The Wonderful Water Cycle with Nova the Owl

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

Read each question carefully and use your scientific knowledge to provide detailed answers. Remember to use the key terms from the word bank to explain your reasoning.

Nova the owl is watching the forest from her branch. She observes how the puddles disappear when the sun comes out and how clouds form over the hills. She wants to see if you can explain the journey that water takes around our planet.

Word bank: evaporation · condensation · precipitation · collection · water vapour · temperature · sun

1. Nova notices that a puddle on the forest floor disappears after a sunny morning. Explain the process of evaporation and identify the energy source that makes this happen. (2 marks)

2. When water vapour rises into the sky, it cools down to form clouds. What is the name of this process, and why does the change in temperature cause this to happen? (2 marks)

3. Describe the different forms of precipitation that might fall from the clouds in the UK during winter compared to summer. (2 marks)

4. If a rain droplet falls on a mountain, describe the path it might take to reach the sea. Include the term 'collection' in your explanation. (2 marks)

5. Why is the water cycle considered a 'cycle'? Explain why water does not simply disappear from the Earth forever. (2 marks)

Draw: Draw a diagram of the water cycle. Label the sun, the ocean, and include arrows showing the movement of water vapour rising and rain falling back down to the ground.

Extension challenge: Nova asks: 'If the world became much hotter, how do you think this would change the speed of the water cycle?' Write three sentences predicting the effect on the environment.