CfE Higher Geography

The Hydrosphere
What are the outcomes?

1. Use a range of mapping skills and techniques in physical environment contexts by:
   • 1.1 Interpreting complex geographical information from at least two sources
   • 1.2 Annotating a geographical resource
   • 1.3 Presenting complex geographical information
   • 1.4 Analysing geographical information

2. Draw on and apply knowledge and understanding of the processes and interactions at work within physical environments on a local, regional or global scale by:
   • 2.1 Giving detailed descriptions and detailed explanations of a process/interaction at work in a physical environment
   • 2.2 Giving detailed descriptions and detailed explanations of the impact of weather/climate on a physical environment
   • 2.3 Giving detailed descriptions and detailed explanations of a complex issue in a physical environment
Hydrology, the scientific study of water at the earth’s surface and its links with the atmosphere.
Key idea

'The Hydrosphere refers to the earth’s water, whether it is in the atmosphere, on the surface, or underground. This unit focuses on the movement of that water, its impact on the land and how this movement may be interrupted.

What do you need to know?
Students should have a knowledge and understanding of-

- The hydrological cycle and how humans affect it
- Drainage basin systems and how they respond to rainfall events
- How human beings affect the drainage basins of rivers
- How to construct and analyse of hydrographs
Introduction

- 71% of the Earth's surface is water
- 97% is Salt Water
- 3% of all water is Fresh water
- 1% of all water is in a form that we can use (eg: unfrozen and accessible)

- Irrigation takes 73% of this water
- Industry 21%
- Domestic 6%
Teacher's Other Top Water Facts
Although a person can live without food for more than a month, a person can only live without water for approximately one week.
It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.
It takes about 1 gallon of water to process a quarter pound of hamburger.
It takes 2,072 gallons of water to make four new tyres.
Sources of water pollution include: oil spills, fertilizer and agricultural run-off, sewage, storm-water, and industrial wastes.
In the 1950’s scientists began to suspect that water might carry diseases.

Although earlier treatment of water could make the water safer, it was mainly done to improve the taste, smell or looks of the water.
Water boils at 212° Fahrenheit or 100° Celsius.

Water freezes at 32° Fahrenheit or 0° Celsius.
70% of the world's population do not have pure water. Every day 25,000 people die from waterborne diseases.
Water distribution

- In more economically developed countries (MEDC's) such as the USA or the UK, each person consumes over 100 litres of water each day (for all uses washing, cooking etc.)

- But in the Less economically developed world (LEDC's) countries such as Tanzania or India, less than 25 litres of water per person each day is not unusual.
Water wars?

Danger Zone: States where water withdrawal will be more than 40% of total water available