

PRELIMINARY ACTIVITY 2
ACTIVITY SHEET 2***You Never Step into the Same River Twice***

The great rivers are the clearest evidence of a phenomenon that is essential to life on the planet – the water cycle. Water circulates between the atmosphere and the ocean by moving across the continents, where it flows downhill, forming gullies that join together to form rivers, and then moving into the great rivers that empty into the sea.

Water in the atmosphere stays there less than 10 days on average, in the form of atmospheric humidity that condenses to form dew, fog or clouds. These forms are changed, depending on the temperature, into snow, sleet, rain or hail. For almost the entire history of the planet, water has been evaporating, carried in the form of clouds and then fallen back to the land where it trickles down to the lowest point, pulled by gravity.

This movement of masses of water happens day after day, year after year, century after century, in a perennial flow of droplets and molecules purified by distillation and bearing soluble matter picked up in their contact with the substrate. This perpetually moving cycle will continue until something turns off its motor, the sun. The water cycle is thus a process of distillation, condensation and precipitation driven by solar energy. This distillation is fundamentally important to us, because what its product – water vapour – has been cleared of the salts and other substances that may have contaminated the water during the process of turning into a liquid. As atmospheric water vapour condenses, it becomes the fresh water we need to live.

The great rivers, therefore, reflect the precipitation of an entire territory, representing the constant flow of water returning to the lowest point, at sea level. This force is one we have learned to use to turn wheels and to produce work or electricity.

"One can never step twice into the same river," said the Greek philosopher Heraclitus. Perhaps he meant that time is irreversible, but the image of flowing water is also one of change. Despite their seeming permanence, the waters of the great rivers are constantly renewing themselves and carry with them everything they have dissolved or carried away from the land they wash over. Change and permanence, strength and fragility, life and death... moving waters carry within themselves every paradox.

*From the book **Le fleuve aux grandes eaux**, pages 15-16*



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GROUP DISCUSSION AND DIAGRAM OF THE WATER CYCLE

Draw a nearby landscape that includes a body of water. It could be a lake, a river, a pond or even a puddle! Where does this body of water come from and where does it end up?

Remember to put the horizon line in the middle of your page so you can show what happens underground.

Add a sun to your diagram.

It is the sun that drives the water cycle. Add arrows to show where the following phenomena occur:

- evaporation of seawater from the heat of the sun
- cloud formation as a result of condensation
- precipitation in the form of rain, sleet, hail or snow
- surface run-off and infiltration into the ground
- return to the sea

Did you realize that you never swim in the same water twice since it is endlessly circulating? Have you ever noticed these phenomena near where you live? And do you know where the water comes from that you use for drinking and washing in your home?

Find out!