CARDINAL COMPASS - NO. 5 • HANDS-ON LEARNING • WITH CARL THE CARDINAL

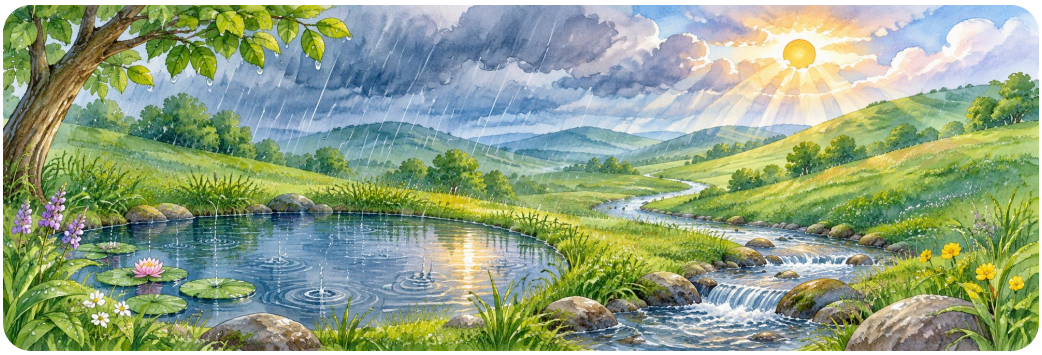
The Water Cycle

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Where rain comes from, where puddles go, and how the sky recycles water. And three experiments you can do safely at home.

A puddle is here in the morning and gone by lunch. The water did not vanish. It went on a trip, and it will be back.



Cover illustration: rain falls over the pond while the sun breaks through, and the stream carries water to the hills. The whole trip of water, in one picture.

Read together | **Build together** | **Grown-up with you for every experiment**



Meet Carl - Water Cycle Carl

Carl the Cardinal is your guide. For this project, he carries a red umbrella under a small rain cloud, with the sun shining behind it, and he stands right in a puddle. His green neckerchief and gold compass medallion stay on. Color your own Carl on the last page.

How to use this book: Pages 2 to 4 tell the story. Page 5 is safety. Read it first. Then do the three experiments on different days. Finish with the questions. Color Carl at the end.

Keep a notebook near you. Write what you guess. Write what you see.

You will need, for all three experiments: a zip-top plastic bag, warm tap water, tape, a sunny window, a clear jar, a small plate or lid, ice cubes, a straight-sided clear jar or cylinder for the rain gauge, a ruler, a permanent marker (grown-up only) or a strip of tape, a notebook, and a pencil.

What is the water cycle?

Rain falls. Puddles dry up. Clouds come and go. It looks like water appears and disappears. It does not. The same water moves around and around, up into the sky and back down again. That round trip is the water cycle. A cycle is a trip that goes around and comes back to where it started.

The sun does most of the work. The sun warms ponds, puddles, lakes, and the sea. Warmth gives the water energy to rise.

Evaporation: evaporation is liquid water turning into an invisible gas and rising into the air. A drying puddle is evaporating.

Water vapor: water vapor is that invisible gas. You cannot see it, but it is in the air all around you right now.

Condensation: condensation is water vapor cooling down and gathering back into tiny liquid droplets. Droplets gathering together can make a cloud.

Precipitation: precipitation is water falling back to the ground. Rain, snow, sleet, and hail are all precipitation.

Collection: collection is water gathering in one place again, in puddles, streams, ponds, and deep underground, ready to start the trip once more.



Follow the arrows: water rises from the pond, gathers in the cloud, falls as rain, and flows back in the stream.

One drop's trip: the sun warms a puddle. Some water evaporates and rises as water vapor. High up, the air is cold. The vapor cools and condenses into tiny droplets. Many droplets together make a cloud. The droplets grow heavy and fall as precipitation. The rain collects in a stream, and the stream flows back to the pond. The trip starts again.