

Spring Science: Growth and Cycles with Nova and Bea

Learning objective: To understand the scientific processes of spring, including life cycles, plant germination, and the changing position of the Earth.

Read the front of each card carefully. Think about the scientific principles behind the seasonal changes. Flip the card mentally (or use these as a study guide) to check your knowledge of biology and seasonal science.

What is the scientific term for the process where a seed begins to sprout and grow into a plant?

Germination

Explain why many deciduous trees begin to grow new leaves during the spring season.

The increasing daylight and warmer temperatures trigger the tree to produce leaves to begin photosynthesis.

What role does Bea the honeybee play in the spring life cycle of flowering plants?

Pollination, Bea transfers pollen from the male part of a flower to the female part, allowing the plant to produce seeds.

Nova wants to know: Why do we have longer days in spring compared to winter?

The Earth's tilt causes the Northern Hemisphere to lean more towards the Sun as we orbit, resulting in more hours of daylight.

Define 'hibernation' and explain why many animals end this state when spring arrives.

Hibernation is a deep sleep state to conserve energy; animals end it in spring because food sources become abundant again.

What is the Spring Equinox?

A point in the year when the Sun is positioned directly above the Earth's equator, meaning day and night are approximately equal in length everywhere on Earth.

Why is 'Chlorophyll' essential for plants during the spring growth spurt?

Chlorophyll is the green pigment that absorbs sunlight, which is necessary for the plant to create glucose (energy) via photosynthesis.

Compare and contrast a mammal's life cycle with a flowering plant's life cycle.

Both involve birth/germination, growth, and reproduction, but plants rely on external factors like pollinators, while mammals typically nurture their young.

Justify why spring is considered the most important season for the survival of many animal species.

The abundance of food (new plants and insects) provides the necessary energy for animals to raise their offspring successfully.

What might happen to a spring ecosystem if the temperature remained freezing throughout the season?

Seeds might fail to germinate, insects would not emerge for pollination, and animal populations would struggle due to a lack of food.

Describe the relationship between temperature and the rate of plant growth in spring.

Generally, as temperatures rise, the chemical reactions required for plant growth speed up, causing plants to grow more rapidly.

Identify one way that humans can support biodiversity in their local environment during the spring.

Planting native wildflowers to provide nectar for pollinators like Bea the honeybee.