

# When Water Comes to Town – Where does it go?

Activity Book, pages 21-23

## KEY CONCEPTS:

Stormwater falling in Central Arizona must be channeled and drained to washes to reduce flooding. Central Arizona cities have two types of drainage systems: wastewater and stormwater. The wastewater system carries household wastewater to treatment plants to be cleaned and reused for irrigation.

Stormwater is discharged from streets and washes directly to desert streams through a series of gutters, streets, culverts, and underground storm drains. This is the stormwater system. Stormwater is not sent to a treatment plant for reuse, but instead empties directly into washes and rivers.

Therefore, stormwater management is essential in Central Arizona.

## CORRELATED ADE STANDARDS:

**Science:** SC06-S3C1-02, SC06-S4C3-02, SC07-S3C1-01

**ELA:** (NOTE: Reading Standards for Informational Text [RI] are incorporated throughout each section of **STORMWATER IN THE DESERT.**)

**Educational Technology:** ET06-S1C1-01, ET06-S3C2-02, ET06-S3C2-04, ET07-S1C1-01, ET07-S3C2-02, ET07-S3C2-04, ET08-S1C1-01, ET08-S3C2-02, ET08-S3C2-04

## ACTIVITY

### Our Amazing Stormwater System (pages 22-23)

**MATERIALS:** None

## SUGGESTED PROCEDURES:

Students find their way through a maze depicting how stormwater is conveyed throughout a city.



# Stormwater Management Structures

## Student Worksheet

Name \_\_\_\_\_

Class \_\_\_\_\_

Directions: Use this worksheet as a guide to locate and identify stormwater management structures around your school campus or neighborhood. In the provided spaces, predict how each structure functions in diverting water to the storm drain system.

### STREET



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Metal SCUPPER



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Concrete SCUPPER



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Curbside CATCH BASIN



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Parking lot *CATCH BASIN*



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Retention *DRYWELL*



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Retention *CATCH BASIN*



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### RETENTION BASIN



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### Parking lot *DRYWELL*



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

### HEADWALL (2 designs)



Located?    YES    NO

Function prediction: \_\_\_\_\_

\_\_\_\_\_

**EXTENSIONS:**

Embark on a local field trip to acquaint students with their school neighborhood and its stormwater management components, specifically the culverts, storm drains, and washes that channel stormwater.

Before going outdoors, print or photocopy the *Stormwater Management Structures* worksheet (below) for each student or team. Briefly review the names and features of each structure and explain that this worksheet will serve as a guide to locate and identify structures and their purposes for managing stormwater. (*NOTE: Not all structures may be present around the school campus. Consider previewing the neighborhood yourself before taking students outdoors.*)

Explain to the students that you will be “reading the landscape” to observe and track where water goes. Ask students the following questions to get them prepared for their outing and to guide their observations once they are outdoors:

*What are some things we can look for to tell us where water flows in our neighborhood?*

*How can we tell which way is downhill?*

*Are there some places where the water soaks in more than others?*

*Once water enters a drain in our neighborhood, where does it go?*

*What are some clues that tell us where water goes from here?*

Once outdoors, help students look for and notice the following: storm drains, gutters, washes, mud cracks, culverts, *Only Rain in the Drain* markers (if available), debris left behind after a flow event, puddles or water marks from salt or other staining left from old puddles, slight changes in elevation, pervious and impervious surfaces, denser vegetation growth indicating a watercourse, and any other signs of water they might observe. Have students notice the slope of streets and imagine how water flows from higher areas to lower. You could make it a contest to see who devises the most observations.