



Experiment 2: Investigating how trees prevent flooding and pollution

Aim:

To introduce students to the important role trees and forests play in the water cycle.

Curriculum Links:

Living Things

Environmental awareness and care

Global Goals/SDG Links:

Goal 3 – Good Health & Wellbeing

Goal 6 – Clean Water & Sanitation

Goal 11 – Sustainable Cities and Communities

Goal 13 – Climate Action

Goal 14 – Life below water

Goal 15 – Life on Land

Skills:

Research; Observing; Recording;

Background Information:

This Lesson Plan introduces teachers/facilitators to the connection between Forests & Water.

Support Sheet 1 will equip you with an understanding of how trees and water interact, with some age appropriate facts to share with your students.

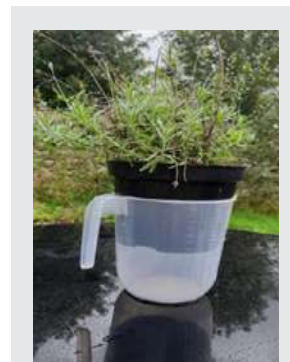
The Student Activity Sheet will help explore the role and value of forests for the Earth's water systems. It aims to help students understand the path of water in a tree and the role that trees and forest ecosystems play in water redistribution systems. This also relates to their role as defense against flooding, soil erosion and extreme weather events.

Equipment:

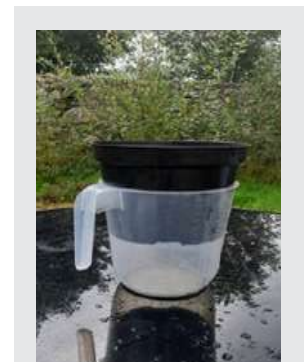
- ✓ Experiment 2: Student Activity Sheet per group
- ✓ Experiment 2: Answers for teacher/facilitator
- ✓ Clipboards/Pencils
- ✓ Tablet/Camera to record work
- ✓ A well-rooted pot plant (this represents a tree)
- ✓ A pot filled to the same height with compost/soil
- ✓ Two white basins or trays to collect the runoff from the two pots
- ✓ Measuring jug
- ✓ Stopwatch

Methodology:

1. Place the potted plant and the pot of compost/soil in trays/basin to catch water runoff



Potted Plant



Pot with Compost

2. Add 500 ml of water to each pot at the same time. Start timer for 2 minutes.
3. After 2 minutes, measure the amount of runoff from both pots.



Forests and Water



INVESTIGATE
FORESTS

LESSON PLAN

4. Compare the colour of the run-off from both pots.
5. Record results in the table in the Student Activity Sheet and answer the questions.

-  Read: Forests and Climate 'Trees can Change Weather' Support Sheet 2
-  Discuss the questions and answers with the group.

Useful Links:

LEAF Theme – Forests & Water:

<https://leafireland.org/themes/forests-water/>

Green-Schools Water Theme:

https://greenschoolsireland.org/resources/theme_category/water/



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RESULTS	Potted Plant (Tree)	Pot of Soil
Volume of runoff		
Colour of runoff		
Presence of particles		

1. Why is there a difference in the volume of runoff from both pots?

2. Explain the difference in colour between the runoff from both pots.

3. Can trees help to prevent flooding? How?

4. Can trees help to prevent pollution? How?



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