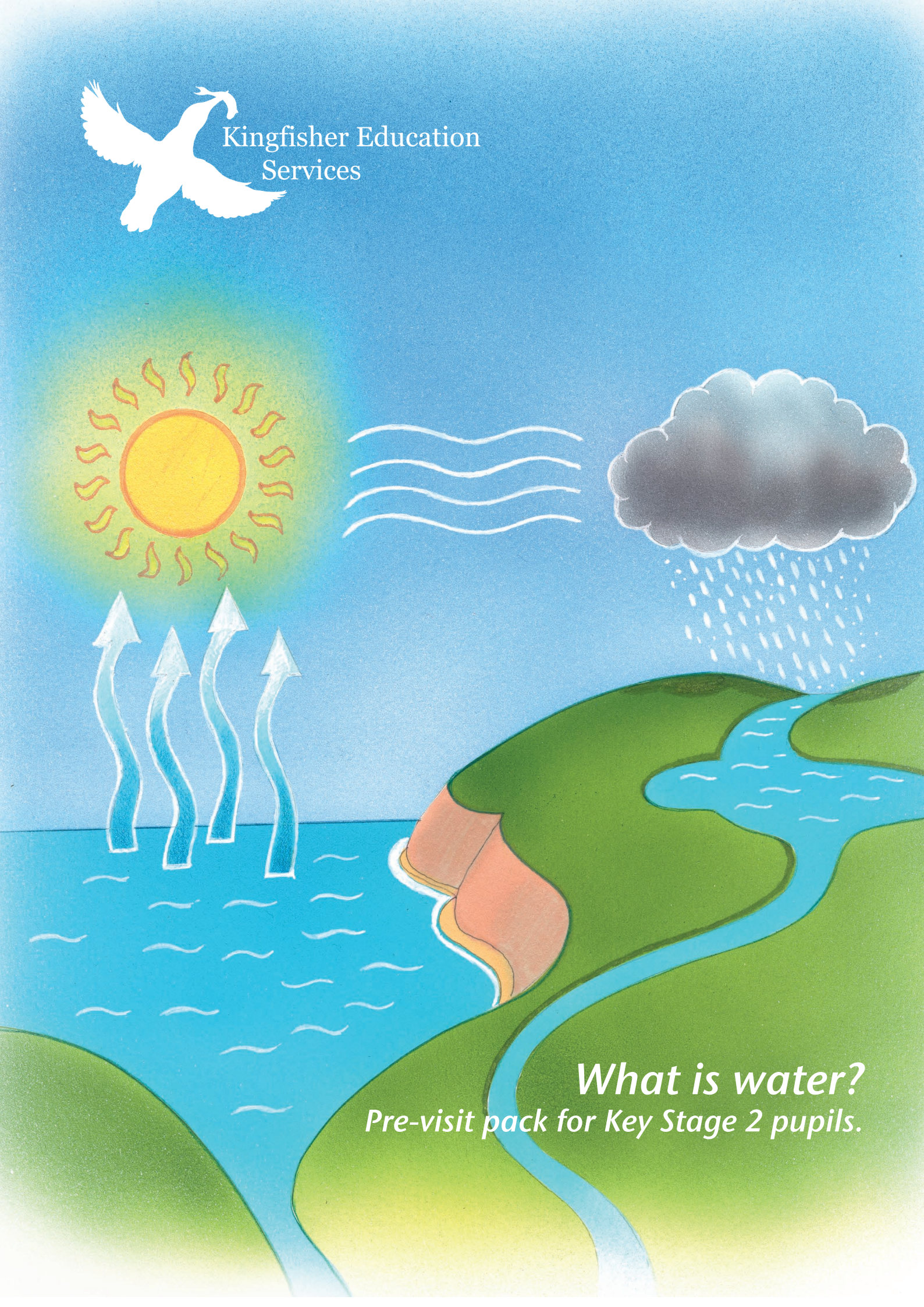
Kingfisher Education Services



What is water?

Pre-visit pack for Key Stage 2 pupils.

What is water?

The chemical name for water is H_20

This means water is made up of 2 atoms of Hydrogen and 1 atom of Oxygen

Water is tasteless, odourless and colourless

Pure water boils at 100ºC and freezes at 0ºC

Water can be a solid	-	Ice cubes, cold, hard
Water can be a liquid	-	Drink, wet, runny, can take the shape of any container
Water can be a gas	-	We cannot see the gas, it is formed when water gets very hot

What do we use water for?

Why is water vital?

Why do people call earth the 'Blue Planet"?

70% of the earth is covered with water and because of this, from space the whole planet looks blue!

What would happen if the sun died?

Without the sun the water cycle would stop as the water would not be able to evaporate and create the water cycle process.

Why do we all need water?

We need water to stay alive, to drink and to prevent us from dehydrating. Trees and plants need water as do animals, birds and insects. We need to eat, we need rain to grow crops and the animals we eat need water to survive.

Did you know?

Our bodies contain 70% water

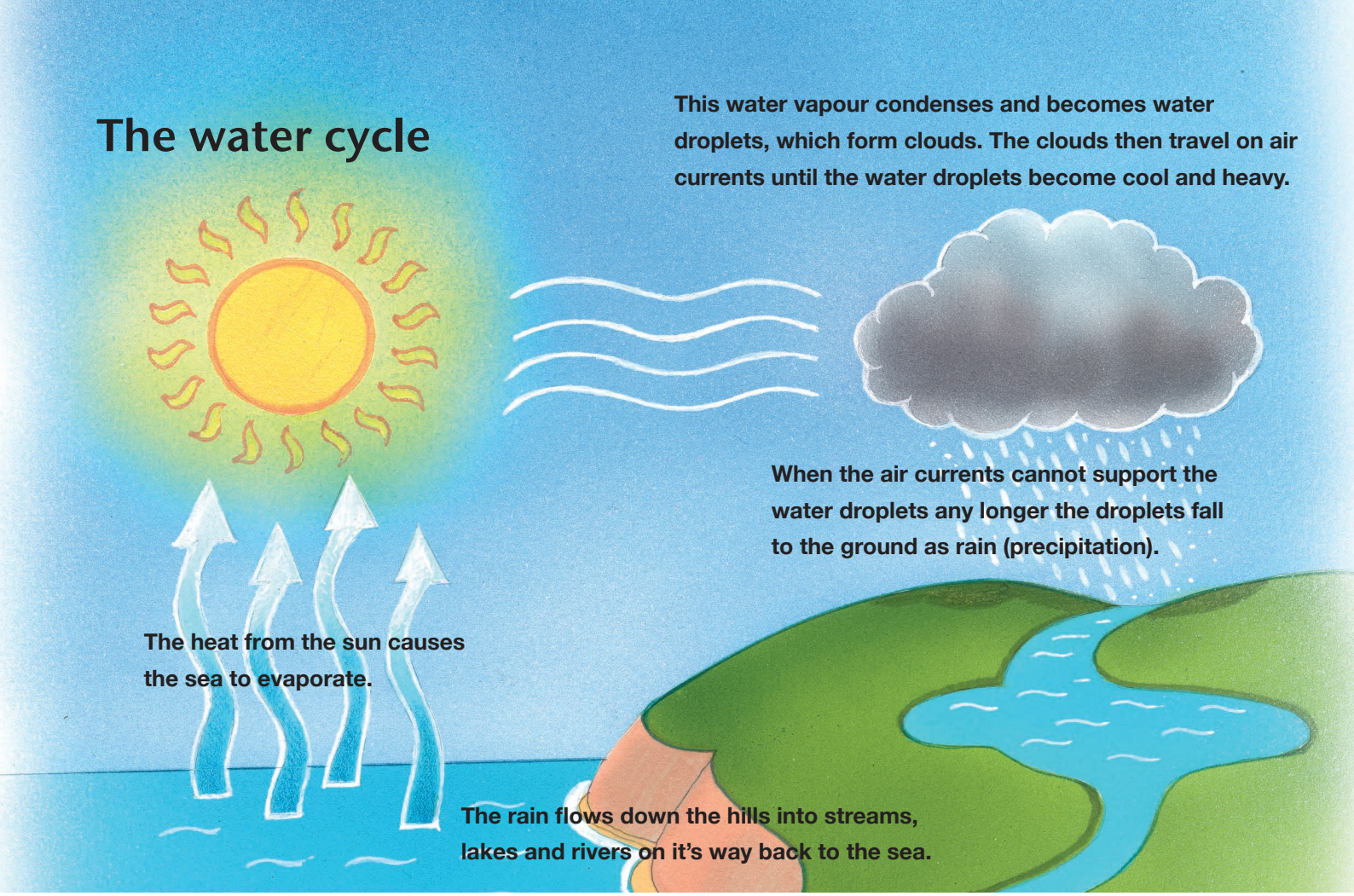
A tomato contains 95% water

Milk contains 87% water

Bread contains 35% water

Meat contains 70% water

The water cycle



Turning on the tap

Discuss with the children how they think water gets to their tap after it rains on the land.

The average person in the north west of England uses 150 litres of water each day!

By turning on the tap we have access to clean, safe drinking water. Our wastewater is also cleaned and made safe before it is returned to the environment.

Developing countries

Discuss with the children about how children in developing countries find water.

Does everyone in the world have a tap and safe drinking water?

Only 1 person in every 3 in the world has access to a safe supply of water.

Every day in developing countries, 25,000 children die from illnesses caused by polluted water.
If people in developing countries had access to treated water, the need for health care would fall by half.

Where do people in developing counties get their water from? What is the problem with this water?

People get their water from wells, pumps, streams, lakes and even holes in the ground. The water that is collected can often be polluted. Also, the water may be a long way from their village and would be very heavy for them to carry.

How does the water get to our taps?

When it rains the water is:

Collected in catchment areas such as the Lake District and Peak District.

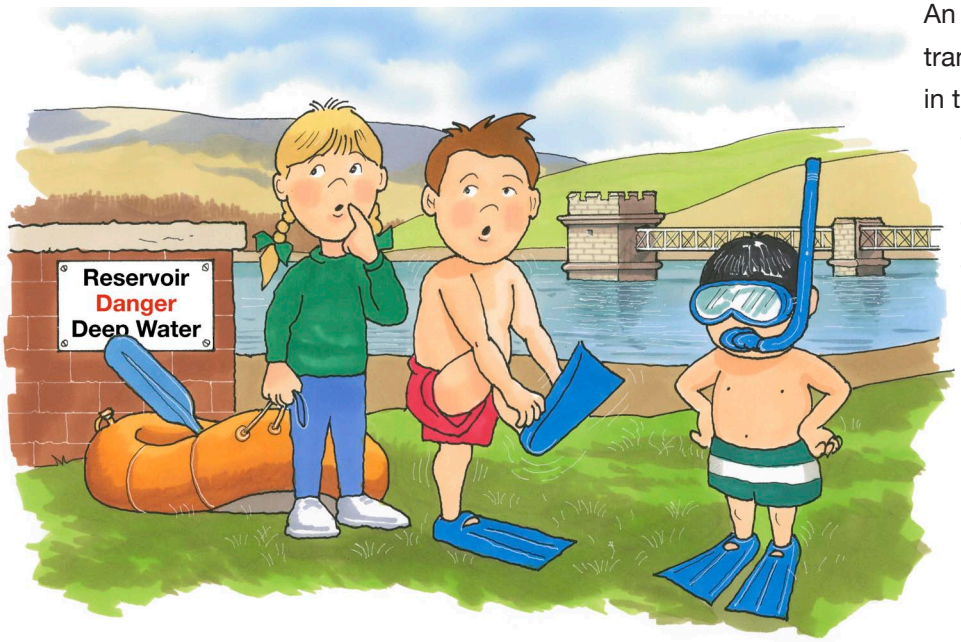
Water is collected in catchment areas. These are the main sources of drinking water for the region.
The water flows from the hills into reservoirs. We also get water from other sources such as rivers, streams and boreholes.

Stored in reservoirs.

Reservoirs store the water until we need it. In the north west there are more than 180 reservoirs. Some have been made by damming natural valleys, others were once lakes which have been enlarged. Reservoirs are often in the wettest locations and are usually in remote areas, which reduces the risk of pollution, making treatment easier.

Remember reservoirs are very deep and cold.

They should not be used for swimming.



Treated at the water treatment works.

There are over 150 clean water treatment works in the north west of England, these clean the water before it is sent to houses. First the water is screened to prevent leaves, twigs and fish entering the works. Heavy particles in the water sink to the bottom and are removed. This is called sedimentation. Tiny particles are removed by adding a chemical called a coagulant. This makes the particles heavier so that they sink to the bottom to be removed. Alternatively, a method called flotation is used, where air is pumped in and the particles rise to the top and can be scraped off. The water is passed through a filter to remove any remaining material. Chlorine is added to kill germs and bacteria.

Possible discussion or experiment:
What is a water filter and how does it work?
What materials would make a good water filter?

Piped to houses and factories.

Water is transported from catchment areas to towns and cities via aqueducts and other large pipes.

An aqueduct from the Lake District transports water down to major cities in the north west. The water in the aqueduct falls on a gradient of 1cm per mile. Smaller pipes transport treated water from the water treatment works to homes, schools and factories. Modern pipes are made of plastic. In the past mains pipes were made of iron and wood.