

Lesson: Plant Adaptations

Reference to English
Interconnections Lesson
Plant Adaptations Pg. 45

Science Standard(s): Students will gain an understanding of Life Science through the study of changes in organisms over time and cell theory.

Objective(s): Tell how external features affect an animals' ability to survive in its environment.

Indicator(s): Develop, communicate and justify an explanation as to why a habitat is or is not suitable for a specific organism.

Content Objective(s):

kid friendly objective. Will be posted on the board.

Language Objective(s):

Kid friendly. Posted on the board. May include listening, speaking, reading, writing. See list of possible verbs.

Essential Questions: How does location affect living things?

Academic Vocabulary:

plants, living things, survive, environment 植物, 生物, 存活, 环境

Materials:

Language References and Word Wall:

Required: plants, living things, environment 植物, 生物, 环境
Additional: survive, desert, cactus, habitat 存活, 沙漠, 仙人掌, 栖息地

Sentence Frames:

Lesson: Plant Adaptation

Instructional time:

Opening: (5 minutes)

Place a collection of plants around the room (including cactus and succulent plants 多水分植物). Have the students do an observation (no touching) walk around the classroom.

Question: Which plant is your favorite?

Introduction to New Material (Direct Instruction): (10 minutes)

Explain: Today we are going to discuss deserts.

Question: What do you know about the desert?

It is an area of land, usually in very hot climates, that consists of only sand, grave, or rock with no permanent bodies of water, and very little rainfall.

Question: Have you ever been to a desert?

Do we have a desert in Utah?

Are there other deserts around the world? (use a map or globe to show all the deserts)

Which plant(s) in the classroom do you think lives in the desert?

Is it hard for most plants to survive in the desert? Why? (It is very hot and has little water)

Just like animals have characteristics that help them survive in a variety of habitats and conditions, so do **PLANTS**. Today we will learn about some of the ways plants can survive in a desert.

Question: What adaptations does a plant need to survive in the desert? (Get and keep water, prevent being burned by the sun, keep from being eaten by other animals)

Refer back to the cactus and succulent plants.

- the "skin" of the plant is very thick and covered in a waxy coating to help keep moisture inside.

- Language suggestions:

Language Building:

Experiment and Record: (15 minutes)

Show the students the materials they will be using during the experiment: sponges (the "leaf"), bowl, water, petroleum jelly(凡士林), and toothpicks (牙签).

Use the modeling cycle:

PART ONE

1. Model: Place one half of the sponge in each bowl. Cover the top and sides of one of the pieces of sponge with petroleum jelly (a nice, thick coating). Place the uncoated side down in the bowl. Then add ¼ cup of water to each bowl and let the sponge soak up the water (pour off any excess).

2. Have the students in groups of 2 go to this point in the experiment.

3. Check the sponges periodically to see how long it takes for the sponges to dry out. Students should notice that the uncoated ones dry out first. Have students record their observation.

PART TWO

1. Model: Place one half of the sponge in each bowl. Put toothpicks in one of the sponges (to represent the cactus).

Question: Which one will be protected from birds and other animals trying to eat it?

Closing: Discussion and Report: (7 minutes)

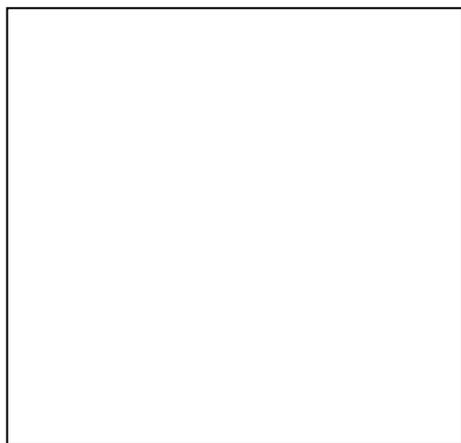
Discuss how the coated sponge is similar to the leaves on the succulent (coating keeps moisture inside).

- Language suggestions:

Assessment:

Discussion of experiment.

我的沙漠植物小书



作者: _____

我的实验记录

有覆盖层的海绵

圈出海绵是干的还是湿的。

第一次检查: 干的 湿的

第二次检查: 干的 湿的

第三次检查: 干的 湿的

没有覆盖层的海绵

圈出海绵是干的还是湿的。

第一次检查: 干的 湿的

第二次检查: 干的 湿的

第三次检查: 干的 湿的

写出为什么海绵干掉的时间不一样？