

Nova's Vernal Equinox Science Challenge

Learning objective: To understand the seasonal changes in plants and animals during spring, including life cycles and the Earth's orbit.

Join Nova the barn owl in the starlit forest! Answer these ten questions to test your knowledge of spring science. Read carefully, think critically, and show your scientific reasoning.

Answer Key: 1. B (The Earth tilts towards the sun); 2. True; 3. Germination; 4. C (To attract pollinators); 5. False (Some animals migrate back to warmer climates); 6. Photosynthesis; 7. True; 8. B (The day and night are approximately equal length); 9. A (Hibernation ends); 10. Life cycle.

Word bank: germination · pollination · equinox · photosynthesis · deciduous · migration · life cycle · habitat

1. 1. Why does spring occur? A) The Earth spins faster B) The Earth's axis tilts towards the sun* C) The moon gets closer D) The sun grows larger (1 mark)

2. 2. True or False: Spring is the season when many deciduous trees begin to grow new leaves. (1 mark)

3. 3. What is the scientific term for the process of a seed beginning to grow into a plant? (1 mark)

4. 4. Why do many spring flowers have bright colours and strong scents? A) To hide from predators B) To absorb more water C) To attract pollinators* D) To stay cool (1 mark)

5. 5. True or False: All animals that hibernate stay asleep until the summer solstice. (1 mark)

6. 6. What process do plants use to convert sunlight into energy for growth? (1 mark)

7. 7. True or False: Spring is a time when many birds return from their winter migration to build nests. (1 mark)

8. 8. What does the word 'equinox' mean in relation to spring? A) The longest day B) Day and night are equal length* C) The coldest day D) The start of rain (1 mark)

9. 9. Which of these is a common biological change in spring? A) Hibernation ends* B) Fur grows thicker C) Leaves fall off D) Rivers freeze (1 mark)

10. 10. The series of changes from an egg to a tadpole to a frog is known as a _____. (1 mark)

Draw: Draw a diagram of a flowering plant in spring. Label the roots, stem, leaves, and the flower, and draw a bee visiting the flower to show the process of pollination.



Extension challenge: 1. Explain why temperature changes in spring trigger the germination of seeds. 2. Compare and contrast how animals and plants prepare for the spring season. 3. Justify your answer: Why is spring considered the most critical season for the continuation of a species? 4. What might happen to a bird population if spring arrived two months earlier than usual? 5. Describe the relationship between insects and flowering plants in a meadow. 6. Design a mini-experiment to investigate which variables affect the speed of plant growth.