

Geography Question

Q1. What is meant by the statement 'water is an integrating element in the biophysical environment'?

A1. It means that water is the element that connects the biosphere, lithosphere and atmosphere together. It creates a *link*.

Q2. What is the water, or hydrological, cycle?

A2. The water cycle is the movement of water on, above and below the surface of the Earth.

Q3. What causes movement within the water cycle.

A3. Evaporation, condensation and precipitation are the main causes of movement within the water cycle. The sun heats up the water, which then results in the water being evaporated and turned into clouds. The clouds soon release the rain (precipitation) onto the land which can then be known as runoff (water that flows over the surface of the land). This cycle then repeats itself and becomes the water cycle.

Q1ai. List all the storage's that are part of the atmosphere.

A1ai. Clouds are the only main storage's in the atmosphere.

Q1aii. List all the storage's that are part of the lithosphere.

A1aii. The main storage system in the lithosphere is soil.

Q1aiii. List all the storage's that are part of the biosphere.

A1aiii. Any type of plant or "green" based product can be a storage system in the biosphere.

Q1b. Outline the processes by which water reaches the atmospheric store.

A1b. The sun heats up the water. As the water is being heated up, it goes through a cooling phase as it gets pulled up into the air (evaporation). The water then turns into water vapour as it goes through a stage of condensation and back into its liquid form. Once it has turned into its liquid form again, it can form rain clouds.

Q1c. Why do some parts of the lithosphere contain water while others do not?

A1c. Some areas of the lithosphere are protected by land masses that won't absorb water. Areas that are underneath water for example the land underneath the ocean will have more water absorbed since it's directly underneath a water source. (Also i didn't read the info for this i'm just assuming that's how it would work bahaha)

Q1d. Outline the ways in which water reaches the ocean from the lithosphere.

A1d. The water absorbed in the ground can reach the ocean through slow groundwater movement. The rate at which water reaches the oceans through the lithosphere depends on the amount of water already in the soil, the porosity and structure of the soil. Another way that water enters the ocean again is surface runoff from areas that are above sea level.

Q1e. How does water reach the biosphere?

A1e. The water reaches the biosphere through precipitation (when it starts to rain).

Q1f. Are there any natural water storage's not shown?

A1f. There are a few natural water storage's not shown in the diagrams. Some examples are glaciers, rivers, other bodies of ice etc.

Q1g. Which process not only transfers water from one store to another, but also changes the state of the water?

A1g. This process is called evapotranspiration as it not only transfers the water from different storage's , it changes the state of the water (turning water from the pores of plants and turning it into water vapour into clouds, which also changes the water from a liquid state to a gaseous state)

Q3a. In which form is water most commonly found?

A3a. Water is most commonly found in liquid form.

Q3b. In which form is fresh water most commonly found?

A3b. Fresh water is commonly found in solid form such as ice caps and glaciers.

Q3c. Where is water found as a gas?

A3c. Water is found as a gas as atmospheric vapour.

Q3d. Where is the average storage time for water the longest?

A3d. The average storage time for water is the longest for groundwater. It can be stored for days up to tens of thousands of years.

Q3e. Where is the average storage time for water the shortest? Why is this so?

A3e. The average storage time for water is the shortest for atmospheric vapour (water vapour). This is because it is in a gas form and does not take long for it to be evaporated/transpired.