Journey of a Water Drop Lesson Plan

Aim
To learn about the journey of a water drop and the treatment process involved to make water safe to drink.

Time requirements
Approximately 60 minutes

Resources
- Interactive water resource
- Whiteboard or projector

Activity 1
- 2 litre bottles
- Pebbles, soil, sand and glitter
- Water

Activity 2
- Bottle from previous experiment with the settled material
- Basin or sink
- Water
- Scissors

Learning objectives
To investigate the journey of a water drop through discussion and the water resource and to examine the water treatment process through sedimentation and filtration experiments.

Curriculum Strands
SESE, Science – Energy and forces, materials
SESE, Science and Geography – Natural environments and environmental awareness and care
English – Oral language and reading
Maths – Numbers and data, measures and early mathematics

Skills
Questioning, observing, discussing, investigating, counting and analysing

Links to Green-Schools
Step 2 Environmental Review – Investigating the life cycle of water
Step 3 Action Plan – Experiments to help understand the water treatment process and natural processes

Vocabulary
Sedimentation, settle, gravity, filtration, quantities, particles, liquid, filter

Running the activity

- Write water on the board and ask the students to explain what happens to their water to get to the tap. Note down all their answers so you can compare them to their answers at the end of the activity.
- Go through Section 2 of the Water Resource to explain the journey of a water drop.
- Experiments to show the sedimentation and filtration processes:

1) **Sedimentation** – suspended material in water that settles by gravity

- First, put a litre and a half of water into your bottle.
- Show the students the different things you are going to put into the water and ask them to guess which ones will sink fastest and do they think any will float.
- Put the materials into the bottle (same quantities of each), put the lid on and shake the bottle, turn it upside down and then watch them settle. Discuss what happened and have the students do it themselves. You could add different material such as leaves and twigs to see what happens.
- Draw the sedimentation pattern, labelling the contents of the bottle from bottom to top to show how they finally settled.

2) **Filtration** – the separation of particles from a liquid through the use of a filter

- Take the lids off the bottles with the settled material and let the water drain out into a large basin or sink.
- Is the water clear? You could cut the bottom of the bottles and add some dirty water to see what happens.

See Section 2 for the Water Resource and click on the link below to see our animated videos on the Green-Schools 7 Steps in Action and Our Water from Cloud to Glass
www.greenschoolsireland.org/resources/water.215.html

Questions

- What particles sink and why?
- Did you find that the materials settled in a specific pattern?
- What particles came through the filter and why?

Go further

Find out and map how your water gets to your school.