

BRaille READING PASSAGE: WORKSHOP 8

Lower Wordsigns and Groupsigns

New Contractions: ⠠⠠ (ea, dot 2)

The Venus Flytrap

Have you heard of a carnivorous plant? A plant that eats animals? How can that be? Yes, native to North America is a carnivorous plant, the Venus Flytrap, scientifically called Venus Muscipula. Venus refers to the Roman Goddess of Love and Muscipula, the species, denotes "mousetrap" or "flytrap". This bug-loving plant grows naturally in North and South Carolina, thriving in the wet bogs with sandy soil and few nutrients.

Just how does a plant eat bugs? This plant grows a stem that is from three to ten centimeters in length. It produces four to seven leaves which fan out from the stem. Each leaf has two heart shaped blades, hinged like a clam shell, and attached to the terminal point of the leaf. The edges of the blades are fringed with hairs or cilia, which prevent large prey from escaping when the blades close. At the very end of the blades are three hairs referred to as tiny hairs or sensitive hairs. The sensitive hairs stimulate the blades to close.

So how does this happen? Crawling insects, like ants, spiders, and beetles, move over the low-to-the-earth plants. As they touch the inner surface of the plant, the plant engages in a chemical thinking process. Twenty seconds following the initial touch, another touch needs to happen for the blades to close. Only a tenth of an insect has to touch the plant to stimulate the response. The sensitive hairs are so specialized, they can identify whether the touch came from prey or from non-prey, like rain. Once the sensitive hairs determine it is prey and two touches have happened, the blades slam shut, trapping the insect. Even then the

plant does not start eating. It requires five more stimuli to prove it has ensnared a live insect, preventing the plant from wasting precious energy. As the prey keeps moving it causes the blades to close tighter and tighter, creating a sealed stomach. Only then does it release a flow of digestive enzymes. For nearly a week and a half, the enzymes digest the insect, reducing it to a husk. Then the blades reopen, and the plant is ready to eat once more.

THE DIGESTIVE PROCESS

When a Venus flytrap captures a prey item, it triggers a series of events that lead to the release of digestive enzymes. The plant's internal cells detect the mechanical stimulation of the prey's movement, which causes the trap to close. Once the trap is closed, the plant's internal cells release a flow of digestive enzymes that begin to break down the prey. The enzymes are released from the plant's internal cells into the trap's stomach, where they begin to digest the prey. The process of digestion takes about a week and a half to complete. Once the prey is fully digested, the plant's internal cells release a flow of nutrients that are absorbed by the plant. The trap then reopens, and the plant is ready to eat once more.

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