

NC Objectives

Geography

Place knowledge

- Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America

Human and physical geography

- Physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle

Geographical skills and fieldwork

- Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.

Science

States of matter (year 4)

- observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Core knowledge and vocabulary

Know that more than three quarters of the **Earth's surface** is water.

Know the different between **oceans, seas and rivers**.

- Oceans are very large areas of **salt water** that cover approximately two-thirds of the Earth's surface.
- Seas are smaller areas of salt water that separate oceans and land.
- Rivers are natural streams of **fresh water** that flow into seas, oceans and lakes.

Identify major rivers and their **basins**.

UK: Ouse, Thames

Europe: Rhine, Volga

Africa: Nile, Congo

North America: Mississippi, Rio Grande

South America: Amazon

Asia: The Ganges, Yangtze

Oceania: Murray

Know that the Earth has been **recycling** water for over 4 billion years and that the world's water moves between **lakes, rivers, oceans, the atmosphere** and the land in an ongoing cycle called the **water cycle**. As it goes through this continuous system, it can be a **liquid** (water), a **gas (vapour)** or a **solid** (ice).

- Know the term **evaporation** as the process of energy from the sun heating up the surface of the Earth, causing the temperature of the water in our rivers, lakes and oceans to rise. Know that when this happens, some of the water "evaporates" into the air, turning into a gas called "**vapour**". Plants and trees also lose water to the atmosphere through their leaves. This process is known as "**transpiration**".
- Know the term **condensation** as water vapour rising up high into the sky, cooling and turning back into a liquid, forming clouds. Currents high up in the air move these clouds around the globe.
- Know the term **precipitation** as the process of water droplets in the clouds becoming too big and heavy (as too much water has condensed) for the air to hold them and then falling back down to Earth as rain, snow, hail or sleet.
- Know the term **collection** as the fallen precipitation being "collected" in bodies of water – such as rivers, lakes and oceans – from where it will eventually evaporate back into the air, beginning the cycle all over again. How it is collected, depends on where it lands.

Know that rivers can be divided into 3 stages: the **upper course**, the **middle course** and the **lower course**. Know

the characteristics and features of these. Know the terms: **valley, channel, waterfall, rapids, gorge, meander, tributary, confluence, floodplain, levee, delta, river valley, river basin** and **estuary**. Identify features of a river basin: springs, mountain streams, channel, valley, floodplain, lakes, estuary, coastline. Follow the course of a river from source to mouth while using a map.

Understand that rivers do not travel in straight lines. They have to avoid obstacles as they flow downhill. People have altered river courses over time. **Erosion** and **deposition** can also change the shape of a river. Know how **meanders** and **oxbow lakes** form.

Know the ways in which a river can be used. Know that River Ganges has religious significance, and how the Mississippi is used to transport goods. Look at other examples. Understand that rivers can also be used to generate **hydroelectricity**. Know what a dam is and how power is generated. Know the example of the **Three Gorges Dam** in China and its impact.

Look at the local case study of the River Ouse. Study the event of the Boxing Day Floods of 2015. Understand the terms **flooding** and **flash flood**. Know why this occurred, its impact and what has been done to protect from future flooding.