

SAGUARO PARTS

Students identify the basic structures of a saguaro and their functions and label them on a picture of a saguaro.

ARIZONA SCIENCE STANDARDS
SC03-S4C1-01

OBJECTIVES

Students should:

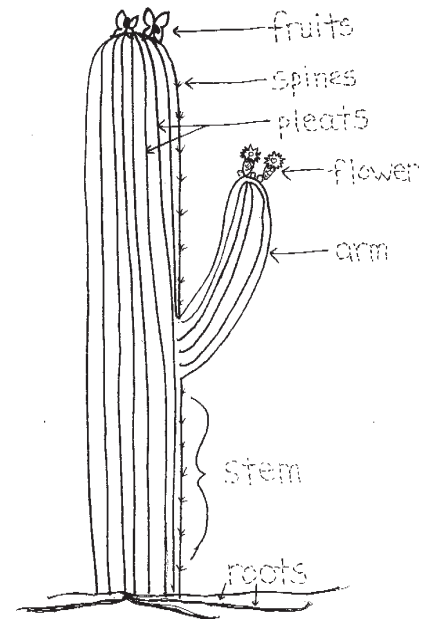
- Identify the basic structures of the saguaro and describe their functions.

DOING THE ACTIVITY

SETTING THE STAGE

- 1) Draw an outline of a simple saguaro cactus on the board including
 - an arm with flowers and fruits on it
 - a pleated stem
 - spines
 - roots spanning shallowly below the surface of the ground
- 2) Ask the students, "What kind of a plant is this?" (a saguaro cactus!) Explain that saguaros are special plants for a lot of reasons, and one is that they are only found right here, in the Sonoran Desert. Tell them that they are going to take a class about saguaros at the Desert Museum that will make them saguaro experts. But to be experts, first they need to learn about the saguaro's parts.

- 3) Point out the different parts you drew, asking the students to name each one. Encourage the students to explain the functions of each part, filling in details from the *Saguaro Parts and Their Functions* chart below. Write the name next to each part as the group discusses it.



SAGUARO PARTS AND THEIR FUNCTIONS

STEM

- What do you call the "trunk" of a saguaro? (stem)
- What is the stem for? (it stores water, makes food for the plant, provides support)

SPINES

- What are these spiky things called? (**spines**, not thorns)
- What are they for? (to help protect the cactus from feeding animals; to provide insulation for the growing tips of the cactus' arms and stem to protect them from heat and cold)

ARMS

- What are these parts called? (arms)
- What do the arms do? (provide space for many flowers to grow; produce food; store water)

PLEATS

- What do you call the folds along the stem and arms of the saguaro? (pleats)

- What are they for? (They allow the cactus to swell and take in water, or shrink as the water is used.)

ROOTS

- What part of the cactus is below the ground? (roots)
- What do they do for the cactus? (Take in rain water and dissolved minerals; anchor the cactus in the ground.)

FLOWERS

- What do the flowers do? (Produce pollen and nectar to attract **pollinators** like bats, birds, and insects that visit them. The flowers then develop into fruits.)

FRUITS

- What do the fruits do? (Contain seeds for new saguaros to grow, attract animals to eat their juicy pulp and spread the seeds hidden inside)

SAGUARO PARTS



MATERIALS

- A copy of *Student Handout - Saguaro Parts* for each student
- Pencils
- Markers or crayons
- Blackboard

VOCABULARY

Pollination
Pollinator
Spine

SAGUARO PARTS AND THEIR FUNCTIONS

- 1) Pass out *Student Handout - Saguaro Parts* to each student. Tell them to color the saguaro green and the fruits red and to leave its flowers white.
- 2) Have them follow the dotted lines and write out the name of each part of the saguaro.
- 3) Have them draw a line from the part to the picture and words that represent its function.

DISCUSSION

- 1) Go over the answers as a group. Beyond reciting the parts and functions, encourage the children to think critically about them. Ask questions such as,
 - “Why would a saguaro need its spines to protect the growing tips of its arms and stem from the heat and cold?” (Too much heat or cold might hurt them so they cannot grow or may even die.)
 - “Why do you think a saguaro cactus would want to store water?” (There is not much rain in the desert so they need to save water for the dry times.)
 - “What advantage is there to making lots and lots of flowers?” (Pollinated flowers develop into fruits with seeds. The more flowers, the more seeds produced, and the greater chance that more baby cacti can grow.)

EXTENSION

Make model saguaros out of modeling clay. Use string for the roots, broken spaghetti noodles for the spines, and forks to indent the pleats into the saguaro stem. Make labels for the parts.

ANSWERS TO SAGUARO PARTS HANDOUT

Fruits: Hold seeds for new saguaros to grow.

Spines: Help keep animals from eating the saguaro, protect saguaro from heat and cold.

Pleats: Swell to hold water.

Flower: Attracts pollinators with nectar and pollen.

Arm: Provides a place for many flowers to grow, makes food.

Stem: Holds water, makes food.

Roots: Take in water like a straw.

