States of matter- Year 4- Kapow unit- Materials: States of matter

Previous learning

Key Vocabulary for Year 4

Solid	**water cycle**
Liquid	
Gas	
Evaporation	
Condensation	
Particles	
Temperature	
Freezing	
Heating	

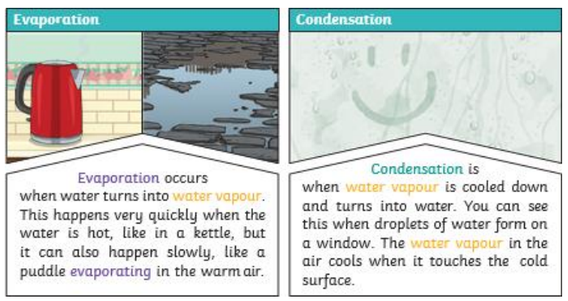
Previous vocabulary

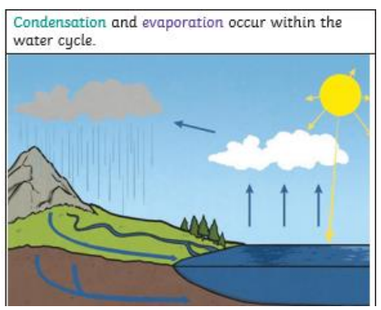
Useful links

https://littlebinsforlittlehands.com/states-of-matter/

https://www.stem.org.uk/resources/community/collection/12345/year-4-states-matter

https://www.hamilton-trust.org.uk/science/year-4-science/states-matter-states-matter-scientists/





1. Water from lakes, puddles, rivers and seas is evaporated by the sun's heat, turning it into water vapour.
2. This water vapour rises, then cools down to form water droplets in clouds (condensation).
3. When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (precipitation).

Key scientists you could look at…

Einstein

Scientific skills

Working scientifically	Questioning and enquiry	Observing and measuring	Investigating	Recording	Grouping and classifying
To use practical scientific method, processes and skills	Ask relevant questions and use different types of scientific enquiry to answer them	Make systematic and careful observations, take accurate measurements using standard and non-standard units and a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help make decisions about what observations and equipment they will need to use.	Set up simple practical experiments, comparative and fair tests. Recognise when a simple fair test is necessary and help to decide how to set it up. Be able to think of more than one variable factor.	Gather, record, classify and present data in a variety of wats to answer a question. Record simple findings using scientific vocabulary, drawings, labelled diagrams, keys, bar charts and tables. Report on findings including oral and written explanations, displays or presentation of results and conclusions. Use notes, simple tables and standard units to decide how to record and analyse data.	Identify differences, similarities and changes related to scientific ideas and processes. Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing.

Experiment and activity ideas

Create a water cycle in a bag	investigate evaporation with changing temperatures	Blow up a balloon with a simple chemical reaction	Growing crystals	Investigate which products can change state of matter

Knowledge- objectives

Compare and group materials together according to whether they are solids, liquids and gases

Observe that some materials change state when they are heated and cooled, and measure or research the temperature at which this happens in degrees Celsius

Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperatures.

Resources in school

Petri dishes, thermometers