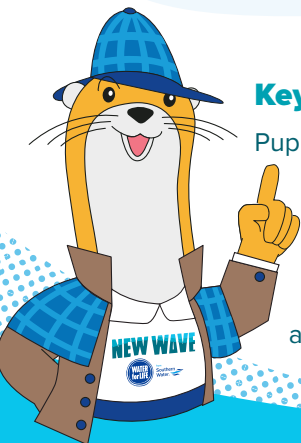


Lesson notes

Programme Overview

The New Wave **Water Detectives** lesson has been designed to bring the water cycle to life through the mysterious case of the missing water drop. During the challenge, pupils will meet **Waterlock Holmes** and **Dr Watsmarsh** as they embark on an investigation of the local water cycle, using witness statements and a dynamic interactive county map to solve the case.

At the heart of the programme is the message that the water cycle is a remarkable and important process in nature. And that with help from Southern Water we have clean, fresh water to drink and use; water that is then treated and cleaned, ready for release back into the local environment. Pupils will present their local water cycle in the form of a fun case report, having explored the beauty of the southern region and its water resources. They will hear straight from the missing water drop's mouth about how a journey through the water cycle feels.



Key characters

Pupils are guided through the lesson by **Waterlock Holmes** and **Dr Watsmarsh**. These characters are Southern Water's main mascots, Joss and Peasmarsh, in role as the classic mystery sleuth and his long-suffering side-kick.

Objectives and outcomes



Learning objectives:

- Describe and understand key aspects of the water cycle (KS2 geography).
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature (Year 4 science).
- Discover how Southern Water manages local water ways, supplying clean drinking water to homes, schools and businesses and treating wastewater ready for its return into the local environment.
- Explore the water cycle on a local level.



Learning outcomes:

By the end of the session, pupils will...

- Know the key stages of the water cycle and associated scientific terminology.
- Have created a version of the water cycle in the form of a case report.
- Be confident using and gathering information on an interactive map of their region.



You will need

- Regional lesson presentation
- South East interactive map
- Evidence file including Water Cycle diagram and Witness statements (PDF)
- Case report template (PDF)
- Regional map (PDF)
- Device or devices for exploring the interactive map (one per group)
- Scissors, glue, colouring pencils

Southern Water's interactive map

The interactive map offers a series of features that lets you and your pupils to explore the southern region, with a different map for each of the five key Southern Water counties: Kent, East Sussex, West Sussex, Hampshire and the Isle of Wight. Each county has a series of features that can be toggled on or off to show or hide:

- Sites of interest
- Key towns and cities
- Key rivers and reservoirs (please note that not all rivers are included)
- Water treatment works
- Water sources
- Beaches, country parks and forests

Click on the map icons to discover images and further information.

Using the interactive map across the curriculum

The interactive map offers many opportunities to use across the curriculum:

Geography: Mapping; Local human and physical geography

History: Local area studies (connecting towns with historic landmarks)

Science: Local habitats

Running the lesson

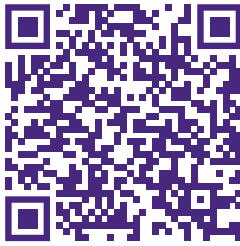
Water Detectives Lesson 1 hour (ages 7-9)

This lesson has been designed to be inclusive and we would recommend creating mixed reading attainment groups to enable more confident readers to support less confident readers when they explore the witness statements. The Key Facts section of the witness statements and the other key information provided, require much less reading. The witness statements themselves can either be read aloud by confident readers or by an adult.

Slides 2-4 The case is afoot 2 minutes	<ul style="list-style-type: none"> Introduce the main characters, Southern Water's mascots in disguise: Joss as Waterlock Holmes (a detective), Peasmarsh as Dr Watsmarsh (the detective's sidekick) and Hattie-Hae Osborne (known as H₂O) as the missing water drop. Read Waterlock Holmes' email to introduce <i>The case of the missing water drop</i>. Explore H₂O's missing person file.
Slides 5-11 Exploring the evidence file: water cycle 5 minutes	<ul style="list-style-type: none"> Explore the Water cycle. If this is the first time pupils have encountered the water cycle, take time to talk them through each key step on the diagram, reading the caption and examining the diagram. Please note: transpiration has not been labelled on this version of the water cycle as H₂O doesn't travel this way in the investigation. However, the visual of transpiration is included for discussion where appropriate. Explain what children will need to do as they investigate the case of the missing water drop. Look through the deductions we can make about H₂O's disappearance for different parts of the water cycle.
Slides 12-13 South East interactive map 3 minutes	<ul style="list-style-type: none"> Show pupils the South East interactive map, selecting your county and exploring the various features. Please note that the key rivers are shown on the map – not all rivers have been included. You can either explore the Interactive map together as a class or if you have enough devices for children to work in small groups, they can explore the map themselves. Please note that you will need internet access to explore the Interactive map. If you don't have internet access, you can alternatively use the printable Regional maps to continue with the lesson.
Slides 14-19 Exploring the evidence file: witness statements 5 minutes	<ul style="list-style-type: none"> Explore and share the Witness statements of sightings across your local region. You can either look at these briefly together and then set children up with the Interactive map to investigate H₂O's journey or alternatively you can explore the witness statements in detail, as a class. The Witness statements can be ordered by finding their position in the water cycle but pupils can also use the time of the sightings to help. The correct order is 3, 6, 1, 4, 2, 5. Pupils use the Interactive map to fill in the gaps in H₂O's journey through the local water cycle. They can record H₂O's journey on a print-out of the Regional map. They can record H₂O's journey on a print-out of the Regional map, or alternatively, pupils can use the 'snipping tool' to capture a copy of the online map and annotate the journey using its pen tools.
Slide 20 Setting up the task 15 minutes	<ul style="list-style-type: none"> Recap on the Evidence file contents and send pupils to map out H₂O's journey. Explain that they will need to use the interactive map to help plot her journey. They should link it to the relevant section of the water cycle in preparation for creating their case report. Encourage the 'reader' in each group to carefully read the statements out. Most pupils should be able to access the key information and key facts.
Slides 21-24 Creating your case report 25 minutes	<ul style="list-style-type: none"> Create a fun and informative, lift-the-flap case report, setting out the six key steps of the water cycle, explored so far in both story form and scientific content. You may prefer to enlarge the template to A3 size to allow plenty of space for writing. The Case report template includes optional water cycle scientific statements that can be cut out, ordered and stuck onto the case report for those pupils who may be less confident writers, either individually or as a group. Otherwise, pupils should describe each part of the journey using scientific terms and then draw H₂O's journey on the top of the flap, using speech bubbles to tell the story.
Slides 25-33 Journey through the water cycle 5 minutes	<ul style="list-style-type: none"> Meet H₂O in person and hear her side of the story! Use this as an opportunity to consolidate learning about the water cycle.

Running the lesson

Explore the interactive here:



To explore and discover more about your local waterways, book an Our River, Our Water session with Southern Water.

