Plant Adaptations Activity

For Docent/teacher

This activity is designed to be used as a follow-up reinforcement after a visit to the San Diego Botanic Garden for the Plant Adaptations tour.

After tour of garden, have teams of students design a desert and a rainforest plant based on typical adaptations. Plants should be 3-dimensional not a flat drawing. The teams should plan what they want to do using the activity chart. Post the lists of adaptations.

Supplies

A variety of art materials
Light and dark green construction paper
Light and dark green tempera paint (optional)
Yarn or twine for roots
Markers, crayons, pencils, scissors, glue, staplers
Pictures of desert and rainforest plants
for reference (optional)
Recycled scraps such as toilet paper rolls, paper towel rolls, lids, cereal box cardboard.

PLANT ADAPTATIONS ACTIVITY CHART
"You Design a Plant"

Plants have evolved in different ways to handle different environmental stresses in different climates. Fill out the chart below to help you design a plant for a desert and one for a rainforest.

Adaptations	Desert Plant	Rainforest Plant
What color of green is your plant?		
What size of leaves does your plant have?		
How does your plant hold its leaves-- horizontal or vertical?		
What kind of roots does your plant have?		
What special feature does your plant have for either storing water or getting rid of too much water?		

Now use the art materials to design a plant for a desert climate and another one for a rainforest.

San Diego Botanic Garden
230 Quail Gardens Drive
Encinitas, CA 92057
www.SDBGarden.org

Deserts have less than 10 inches of water a year and often have extremes of temperatures from day to night.
In the desert, plants struggle for water.
(Not all desert plants have all the adaptations.)

Desert Adaptations

1. **Small leaves** (not to lose water)
2. Large **thick leaves** to store water
3. **Light or gray green** leaves to reflect light.
4. Hairy, **fuzzy leaves** to trap fog.
5. Some plants spikes and spines.
6. **Accordion pleats** to store water
7. Few plants **spaced wide apart.**
8. Leaves held up and down (vertical) to avoid too much sunlight.
9. **Deep roots** or roots spread out over a large area

A Rain Forest can have as much as 400 inches of rain a year, so getting water is not a problem. It is the dense vegetation that makes getting sunlight the real battle.

In the rainforest, plants struggle for light.

(Not all rainforest plants have all the adaptations.)

Rainforest Adaptations

1. Very **big leaves** to soak up sunlight
2. Very **dark green** leaves to soak up sunlight.
3. Vines climbing to reach sunlight.
4. **"Piggybacking"** on other plants to reach for sunlight.
5. Many plants **close together**.
6. **Fast growing** to reach the sun first.
7. Leaves held flat (horizontal) to capture sunlight.
8. Shallow roots, roots above ground, buttress roots for support.