

Name : 

14

Members  
of your team : 

## DESERT LIFE

Imagine a place where rain does not fall for months! The ground is dry and sandy and the temperatures during the day reach 40° C or more! Not many plants are able to survive in such a habitat. Yet, there are some specialists! Cacti and drought-tolerant plants are mainly from the plant family Euphorbiaceae. These plants are adapted to living and reproducing in arid places. In this activity, we identify their characteristics which enable them to withstand such harsh conditions, as well as evaluate whether those in your school gardens are given suitable physical conditions.

### Project Objectives

#### Your Team has to/You have to:

1. Measure the physical conditions in a cacti plot or garden.
2. Evaluate if these conditions at the cacti plot are similar to desert conditions
3. Observe cacti and drought-tolerant plants and list characteristics which help them adapt to desert-like conditions.
4. Select a cactus or drought-tolerant plant and propagate (reproduce) it.

Watch out for the thorns on cacti plants!

#### Equipment/Materials

Data loggers from school, (with temperature and light sensors) and materials for propagation: pots, soil, gardening tools, gloves, seeds, plantlets, stem cutting and secateurs.

### Suggested Steps

#### Session 1

1. Go to a cactus plot or garden. Measure the physical conditions of the school cacti plot. Observe the soil conditions too.
2. Observe cacti and other drought-tolerant plants and note down key external features and adaptations. Optional: take photographs.
3. Do research to evaluate if the physical conditions of the cacti plot or garden are similar to desert conditions.
4. Do research to find out how to reproduce cactus plants.

#### Session 2

5. Obtain the materials (seeds, insets, pots, soil, gloves, spades etc.) and propagate some cactus plants.

## Physical Conditions Of A Cactus Plot/Garden

Observe and record the following physical characteristics.

Location of your cactus plot:

Physical Characteristics	Reading/Observation
<b>Substrate</b> Describe the type of soil in the plot	
<b>Temperature</b> Record the temperature and Time of day:	
<b>Light levels</b> Record the light level and weather condition (e.g. sunny, cloudy)	

a) Is the soil in your plot similar to that in a desert?

b) Is the recorded temperature in the plot similar to that in a desert?

c) Is this amount of light reflective of the conditions in a desert?

## Conclusions

d) From your research and measurement of the physical parameters at your cactus plot, how do the conditions compare with those of a desert?

e) Are the conditions at the plot suitable for the cacti and drought-tolerant plants in your school garden?

f) What recommendations would you suggest to give them the conditions they need?

### Cacti Characteristics

Observe your cacti and other drought-tolerant plants. What features do they have that help them adapt to desert conditions?

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