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# 3: Super Saguaro

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## Based on the Arizona quarter reverse

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### OBJECTIVE

Students will understand the life cycle of the saguaro cactus and identify different animals which call the saguaro home.



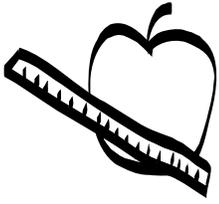
### MATERIALS

- 1 overhead projector (optional)
- 1 overhead transparency of each of the following:
  - “Arizona Quarter Reverse” page
  - “Life Cycle of the Saguaro” page
  - “From Seed to Giant” worksheets (set of 3)
- Copies of the following:
  - “Arizona Quarter Reverse” page
  - “Life Cycle of the Saguaro” worksheet
  - “From Seed to Giant” worksheets (set of 3 pages)
- 1 class map of the United States
- 1 copy of a text that gives information about the saguaro cactus. For example:
  - *Cactus Hotel* by Brenda Z. Guiberson
  - *The Seed and the Giant Saguaro* by Jennifer Ward
  - *Saguaro Cactus* by Paul and Shirley Berquist
  - *Desert Giant* by Barbara Bash
- Chart paper
- Markers
- Paper plates
- Pencils
- Crayons
- String
- Yardstick or tape measure



### PREPARATIONS

- Make an overhead transparency (or photocopy) of each of the following:
  - “Arizona Quarter Reverse” page
  - “Life Cycle of the Saguaro” worksheet
  - “From Seed to Giant” worksheets (3 pages)



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- Make copies of each of the following:
  - “Arizona Quarter Reverse” page (1 per student)
  - “Life Cycle of the Saguario” worksheet (1 per student)
  - “From Seed to Giant” worksheets (6 half pages, 1 set per student, cut and assembled)
- Locate a text that gives information about the saguario cactus (see examples under “Materials”).
- Locate an image of a mature saguario cactus.
- Locate an image of a decaying saguario cactus.



## GROUPINGS

- Whole group
- Small groups or pairs
- Individual work



## CLASS TIME

Three 20- to 30-minute sessions



## CONNECTIONS

- Science
- Art
- Math



## TERMS AND CONCEPTS

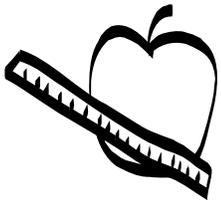
- Quarter
- Obverse (front)
- Reverse (back)
- Life cycle
- Decay
- Features
- Saguario cactus (plural: cacti or cactuses)



## BACKGROUND KNOWLEDGE

Students should have a basic knowledge of:

- Plants
- Deserts, desert environment
- Symbols



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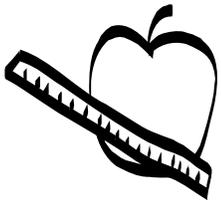
## STEPS

### Session 1

1. Describe the 50 State Quarters® Program for background information, if necessary, using the example of your own state, if available. Locate Arizona on a classroom map. Note its position in relation to your school's location.
2. Display the "Arizona Quarter Reverse" overhead transparency. Tell the students that the back of a coin is called the reverse, and "obverse" is another name for the front of a coin. With the students, examine the coin design. Identify the saguaro (suh-WAH-row) cactus and Grand Canyon as symbols of the state of Arizona. Ask the students if they know what a cactus is.
3. Display the image of a mature saguaro cactus. Explain that the saguaro cactus grows in the Sonoran desert in Arizona. Ask the students to describe a cactus. Discuss the characteristics of a cactus and record responses on chart paper.
4. Ask the students what a life cycle is. Write the term "life cycle" and a definition on chart paper. Tell the students that they will learn about the life cycle of the saguaro cactus.
5. Introduce the students to the selected text about the saguaro cactus. Preview the text and illustrations and allow students to generate observations about the saguaro cactus. Review what a desert environment is.
6. Read the selected text, focusing on the life cycle of the saguaro cactus. Attend to any unfamiliar vocabulary. During the reading, display the "Life Cycle of the Saguaro" transparency. Cover up the images on the transparency. Uncover each image, one at a time, as you read the text.
7. Distribute the "Life Cycle of the Saguaro" worksheet to each student. Have the students color in the pictures on the "Life cycle of the Saguaro" worksheets, cut out the pictures, and then paste the shapes in order on a paper plate. Display the "Life Cycle of the Saguaro" transparency as an example. Have the students draw arrows from one picture to the next to form a circle. Have the students write the title "Life Cycle of the Saguaro" in the middle of the paper plate. Attach a piece of string to each paper plate.
8. Display the "Life Cycle of the Saguaro" projects in the classroom.

### Sessions 2 and 3

1. Review the information about the life cycle of the saguaro cactus from the previous session.
2. Display the image of the mature saguaro cactus. Ask the students if anyone noticed how old and tall saguaro cacti can grow. Tell the students saguaro cacti grow very slowly compared to people.

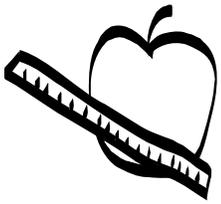


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3. Display a yard stick or tape measure. Select a student and measure his or her height.
4. Review the selected text, focusing on the sections that discuss the growth of the saguaro cactus. During the review, display and overlay the “From Seed to Giant” transparencies (numbered 1 through 6) to correspond with the information in the book. Make anecdotal comparisons with students about the size of the saguaro cactus at different stages of the saguaro’s life cycle.
  - At 10 years, the cactus is between 2 to 4 inches tall, about the size of a large paper clip.
  - At 25 years, the cactus is about 2 feet tall, which is about the height of a student desk.
  - At 35 years, the cactus begins to produce flowers and may be 3 feet tall.
  - At 50 years, the cactus is about 10 feet tall, which is about the height of a basketball hoop.
  - At 50 to 70 years, branches begin to grow.
  - An adult at around 125 years, the saguaro cactus can grow to as tall as 50 feet (which is about the height of a four story house).
  - The cactus usually lives between 150 and 175 years, although some scientists believe some may live more than 200 years!
  - The plant’s growth rate depends on the amount of rainfall it receives.
5. Display the image of the mature saguaro cactus. Tell the students that the grown saguaro cactus is as big as a four-story house. Tell the students that the saguaro cactus can help desert animals. Just like a big house or an apartment building, the saguaro cactus can have different animals using it as a home.
6. Review the selected text to locate animals that make their homes in the saguaro cactus. Write the names of animals that use the growing saguaro cactus as a home on the “From Seed to Giant” transparencies or list them on chart paper (for example: Gila woodpecker, elf owl, Harris’ hawk, red-tailed hawk, horned owl, white winged dove, lizards, spiders, bats, and even pack rats and mice).
7. Discuss what happens at the end of the life cycle of the saguaro cactus. Ask the students what happens to the cactus when it dies. Discuss the term “decay” with the students and add the term and definition to the chart paper.
8. Tell the students that the decaying saguaro cactus can still help plants and animals just as it did when it was growing. The decaying saguaro cactus can protect and shade a tiny new saguaro cactus from the sun, heat, and animals. The decaying saguaro cactus is also a new home for other animals.
9. Ask the students which animals and insects use the decaying saguaro cactus for a home (for example: ants, termites, spiders, centipedes, lizards, mice, snakes, scorpions, giant millipedes, and beetles).



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10. Explain to the students that they will create a book about the life cycle of the saguaro cactus. Display the “From Seed to Giant” worksheets, which are the pages of the book.
11. Distribute a set of the “From Seeds to Giant” worksheets to each student. Explain that they are to color the different stages of the life cycle of the saguaro cactus, adding details. Have the students draw three different animals or insects that call the saguaro home and label each animal.
12. Allow an appropriate amount of time for the students to complete the book.
13. Collect the finished books. Share them with the class.



## ASSESSMENT

Use the students’ class participation, life cycle displays, and life cycle books to evaluate whether they have met the lesson objectives.



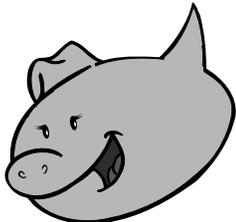
## ENRICHMENTS/EXTENSIONS

- Have students observe a tree in your area for signs of animal life and have them draw what they noticed.
- Have students create a life cycle of their state tree or a local tree.
- Have students create a life-size saguaro out of paper or draw it with chalk on a blacktop area and include animals that live in the saguaro.



## DIFFERENTIATED LEARNING OPTIONS

- Provide pictures of different animals and insects for the students to use, including labels.
- Allow students to work with a partner.



## CONNECTION TO [WWW.USMINT.GOV/KIDS](http://WWW.USMINT.GOV/KIDS)

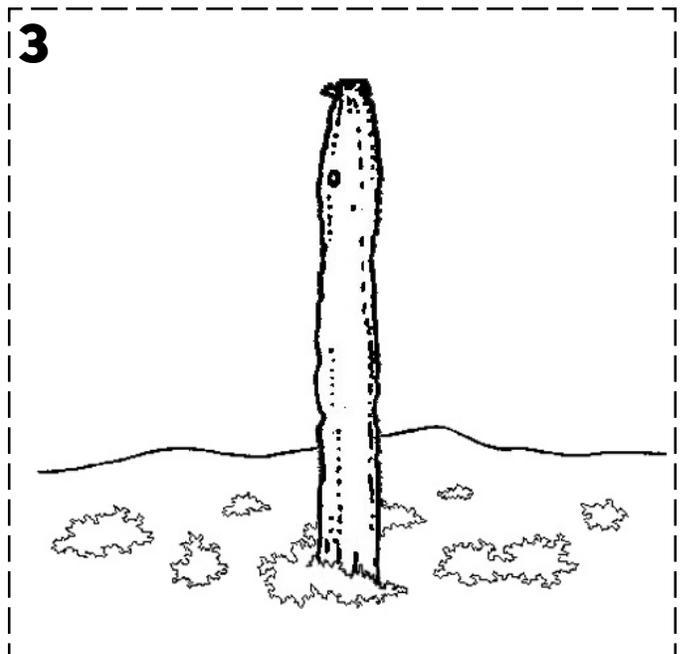
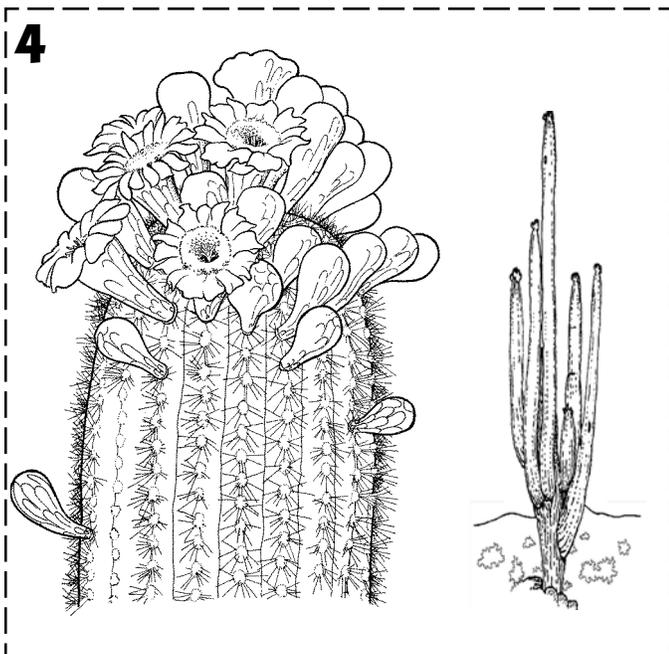
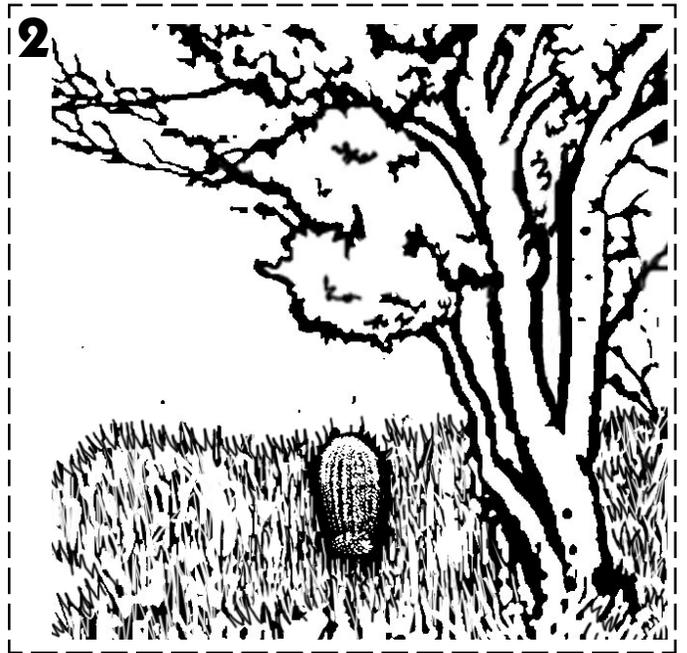
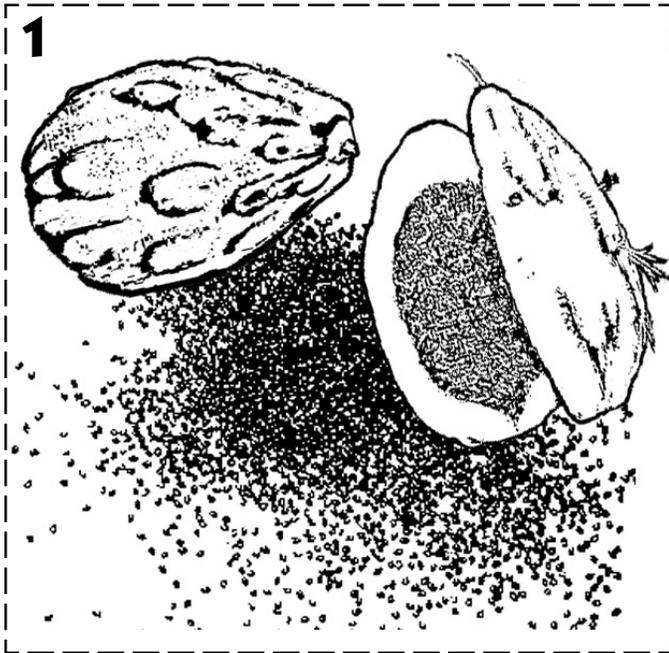
Have students learn more about plants and animals with the K–1 Nevada quarter lesson plan at [www.usmint.gov/kids/teachers/lessonPlans/50sq/download.cmf?grade=1](http://www.usmint.gov/kids/teachers/lessonPlans/50sq/download.cmf?grade=1).



Name \_\_\_\_\_

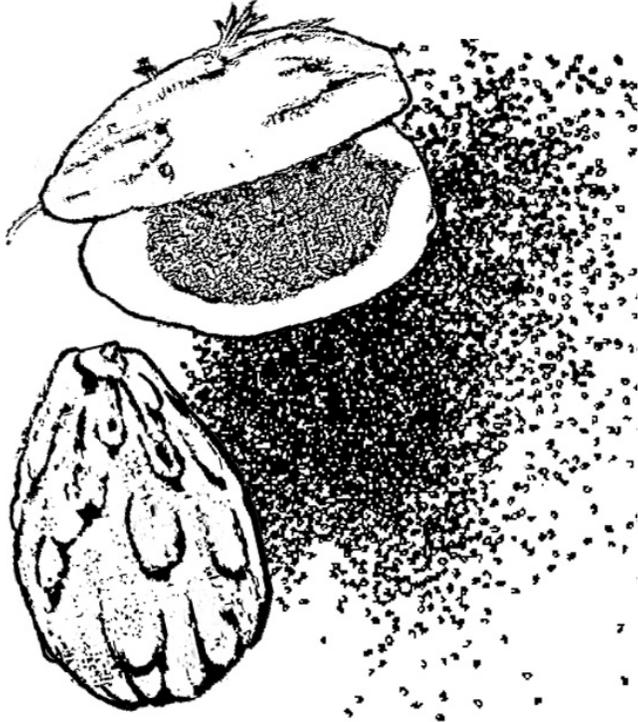
# Life Cycle of the Saguaro

**Directions:** Color in each picture in the life cycle of the saguaro cactus. Cut out and paste each picture in order in the shape of a circle on the paper plate. Add arrows to form a circle. Label with the words "Life Cycle of the Saguaro Cactus." Write your name on the back.



# From Seed to Giant

Color in each picture in the life cycle of the saguaro cactus.



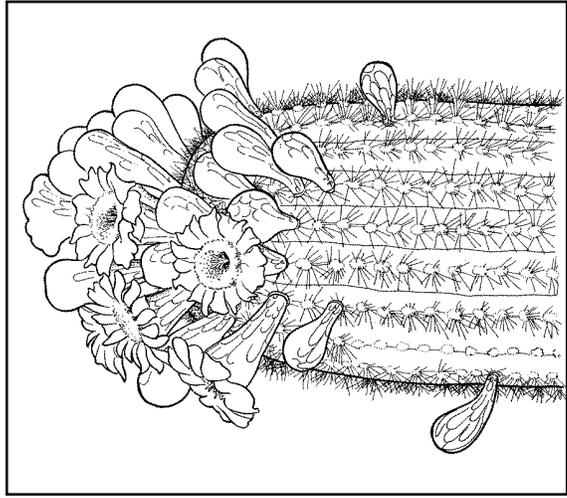
**Fruit and seed**

**1**

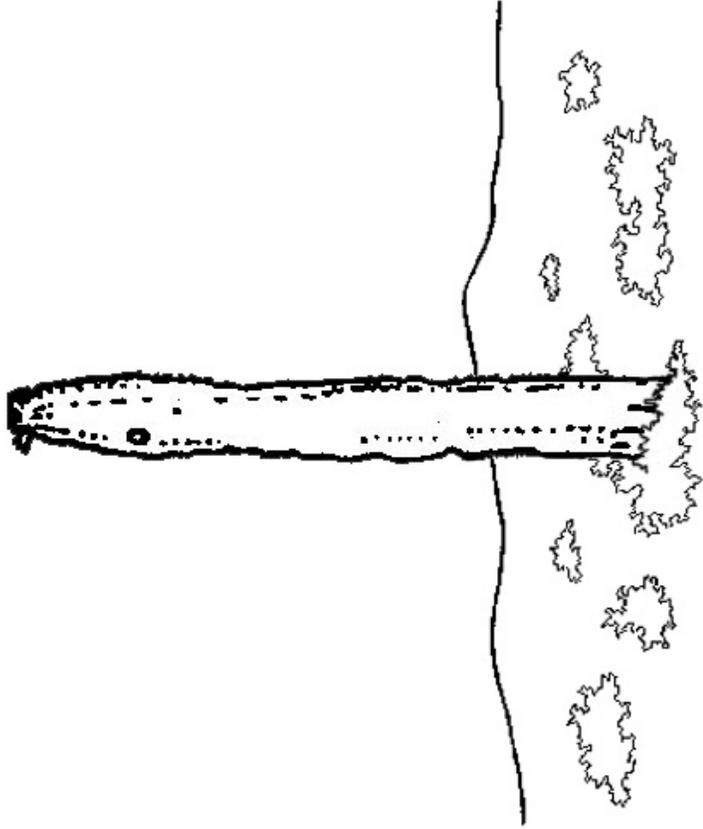


**10 years old**

**2**

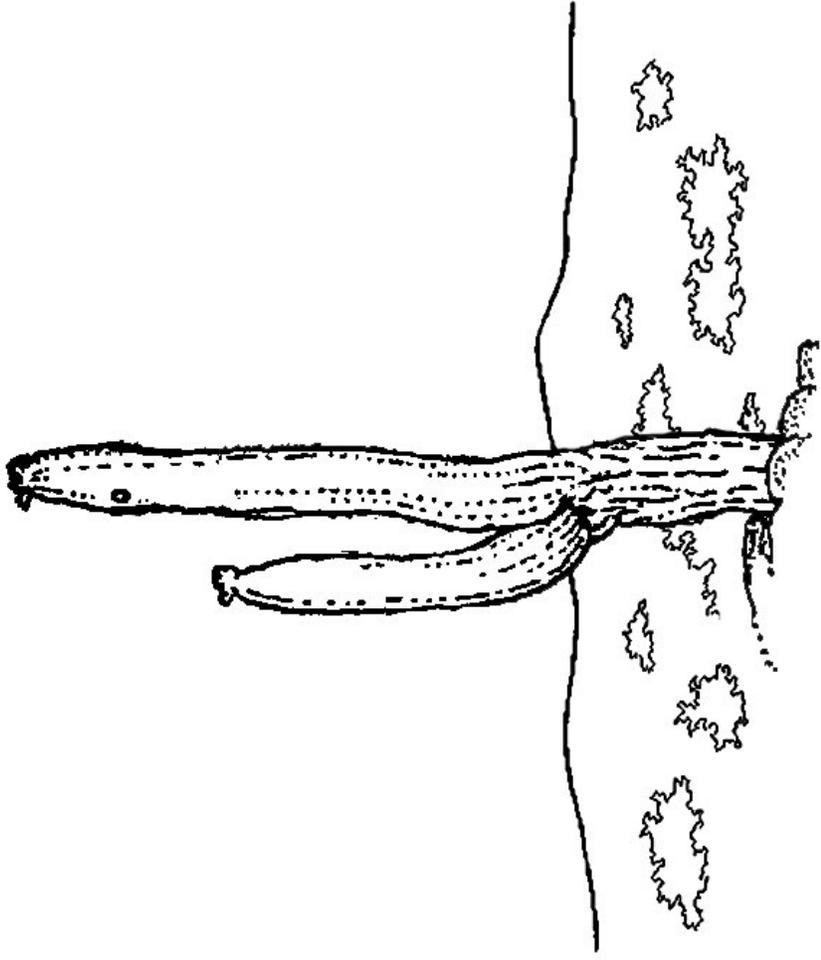


Draw at least one animal or insect that calls the saguaro home. Label the animal or insect.



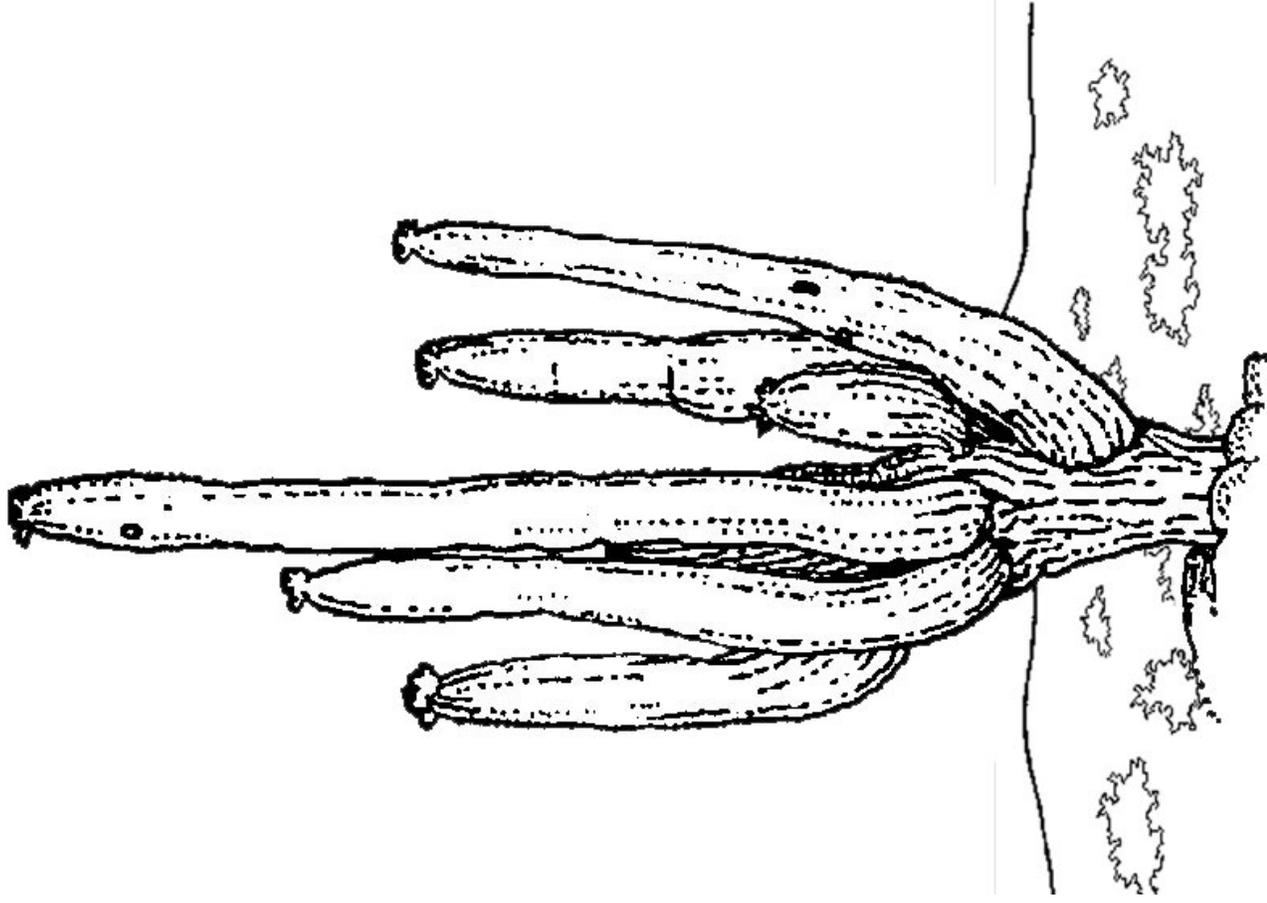
**35 years old**

**3**



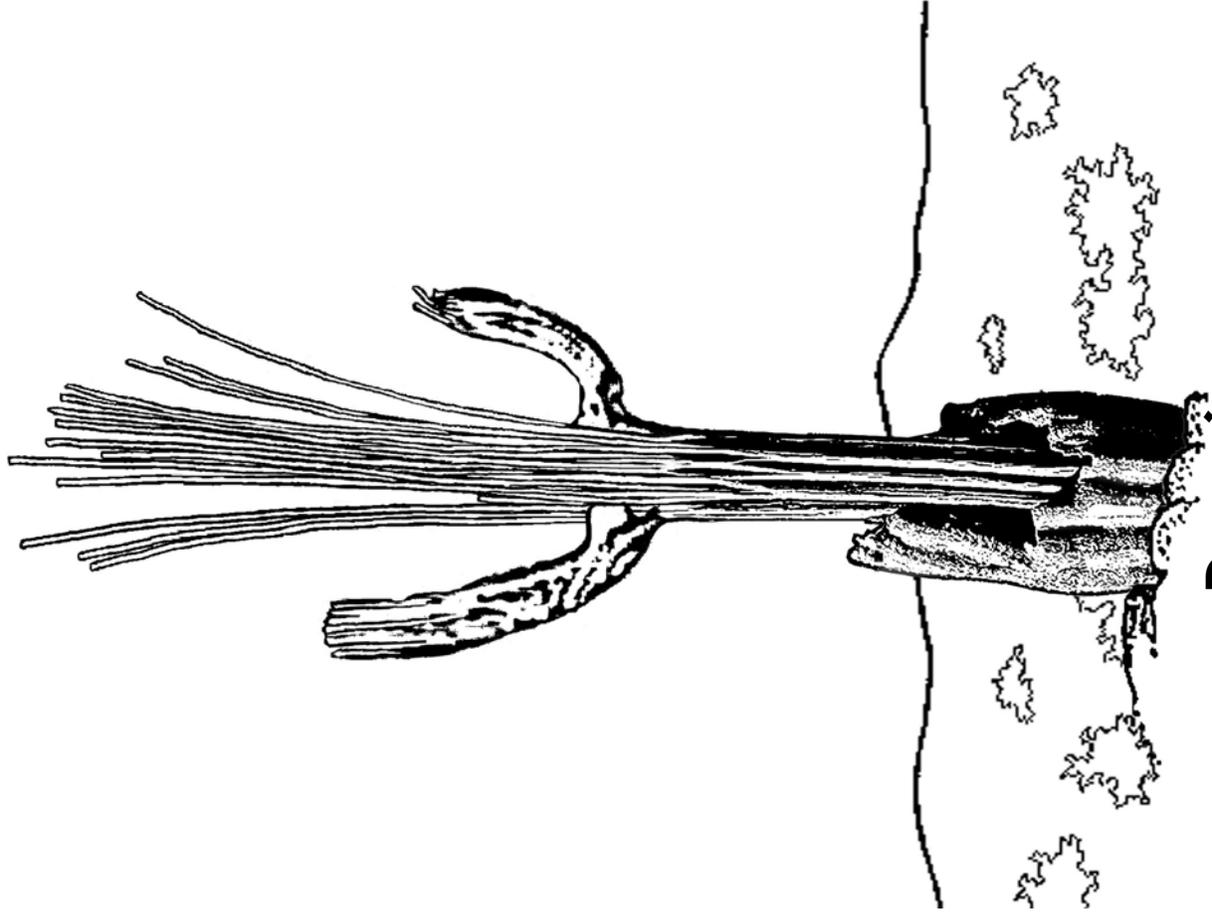
**50 to 75 years old**

**4**



**125 years old**

**5**



**Decaying**

**6**



# Arizona Quarter Reverse

