

LIVING
SYSTEMS
&
PROCESSES

A. Introduction

The World & Animals/Plants

Have you ever wondered how animals and plants grow and change? They have fascinating life cycles! A life cycle is the different stages an animal or plant goes through as it grows. They have unique life cycles that help them survive in the different habitats. Let's explore the fascinating world of life cycles and how animals & plants interact with their habitats.

Animals have diverse life cycles. Some animals, like butterflies, start off as tiny eggs. Then they hatch into caterpillars which close themselves off in a cocoon (a covering for itself). A transformation in the cocoon and it becomes a butterfly! This process is called **metamorphosis** - A process where animals go through physical changes when they are growing. It's an amazing process in nature!

Plants have their own unique life cycle as well. They start as seeds and sprout into big plants! They do this through a big process called **photosynthesis**, which allows them to take energy from the sun to make food. Together, water, sunlight, and air turns them into bigger plants! Plants can be flowers, fruits, or seeds. They can be spread throughout the world by so many different processes, such as wind, water, animals, or even sometimes humans! Plants are fascinating, they can grow anywhere with these free travels!

Together, animals and plants all live together in one place, something called a habitat! This is a place where an **organism** lives and finds what it needs to survive! An **organism** is either a plant or animal, one that is living. Different habitats support different types of plants and animals. The ocean has fish and aquatic plants, the deserts have foxes, rabbits, and cacti, and forests have tall trees that support birds, deers, shrubs, and millions of organisms!

Around the world, there are so many habitats. Rainforests, grasslands, mountains, and wetlands. They each have their own temperatures, weather, physical features, and unique organisms! Together, plants and animals create a habitat that makes the Earth so beautiful!

1. What is a life cycle?
 - A) The stages an organism goes through as it grows and develops
 - B) A way for plants to make food
 - C) The process of changing from one animal to another

2. What is metamorphosis?
 - A) A process where animals go through physical changes when they are growing.
 - B) The process of plants growing from seeds
 - C) The process of animals turning into plants

3. How do tadpoles breathe?
 - A) Through lungs
 - B) Through gills
 - C) Through their skin

4. What do plants need to grow?
 - A) Water, sunlight, and air
 - B) Soil, rocks, and insects
 - C) Seeds and fruits

5. What is a habitat?
 - A) A place where animals and plants interact
 - B) A process of pollination
 - C) A place where an organism lives and finds what it needs to survive

6. Which habitat has tall trees and many animal species?
 - A) Desert
 - B) Rainforest
 - C) Grassland

7. How can animals help plants spread their seeds?
 - A) By eating fruits and dispersing the seeds through their droppings
 - B) By building nests in trees
 - C) By hiding seeds underground

Answers:

1. A) The stages an organism goes through as it grows and develops.
2. A) A process where animals go through physical changes when they are growing.
3. B) Through the gills.
4. A) Water, sunlight, and air.
5. C) A place where an organism lives and finds what it needs to survive.
6. B) Rainforest.
7. A) By eating fruits and dispersing the seeds through their droppings.

Explanations:

1. Cycle means to go around, therefore, life cycle is a full circle of an organism growing and developing into its adult self.
2. Metamorphosis is a process where animals go through physical changes, such as a butterfly going from an egg to a caterpillar to a cocoon to a butterfly.
3. Tadpoles are in the water, so in order for them to breathe, they must have gills. Fish also have gills to breathe underwater.
4. Plants need water for the roots, sunlight for the leaves, and air for carbon dioxide.
5. A habitat is a place where plants and animals interact to survive.
6. A habitat with tall trees, and many animal species such as birds, squirrels, and more is a forest.
7. By eating their fruit, the seeds will drop to the ground. When that happens, the life cycle of a plant begins from seed to full grown plant, and the process repeats again.