Puddle watch and bag watch.

Part A: one day after rain
Part B: three days
Chalk, a ruler, a zip-lock bag

Name: _____ Class: _____

Water is always on the move, but it moves without being seen. In these two activities you will watch it go, and watch it come back.

Part A · Puddle watch

1. After rain, find a puddle on a path or playground (not a car park). Draw around its edge with chalk. Write the time next to the line.
2. Measure across the widest part with a ruler or tape. Write it in the table, with the weather.
3. Come back about two hours later. Chalk around the edge again, measure again, and write it down.
4. Do it a third time. If the puddle has gone, write 0 and describe what is left.

TIME	WEATHER (SUNNY, CLOUDY, WINDY)	WIDEST PART (CM)	WHAT THE PUDDLE LOOKS LIKE

Draw the three chalk lines, one inside the other, and write the time on each

1. Where do you think the puddle water went?

2. What would make a puddle disappear faster? What would make it slower?

Part B · A water cycle in a bag

You need: a zip-lock sandwich bag, water, one drop of blue food colouring, sticky tape, a marker, and a window that gets sun.

1. Draw a sun, a cloud and some waves on the bag with the marker.
2. Pour in water to about a finger deep. Add one drop of food colouring. Seal the bag well.
3. Tape it to the window in the sun. If you can, tape a second bag to a shady window.
4. Look at the bag in the morning and the afternoon for three days. Draw what you see each day.

Day 1 · time:	Day 2 · time:	Day 3 · time:

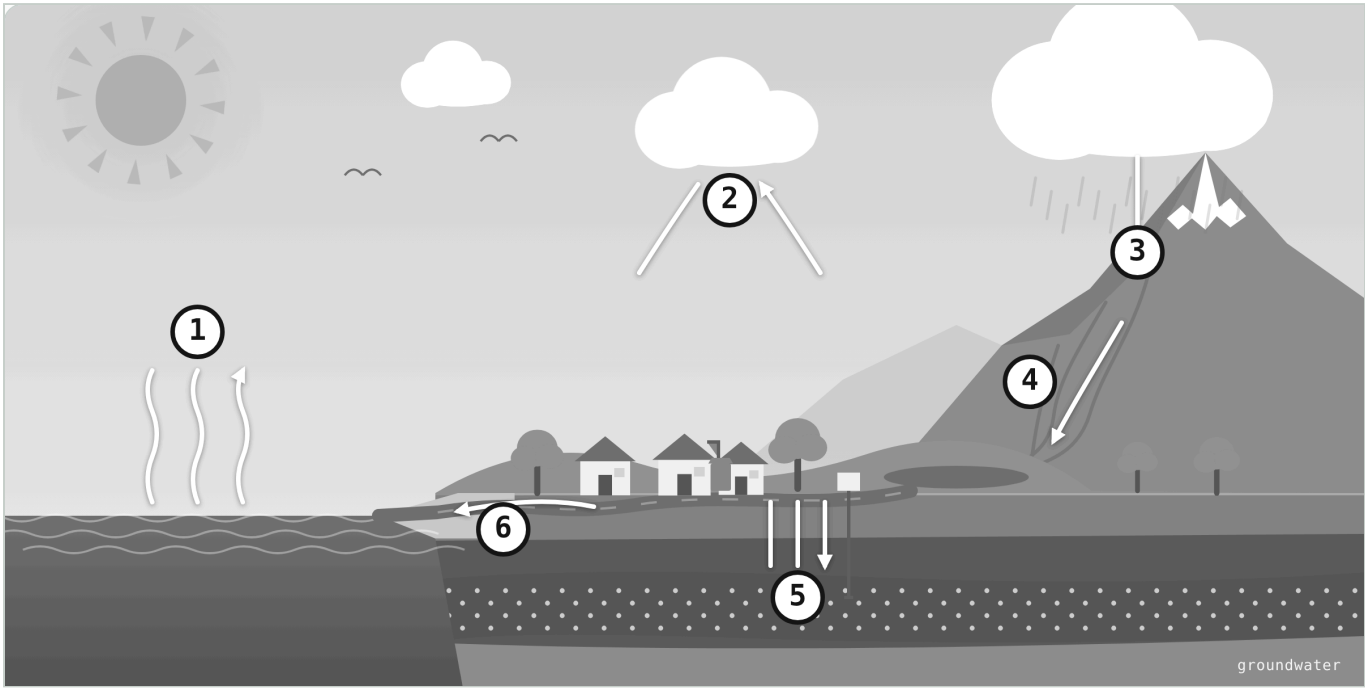
3. The bag was sealed. Where did the drops on the inside of the bag come from?

4. What did the sun do to the water? How do you know?

5. If you had a shady bag too: how was it different? Why?

Part C · Name the cycle

Write the right word next to each number. Words: evaporation, condensation, precipitation, run-off, soaking in, flowing to the sea.



① _____ ② _____

③ _____ ④ _____

⑤ _____ ⑥ _____

6. Draw your own water cycle for the place where you live. Put in the sun, a cloud, rain, the land, and where the water goes. Label it with the words you know.

Notes and answers.

Purpose

Two observations over time, then the words. Part A gives students evaporation they can measure; Part B gives them the whole cycle in a sealed system, where the water cannot have gone anywhere else. Part C checks the six words from screen 5 of the online lesson. The sheet stands on its own if the lesson is not used (AC9S4U02; Science Inquiry: observing and recording over time, fair testing).

Running it

- Part A needs a puddle, so keep the sheet ready for the day after rain. Three measurements two hours apart fit a school day. A car park is off limits.
- Part B is best started on the day of the first lesson so the three days are done by the Explain session. A finger-depth of water is plenty; too much slows everything down. A second bag in the shade turns it into a fair test.
- Food colouring stains clothes. Tape on glass only.

What to expect, and answers

- (1) On a sunny day a small puddle on asphalt usually goes in two to four hours. Most of the water evaporates; a little soaks through cracks. Accept either, and push for both. “It dried up” only restates the question; ask where it went.
- (2) Faster: sun, warmth, wind, a shallow wide puddle. Slower: shade, cloud, cold, still air, a deep puddle.
- Part B: mist on the inside by the first sunny afternoon, drops by day two, drops running down into the water by day two or three. The shady bag does far less.
- (3) From the water in the bag. It evaporated, rose as water vapour, condensed on the cooler plastic and ran back down. Nothing got in or out.
- (4) The sun warmed the water, which made it evaporate faster. The shady bag, with less sun, shows this.
- (5) The shady bag stays almost clear for longer and makes fewer drops. Less warmth, less evaporation.
- Part C: 1 evaporation, 2 condensation, 3 precipitation, 4 run-off, 5 soaking in, 6 flowing to the sea.
- (6) Look for the sun, a cloud, rain, the land and at least one place the water goes (a river, the sea, the ground, a tank), with at least the three big words used correctly.

Extension

- Two identical dishes of water, one in sun and one in shade, with the level marked each day for a week: evaporation you can measure in millimetres, like the weather stations do.
- Breathe on a cold window or mirror and watch the mist come and go. Where did it come from, and where did it go?