

# My Desert Sponge

## Summary

In this activity students will take care of a sponge for 24 hours. They must make adaptations for the creature to stay hydrated. They will also make observations.

## Time Frame

2 class periods of 60 minutes each

## Group Size

Individual

## Materials

- [student page](#)  
(attached)
- 18 standard size sponges
- balance
- cups
- water
- tape
- anything else students may think of

## Student Prior Knowledge

Students should understand the importance of water to cells and therefore living organisms

## Instructional Procedures

- Obtain required materials
- Cut each sponge in half
- Pass out student sheet
- Read over purpose with students
- Have them plan their modifications, list needed materials, make hypotheses etc (This portion of the lab will take around 20 minutes the first day)
- Tell students to bring the needed supplies to support their sponges the following day
- Pass out a sponge to each student, stress the importance of taking care of their sponge and ensuring its survival (I let the students name them and they think it is quite fun!)
- The next day students should make their initial observations, modifications and data collections
- This will probably take around 20 minutes, make sure students understand the importance of making observations at the appropriate times
- Also make sure students know their sponge must be exposed to the environment for 4 hours during the 24 hour period. This represents the time the animal must leave its shelter to feed and obtain the energy required for survival
- The following day students should mass their sponges and work on answering the lab questions.

## Answers to Questions:

- Answers will vary depending on the student's adaptations
- Answers will vary
- Dissolves important nutrients and gasses needed by our bodies --All chemical reactions must take place in water --It helps the body maintain a constant internal temperature

An organism could become dehydrated and unable to obtain the energy that it needs --The organism could die from lack of water

Answers will vary

Water is the universal solvent-it dissolves needed gasses and nutrients. Water has a high heat capacity to help maintain a constant internal temperature so that reactions can occur. Water has cohesive properties which allow for surface tension and capillary action. Finally water has adhesive strength which is important for plants and animals.

It is similar in that the organism has an adaptation to conserve water, the sponge will lose water if steps are not taken to conserve it. It is different in that the sponge is not alive and cannot drink water and also that the sponge is not losing energy and water through cellular process like respiration etc.

All living organisms require water. The number of organisms in an environment is dependent on the amount of water available to sustain them.

Conclusions: *Answers will vary but they should be indepth and show understanding by the student.*

### Assessment Plan

#### Sample Scoring Guide:

Prelab Completed (materials through experimental design).....10 points

Observations detailed and complete..... 20 points

Questions answered correctly.....16 points

Conclusions are thoughtful and complete.....9 points

### Bibliography

Lesson Design by Jordan School District Teachers and Staff.

### Authors

[Utah LessonPlans](#)