

UNIT

**2**

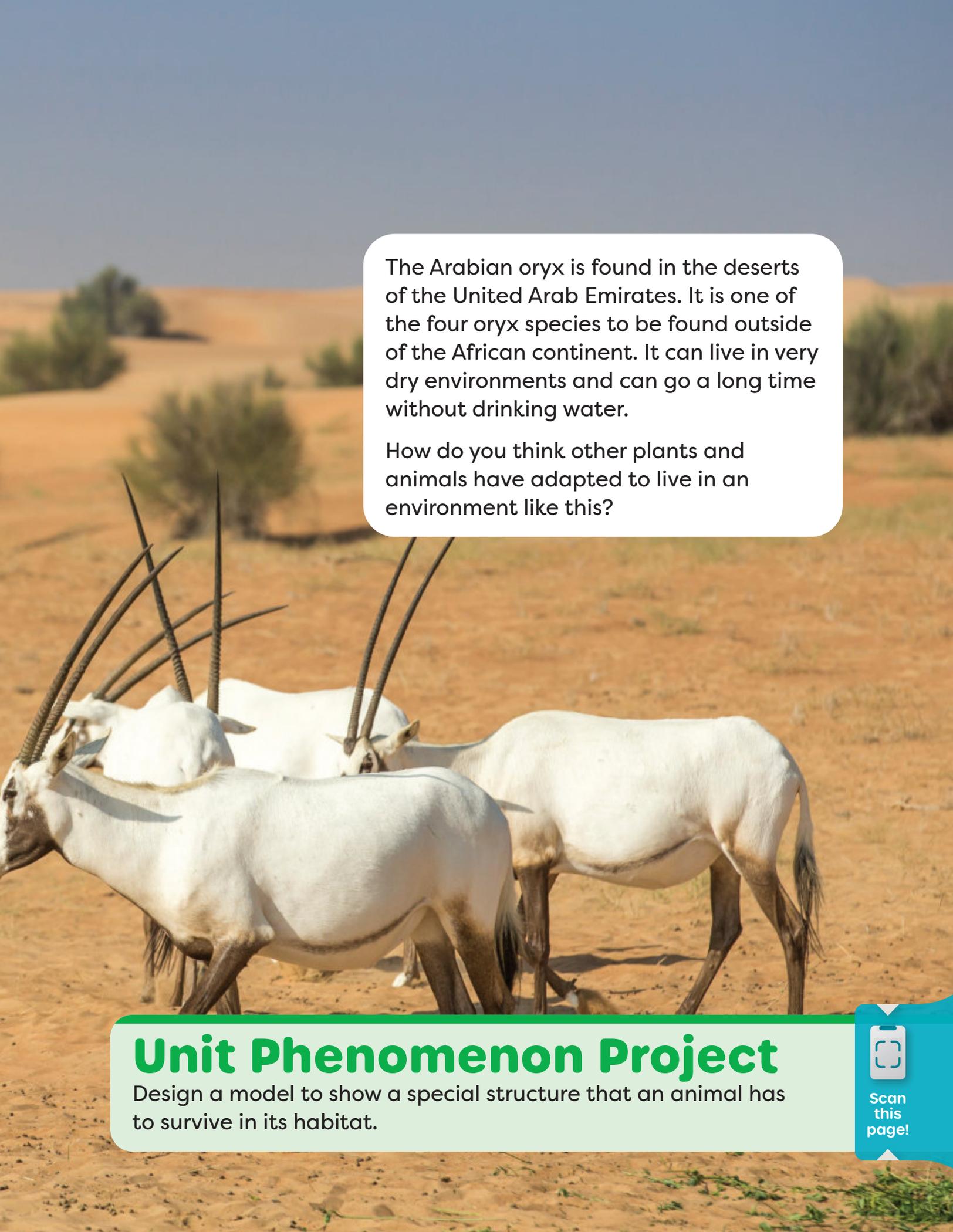
# Plant and Animal Adaptations

**Chapter 2A:**

Structures and Functions in  
Plants and Animals

**Chapter 2B:**

Information Processing

A photograph of a herd of Arabian oryx in a desert landscape. The animals are white with long, spiraling horns. They are standing on sandy ground with sparse green vegetation in the background under a clear blue sky.

The Arabian oryx is found in the deserts of the United Arab Emirates. It is one of the four oryx species to be found outside of the African continent. It can live in very dry environments and can go a long time without drinking water.

How do you think other plants and animals have adapted to live in an environment like this?

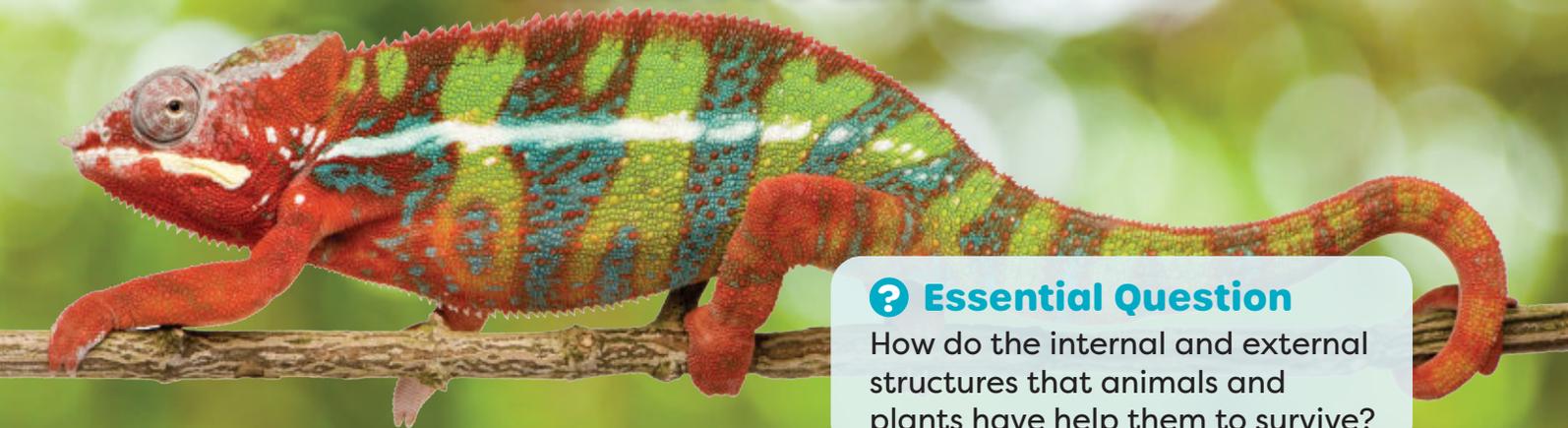
## Unit Phenomenon Project

Design a model to show a special structure that an animal has to survive in its habitat.



Scan  
this  
page!

# Structures and Functions in Plants and Animals



## Essential Question

How do the internal and external structures that animals and plants have help them to survive?

## Chapter Project

Make a model of a forest. Include an animal or a plant to show how it is adapted to suit this environment.

1. Draw, color, or paint the background of the chosen environment on a box or a piece of cardboard.
2. Show the structures of your chosen animal or plant clearly using some modelling clay. Label the structures.
3. Present the completed model and share the details with your classmates.



## Lesson 1

# Special Structures in Plants

### Key Terms

structural adaptation      behavioral adaptation  
reproductive organs      reproduction

### Recall

1. What does a plant need to grow?
- 

### Engage



### The Venus Flytrap

1. What is happening in the picture?
2. How do you think the plant depend on the insect?
3. What happens if the plant is shaped differently from what you see here?



Scan  
this  
page!

# Explore



In **Engage** on page 5, you learned about an unusual plant that has special structures. Now, you will **Explore** special structures in the plants that are found around your school.

1. Take a walk around your school. Observe the plants you see.
2. Choose a plant. Draw or take photographs of the plant parts: roots, leaves, stems, flowers, seeds, or fruit. Draw or paste your photographs in the table below.
3. Look at your drawings or photographs of the plant. Complete the table below with the special structures that you can identify.

<b>Leaves</b>	What size and shape are they?  Do they have any special texture? If so, describe the texture.
<b>Stems</b>	How does the stem look and feel like?  Are there any spines or thorns?

<b>Roots</b>	Do you see any visible roots? What do they look like?
<b>Flowers (if any)</b>	What color are they?  What do you notice about the petals or inside structures of the flower?  What do the flowers smell like?
<b>Fruit (if any)</b>	What do they look like?

Why do the plant parts look different in each plant?

What makes these plant parts special?



## Types of Adaptations

There are two types of adaptations that a living thing can have in order to better survive in its habitat - structural and behavioral. A habitat is the environment that a living thing lives in. For plants, such adaptations help to improve their growth and their ability to get sunlight and nutrients from the soil. The adaptations also help plants to obtain water, to have enough space to grow, and to reproduce.

### Structural Adaptation

**Structural adaptations** are physical features that a living thing has that help it survive better in its habitat.

For example, an Acacia tree is structurally adapted to live in a habitat with little water. It has long roots that grow deep into the soil to get underground water for its growth. This tree also has long needle-like spines to protect itself from being eaten by animals.



## Behavioral Adaptation

**Behavioral adaptation** is a change to the way a living thing usually acts in order to enhance its survival. A living thing can change the way it communicates, the way it feeds, or the way it protects itself.

For example, when a giraffe eats the leaves of an Acacia tree, the tree sends a signal to the leaves to produce a bad-tasting and poisonous substance. This prevents the giraffes from eating too many leaves.



### Check Your Understanding

Identify the type of adaptation in the following plants.

1. Needle-like leaves on a cactus
2. Venus flytrap closing its leaves when an insect is on it