

Nova's Atmospheric Adventure: Tracking the Water Cycle

Learning objective: To describe and explain the processes of evaporation, condensation, precipitation, and collection within the water cycle.

Join Nova the owl as she observes the world from the clouds. Use this experiment-record style template to map out how water moves through our environment. Think like a scientist and use precise vocabulary to describe the changes you observe in the water cycle.

Word bank: evaporation · condensation · precipitation · collection · water vapour · transpiration · temperature · atmosphere

1. The Sun's Role: Explain how solar energy triggers the process of evaporation. What might happen to the rate of evaporation if the sun were hidden behind thick clouds for several days? (3 marks)

2. Condensation Explained: Describe the transition from water vapour to liquid droplets. Why do clouds form high up in the atmosphere rather than at ground level? (3 marks)

3. Precipitation Patterns: Compare and contrast different forms of precipitation (e.g., rain, snow, hail). What conditions must be met for water to fall as snow rather than rain? (4 marks)

4. Collection and Run-off: Justify why the collection stage is essential for the continuation of the water cycle. Where does water go once it reaches the Earth's surface? (2 marks)

5. The Global Perspective: Analyse the importance of the water cycle for living organisms. If the water cycle were to stop, how would this impact the survival of plants and animals? (4 marks)

6. Creative Extension: Imagine you are a single droplet of water. Write a short, scientific diary entry describing your journey through the four main stages of the cycle, starting in the ocean. (5 marks)

Extension challenge: Research the process of transpiration in plants. Create a labelled diagram showing how plants contribute to the water cycle and explain why this is a vital link in the chain.