

# Plant adaptations to habitats

Plants in different habitats possess different adaptations:

**Mesophytes:** plants adapted to a habitat with adequate water

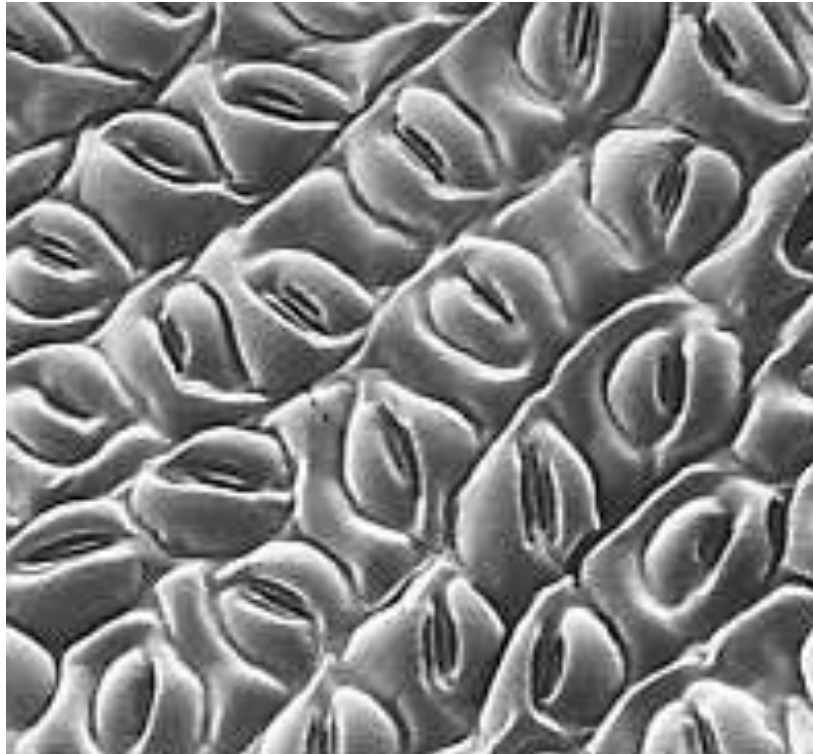
**Xerophytes:** plants adapted to a dry habitat

**Halophytes:** plants adapted to a salty habitat

**Hydrophytes:** plants adapted to a freshwater habitat

# Hydrophyte:

Leaf undersurface of the tree fern. Extremely high number of stomata per unit in a species living in tropic cloud forests where it is very moist.



**Mesophytes** do not have any specific morphological adaptations. They usually have broad, flat and green leaves; an extensive fibrous root system to absorb water; and the ability to develop perennating organs such as corms, rhizomes and bulbs to store food and water for use during drought.



A **halophyte** is a plant that grows in waters of high salinity, coming into contact with saline water through its roots or by salt spray, such as in saline semi-deserts, mangrove swamps, marshes and sloughs and seashores



A **xerophyte** is a species of plant that has adapted to survive in an environment with little liquid water, such as a desert or an ice- or snow-covered region in the Alps or the Arctic.



# All Cacti are xerophytes





Permission from Parks Canada - P.E.I. National Park







# **Ecology, including humans and the environment.**

**Ecological problems in Kazakhstan and  
solutions**

# Lesson Objectives

- Identify the ecological problems in Kazakhstan.
- Evaluate case studies of ecological problems in KZ.
- Provide solutions to the ecological problems in KZ.

# Natural Resources

## Renewable resources

- It is an organic natural resource which can be replaced to overcome usage and consumption, either through biological reproduction or other naturally occurring processes.
- Eg: air, water, wind, solar energy, etc.

## Non-renewable resources

- Natural resources that cannot be replaced naturally at the same pace as it is being used.
- Eg: Coal, oil, natural gas, wood, nuclear energy, etc.



What are the natural resources found in Kazakhstan?

# ENVIRONMENTAL PROBLEMS

- **TOPICS**

- The Aral Sea
- Semipalatinsk Test Site
- Problems of Band (Strip) pine in Kazakhstan
- Factory and industry of Kazakhstan

- **SUCCESS CRITERIA**

- Must be evidence-based.
- Give examples no more than three causes of this ecological problem
- Contain references and illustrations where appropriate.

# Write solution

- You are going to produce a report that can be read by those who are in charge of the environment. As such, it must be evidence-based and contain rational proposals for solutions and be presented to a high standard, including references and illustrations where appropriate.