

The Water Cycle

Year 4

This unit builds on understanding from Year 1 Seasons and Weather and also from Materials and Matter in Year 2. Previously children have learned about the weather and clouds in Year 1. They learned about cumulus, cirrus and stratus clouds. In Year 2, they began to learn about solids and liquids and how they behave.

In this unit, children will learn about the main parts of the Water Cycle including evaporation, condensation, precipitation and collection. They will learn about each part in detail before piecing them all together to complete the cycle. This approach will support their vocabulary development over time, focussing in on each scientific process before stepping back and seeing the cycle as a whole.

Later, in Year 5, children will build on the substantive knowledge from this unit and will deepen their understanding of meteorology: the study of the weather. They will focus on weather, climate, atmosphere and forecasting before exploring how climate effects people's lives later in the curriculum in Geography when studying Africa and British Geographical Issues.

Within this unit, pupils first reconnect to their prior learning about states of matter. Using the example of water, they consider its different forms, as a solid, liquid and gas. They will learn that When you boil water in a kettle, it turns to a gas called steam, which is invisible. When steam moves away from the kettle where it had reached boiling point, it condenses into water vapour, which we can see. They will work scientifically to monitor the temperature of melting ice.

Later in the unit, children focus upon another process within the water cycle, condensation. They will learn this is the reverse of evaporation. Condensation occurs when water vapour within the air changes state, it cools and becomes liquid, water. Within a cloud, water droplets become too large for the cloud to hold and gravity brings the water back down to the surface of the earth as precipitation, often this takes the form of rain. This builds on understanding of gravity from Year 3, Forces and Magnets. They will work scientifically to observe condensation appearing on the side of a cold drink can.

After learning about evaporation and condensation, children will learn about precipitation. They will learn about clouds, building on knowledge from Year 1 and will learn that certain types of cloud bring rainfall. In Lesson 5 children will piece together all of their understanding and look at the water cycle as a whole. They will learn that collection is a part of the cycle, and will learn that water collects in rivers, lakes, in areas of vegetation and also seeps into the ground through soil and permeable rock (drawing upon knowledge from Year 3 Rocks).

Finally, children are expected to plan and complete a piece of extended writing (essay) explaining how water changes state within the water cycle. This task requires children to show their understanding of the processes that occur within the water cycle and how water changes state.