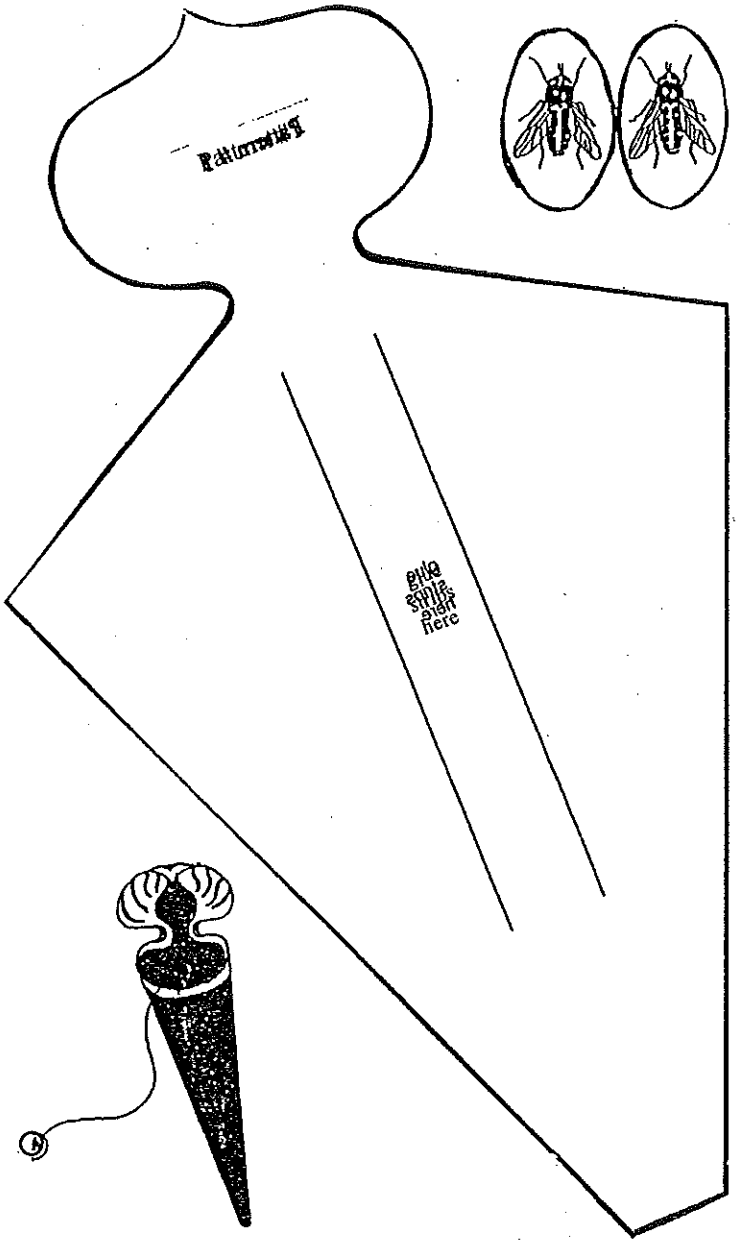
Pitcher plants are one of the kinds of plants that catch and digest insects to get nitrogen (an element) that is lacking in the soil where they live. You can make a model by following these instructions. Will YOUR pitcher plant have insects today?

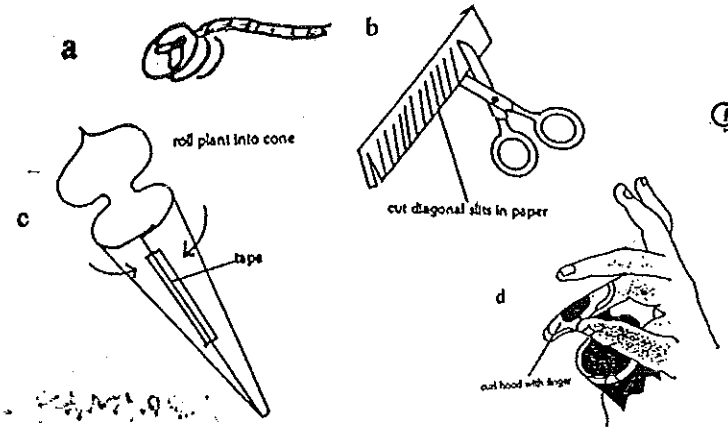
Materials: Stiff paper or card stock large enough to copy patter #1

Paper to copy pattern #2
A small piece of cardboard or card stock to glue the fly pictures to
A 10-inch length of yarn or string
Tape and glue

1. Cut out the two fly pictures.
2. Glue them onto a small piece or card stock or cardboard with the string tucked under one picture. (Illustration a.)
3. Trace pattern # 1 onto stiff paper or card stock and cut it out.
4. Trace pattern # 2 two times and cut out both strips.
5. Make a fringe on each of the strips and tape them along the lines labeled "glue strips here". (Illustration b)
6. Curl the sides of pattern #1 together to make a cone and tape the edges together. (Illustration c.)
7. Curl the hood forward by rolling it over your finger. (Illustration d)
8. Tape the free end of the string to the front edge of the cone.

Now you are ready. Hold the pitcher plant and try to flip the fly into it. Can you catch a fly for supper today?

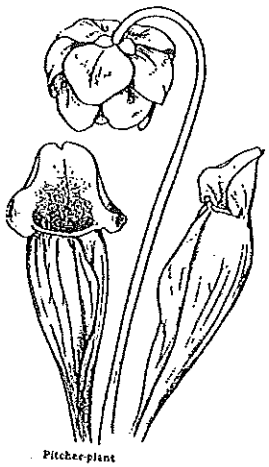




TEACHER'S CORNER by Jenni Malone

Carnivorous Plants

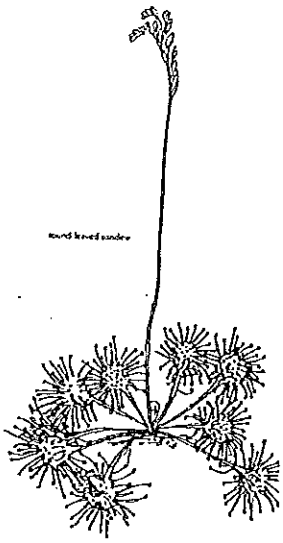
While we are all aware that we need vitamins and minerals, those of us who are not gardeners may not realize that plants need them, too. In general, plants obtain minerals in the water they absorb through their roots. One reason that plants absorb so much more water than they can use is to obtain the necessary amounts of these dissolved minerals. One of the most important of these is nitrogen. Plants that grow in areas where the soil is low in nitrogen, like some bogs, have had to adapt, and utilize other methods of getting what they need. One solution is to turn the tables on the animal world and become a predator, a carnivorous plant. These plants have developed a surprising variety of special organs to trap and digest insects in order to meet their mineral needs.


Pitcher-plant

Pitcher plants, which are also called sidesaddle flower, huntsman's cup, or Indian dipper, drown their prey. The lower portions of the leaves are folded together to create a tube or "pitcher" that can catch and hold rainwater. The upper portions are open, forming a lid or spout. Tiny honey glands cover the inner surface of the lid. The scent attracts insects. In addition, tiny, bristly hairs grow at the mouth of the tube, all pointing down, into the pitcher. When an insect, attracted to the smell, enters the pitcher, the hairs prevent it from climbing out. Eventually it falls into the collected water and drowns. The leaves then secrete special juices to digest the insect.

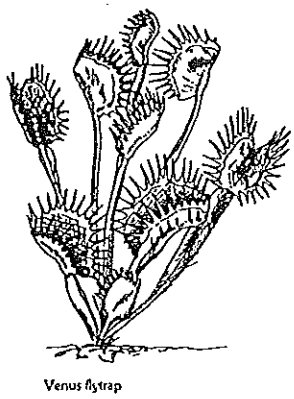
Pitcher plants grow across North America. East of the Rockies they are found from Labrador to Florida. The northern variety has a reddish-purple globe-shaped flower atop a long stem. A southern variety produces yellow flowers.

The *sundew* has evolved a different solution to the nitrogen deficit in its habitat: bogs and marshes around the world. It produces drops of sticky fluid on its hairy leaves that look like dew in the sunlight, whence its name. When an insect lands on a leaf, the hairs on the leaf trap the insect by folding around it. The fluid covers and suffocates the insect, and then digests it.



Bladderworts form a group of water and wetland plants that can be found in marshes throughout the world. There are about 12 varieties in the U.S. alone. Most grow right in the water. They have tiny (1/8 inch diameter) bladders on their stems and leaves. Each bladder has an opening with a trap door cover that opens inward. Sensitive hairs around the opening act as a trigger. When an insect or insect larva touches the hairs, the walls of the bladder pop outward, creating a vacuum that pulls the trap door open, and sucks the animal inside, where it is then digested.

Butterworts are a variety of bladderwort that grow on land. They have a cluster of leaves close to the ground. The leaves produce a sticky substance which attracts insects. When an insect lands on a leaf, the leaf edges curl inward to trap and later, digest it.


Venus flytrap

Possibly the most famous of the carnivorous plant are the *Venus Flytraps*. They grow in a small area in the coastal region of the Carolinas. They get their name from their unusual two-part leaves. The bottom of the leaf is bladder-like. The top part is divided into two hinged lobes, each with a fringe of bristles along the edge. On the inner surface of each lobe are three sensitive hairs. If two of these hairs are touched, the hinged lobes shut, the bristles interlocking to prevent escape. The plant then proceeds to digest it's meal. When the insect is digested, the leaf opens again for business.

These plants exemplify, each in its own way, the advantages to be had from having one's own niche. They live in places in which many other plants couldn't survive at all. They have developed unique means of survival, utilizing insects as a source of nitrogen rather than the soil. Thus, they don't have to compete for limited supplies of nitrogen in their habitat.

Nature's solutions are awesome, don't you think?

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