



## Theme: Sustainability (Grades 6-8)

### Pre-Visit Activity #2

### Create Your Own Rainwater Harvesting System

#### Overview:

Harvesting rainwater can benefit people and the environment. After learning about these benefits, students will work in groups to harvest rainwater from the school grounds during the next rainfall.

#### Objectives:

- Students will learn about the benefits of harvesting rainwater.
- Students will work in groups to harvest rainwater.
- Students will evaluate the effectiveness of their system.

#### Materials:

- Various materials brought from home to collect rainwater
- Graduated cylinders

#### Background:

It only rains an average of four inches each year in Southern Nevada. That is not a lot of water when you think about the fact that the average family uses 80 gallons of water a day! While Southern Nevada does not receive a lot of rain, families and facilities like the Springs Preserve have begun harvesting rain water as a way to conserve the water in Lake Mead. Although this may sound like a new sustainable practice, people throughout the world have been doing this for thousands of years.

#### Activity:

1. Split students into small groups (4-5 students).
2. In their groups, have students brainstorm a list of possible containers that could be used to collect rainwater. Encourage them to think creatively; they should consider anything that is an open-topped container that can be re-used as a rainwater harvesting container.
3. To get the groups thinking in the right direction, start off the list with ideas such as old buckets, old clay pots, metal tubs, etc.
4. Assign the students the homework of looking around their homes for new ideas and bringing in at least one additional idea to add to the list (students

may bring in the actual item or a description of that item, including size and shape).

5. Once each group decides on their container, take them on a walk around the school grounds to look for an area where they can place their containers. Remember to place them in an area out of the way and to notify the proper school supervisors of the experiment.
6. Wait until the next rainfall.
7. Have students retrieve their rainwater harvesting systems and take them back to class.
8. Using a graduated cylinder, have each group carefully measure in mL the amount of water they have collected.
9. Once all groups have measured and recorded their results, have the groups share their results
10. Each group should collectively bottle up the water into one container.
11. The class can then decide how they want to use the water (to water indoor plants, etc.)
12. Have each group answer the discussion questions.

#### **Discussion Questions:**

1. Did each group place their containers in similar places or not?
2. What types of containers did each group use? Did the sizes differ?
3. Which group collected the most water? Why do you think this is the case?
4. Did each group collect their containers at the same time? Why is it important to have done that?
5. Draw a picture of your rainwater harvesting container.
6. How much water did your group collect?
7. How much water did you collect as a class?
8. If there are 500 classes that each collected the amount of water that you did, how many milliliters of water would you have to water plants?
9. Do you think a more sophisticated collecting system should be used at homes in Las Vegas? Why or why not?
10. If you were to do this experiment again, how might you modify your container to catch water more efficiently?