

8.4 IS THE WORLD RUNNING OUT OF WATER?



INTENT– In this unit you will build on your knowledge of the water cycle to explore the global distribution of water stores. You will explain why stores of fresh water are uncertain and might change in the future. You will then focus on the challenges of water scarcity in the Middle East, investigate how water can be used more sustainably and debate whether desalination is a sustainable option for the future.

Builds on – KS2 – Water cycle processes. Y7 – What happens when it rains.



Feedforward – Y9 – Development, Climate Change

KEY LOCATIONS



Global Scale –
The global
water cycle.



Regional Scale –
The Middle East

KEY KNOWLEDGE

- The global water cycle is a closed system of stores and transfers.
- Most of the world's water is stored in the oceans and freshwater stores are often difficult to access.
- Climate change and pollution mean that these stores may get smaller in the future.
- Some people in the world face water scarcity and there are different reasons for this, including poverty.
- The global distribution of freshwater is uneven. Water is a human right and lack of access to water creates a range of problems for people.
- We can measure our use of water using a Water Footprint. This includes water we use directly e.g. having a shower, and virtual water used in and to make products that we buy.
- The Middle East region is an area with particular problems of water scarcity.
- The lack of water in the Middle East creates desert environments, to which only some species of plants and animals have adapted.
- A lack of water for people in the Middle east can lead to conflict.
- Freshwater can be accessed from sea water through a process of desalination, but this has a big impact on the environment.
- There are small-scale solutions we can use to improve people's access to water.

KEY TERMINOLOGY

Sustainability	When materials and resources are used in a way that will balance the needs of the present without compromising the future, the ability to maintain something such as economic growth.
Water Scarcity	A lack of freshwater resources available to meet the demands of water use in an area.
Climate graph	A graph showing the average temperature and rainfall for each month of the year for a specific location.
Evaporation	Conversion of liquid water into water vapour.
Condensation	The conversion of water vapour into a liquid.
Precipitation	Water falling from the sky in the form of rain, hail and snow.
Virtual water	Refers to the water used to produce the goods and services others need and enjoy
Desert	A biome where the rainfall is less than 250mm
Water footprint	The amount of freshwater used by an individual, organisation or country in a year.
Desalination	The process of removing salt from sea water to create a supply of freshwater.