

# DESERT WATERS

Students watch a video, read background information and answer questions to familiarize themselves with the content they will explore in the Desert Waters program.

## OBJECTIVES

Students should:

- Review the water cycle and label its parts.
- Define a riparian area and describe its importance.
- Explain Tucson's founding in relation to its surface water.

## MATERIALS

- Computer to show video
- Copies of Desert Waters—Student background reading

## VOCABULARY

- Evaporation
- Groundwater
- Habitat
- Precipitation
- Riparian
- Stream

## INTRODUCTION

To get students thinking about water, show the National Science Foundation video “The Water Cycle” found at <https://www.youtube.com/watch?v=al-do-HGuIk>. This video reviews the importance of water and how water moves through the water cycle.

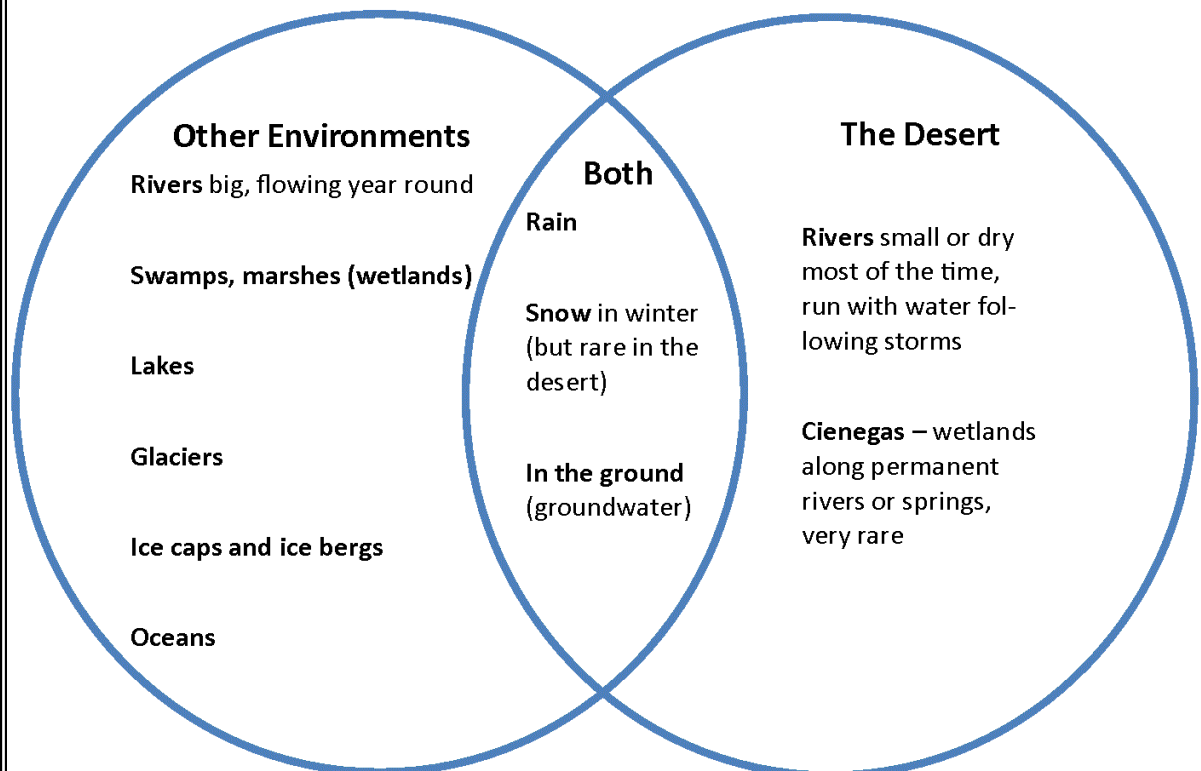
After watching the video, do a Venn Diagram with the students to think about how the video's water images are similar to or different from what they see around them in the Tucson area. Do we have lakes, streams, rivers, wetlands, and snow like the video showed? How is it different here? Discuss the fact that we live in a desert, so water is more limited than in many of the images we saw in the video.

## DOING THE ACTIVITY

Hand out the student background reading sheets. Explain that they will be reading these and answering questions about them in a moment. Direct their attention to the water cycle chart. Review the water cycle with them, having them fill in the blank spaces on the chart as you guide them with the following questions that reflect Tucson's water cycle.

1. What do we call moisture that falls from clouds? *Precipitation*.
2. What is the main form of precipitation we receive in Tucson? *Rainfall*.
3. What are some other forms of precipitation we might receive? *We get snow in the mountains, and*

### The Water Cycle: Where Do We See Water?



# DESERT WATERS

## ARIZONA ACADEMIC STANDARDS— SCIENCE

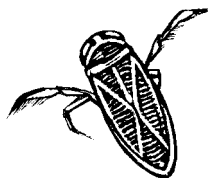
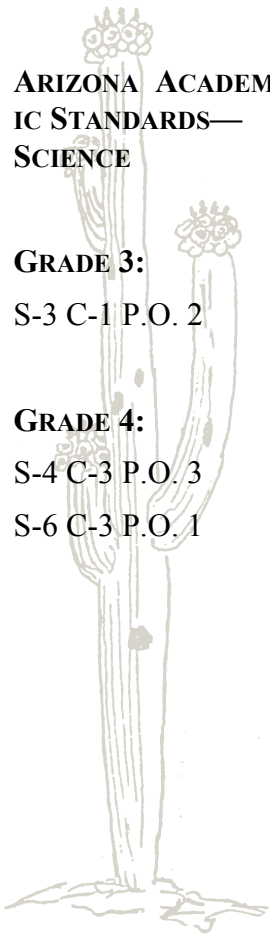
### GRADE 3:

S-3 C-1 P.O. 2

### GRADE 4:

S-4 C-3 P.O. 3

S-6 C-3 P.O. 1

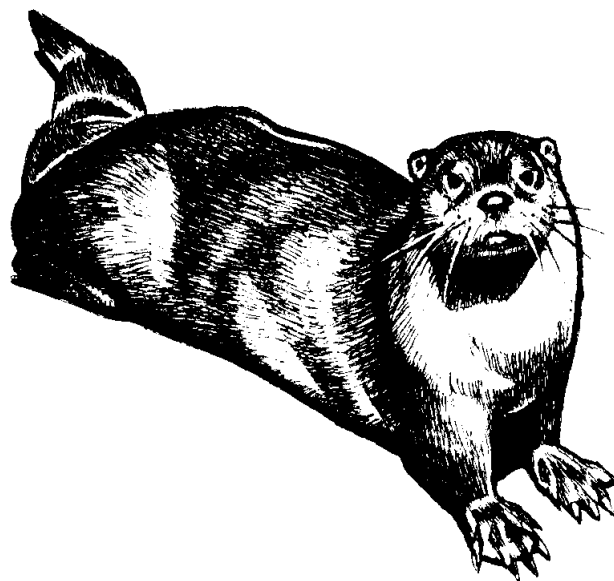
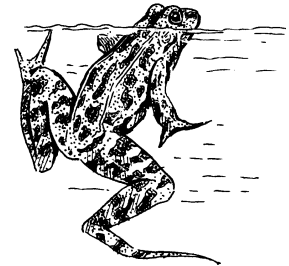


*rarely, the deserts, as well as hail and fog.*

4. Where does this moisture come from? *The sun drives evaporation of water from the sea, from surface waters like lakes and rivers, and from living things. This water vapor condenses into clouds, eventually becoming so saturated that the condensed liquid water precipitates out.*
5. What happens to that water as it falls as precipitation? *Some runs off and forms rivers and streams. Some gets used by living things. Some percolates into the ground, becoming groundwater. Some evaporates and returns to the air.*

Ask the students to think about the importance of water to life in the desert. Encourage them to think about how scarcity of the resource makes it even more precious than in other places. State that they will be participating

in a Desert Museum program about water in the desert, and that the background reading will provide some information to prepare them. Assign the reading and ask them to answer the questions. Review their answers as a group before attending the program. (See the answer sheet after the blank student handout.)



# Desert Waters—Student Background Name \_\_\_\_\_

## Desert Waters

Deserts are dry places. Most get less than 10 inches of **precipitation** each year. The Sonoran Desert is special. It has more plants and animals than most other deserts in the world. This is partly because it rains here in summer and winter.

When rain falls, plants quickly soak it in with their roots. Some rain water **evaporates** in the heat and dry air. Some flows into washes or **streams**. Some of it sinks into the sand, becoming **groundwater**.

Where water flows at or near the ground's surface along streams and washes, it forms **riparian** areas. These areas have more moisture than the desert around them, supporting lush trees and plants. They provide **habitat** for



many animals like bald eagles, beavers, snakes, and frogs. Nearly 80% of Arizona's wildlife depends on riparian areas at some time during their lives.

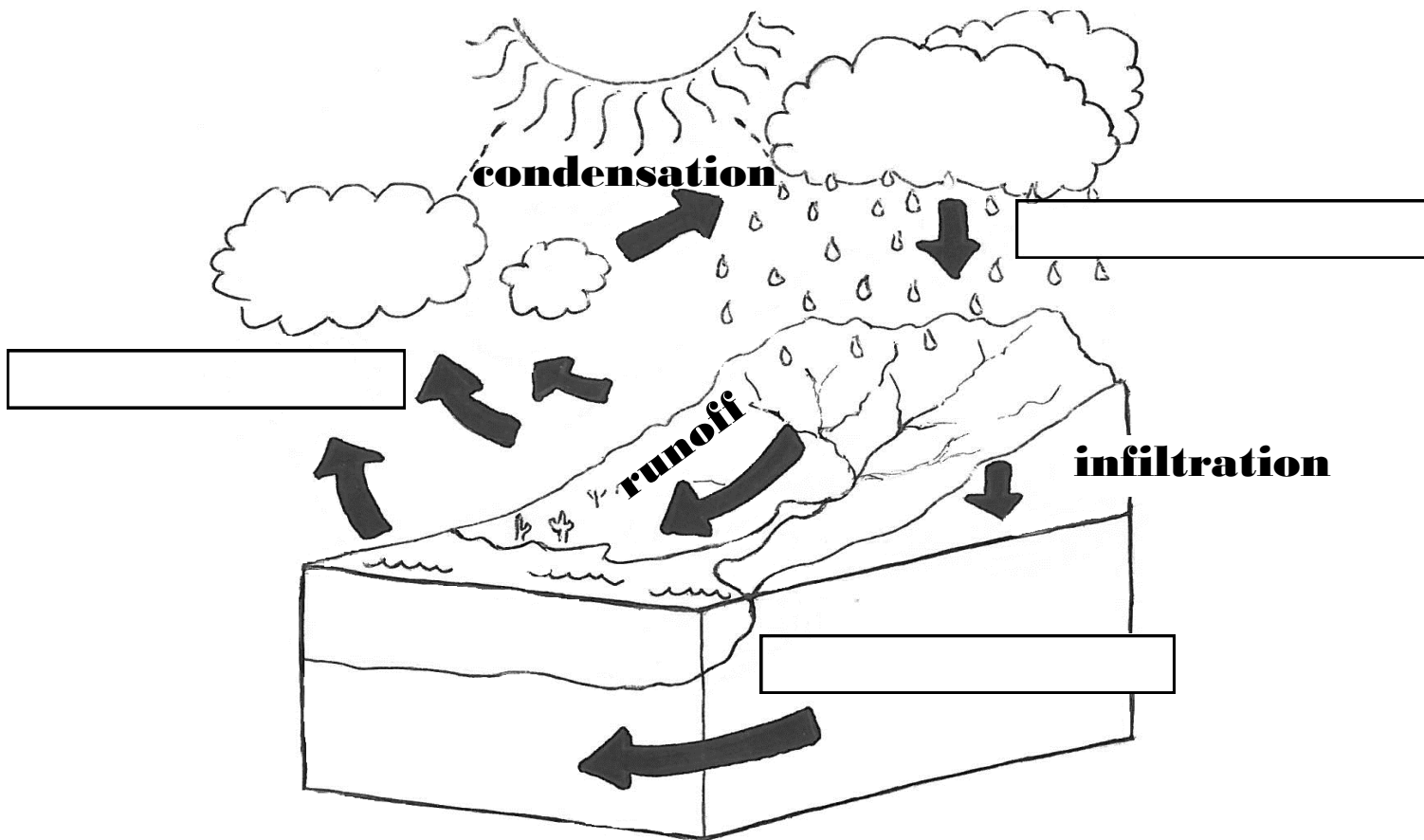
Humans depend on desert waters, too. Tucson exists because water flowed year-round at the base of A Mountain. For over 4,000 years, small groups of native people hunted and collected foods they found along the river and nearby desert. They used the water to grow corn, beans, squash, and cotton.

Today, Tucson is very different. Many more people live here. The river no longer flows. In the Desert Waters program we will discover why, and learn how we can save precious desert waters for everyone who needs them.

Turn to next page

# Desert Waters—Student Background

1. Label the blank parts of the water cycle using the following terms:  
evaporation, groundwater, precipitation



2. What is a riparian area? \_\_\_\_\_

\_\_\_\_\_

3. Why are riparian areas important? \_\_\_\_\_

\_\_\_\_\_

4. Why have people lived in Tucson for so long? \_\_\_\_\_

\_\_\_\_\_

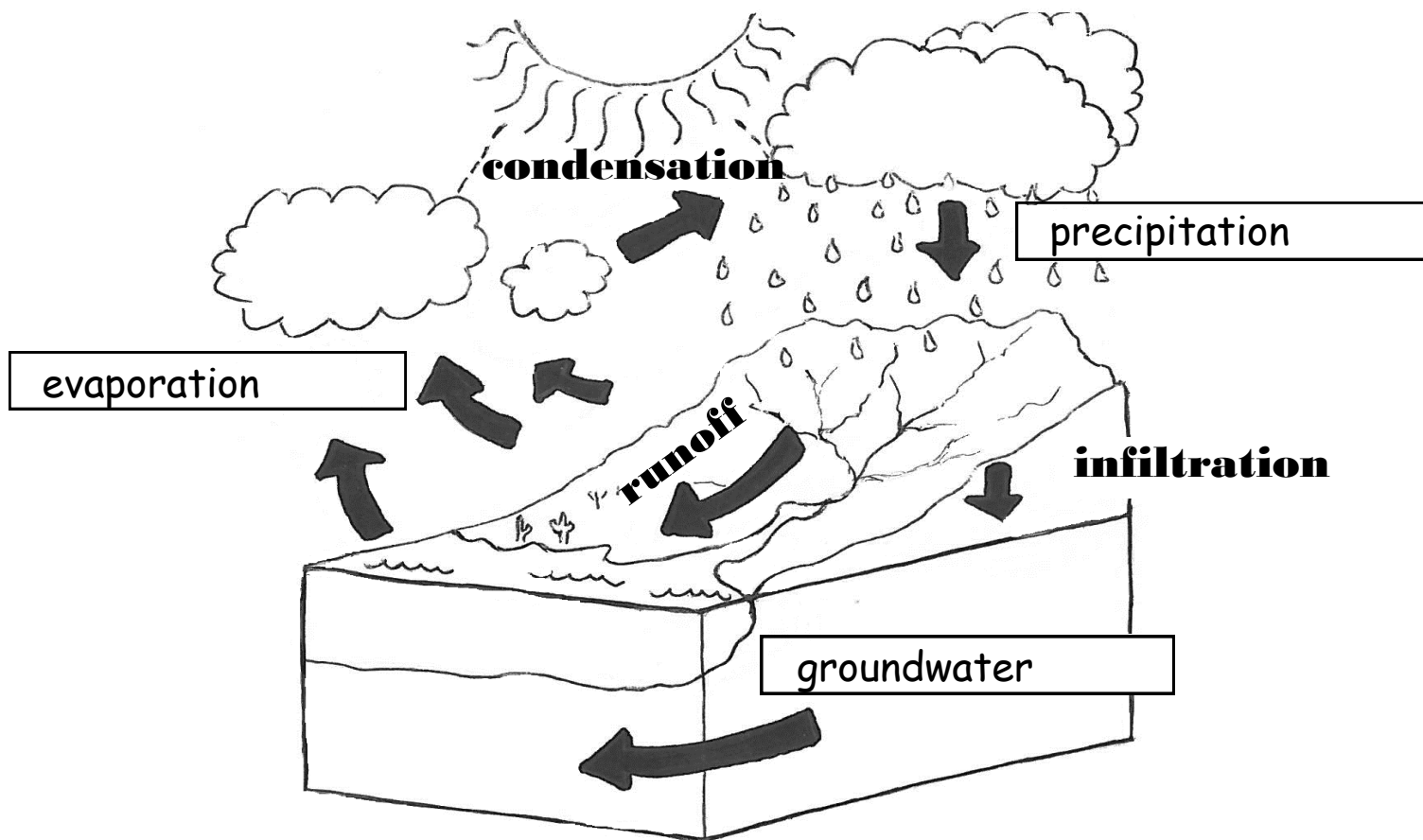
5. How is Tucson different today from 4,000 years ago? \_\_\_\_\_

\_\_\_\_\_

# Desert Waters—Student Background Answers

1. Label the blank parts of the water cycle using the following terms:

evaporation, groundwater, precipitation



2. What is a riparian area? Riparian areas are places where water flows at or near the surface. They provide lush plant growth and habitat for many animals.

3. Why are riparian areas important? Riparian areas are important habitat for many animals. Eighty percent of Arizona's wildlife use riparian areas at some point within their lives.

4. Why have people lived in Tucson for so long? Tucson's birthplace had year-round water available to grow crops and to produce wild native foods people could gather.

5. How is Tucson different today from 4,000 years ago? The water no longer flows and there are many more people living here than before.