



LESSON PLAN

Curriculum Achievement Objectives

Mathematics and Statistics

- Number Knowledge
- Measurement

Science

- Investigating, Communicating in Science
- Earth, Interacting Systems
- Living World, Ecology and Evolution
- Physical Inquiry and Physics Concepts

Technology

- Technological Products
- Characteristics of Technology

Physical Resources

Spirit thermometer, dial thermometer, anemometer, rooster wind vane, rain gauge, psychrometer, barometer.

A3 Water Cycle diagrams, water droplet counters.

Bucket, bottle, glass, teaspoon.

Clipboards (shared between kits)

1x reference sheets for facilitators

1 WEATHER-WISE (30 mins)

- Set up stations with weather measurement items and corresponding instruction sheets.
 - Fill the rain gauge up to yesterday's rainfall measurement from the tap in the glass house and position it in the soil, not in the grass.
 - The dial thermometer should also be used in soil.
 - Fill the screw-top psychrometer barrel with water.
- Divide students into eight groups, hand out Weather-Wise worksheets, and assign them to each station. A supervisor must be placed at the psychrometer station to operate the instrument. Additional 'floating' supervisors are recommended, particularly at the barometer and anemometer stations.
- Give students about three minutes to take their measurements, then rotate. Discuss results as a class. Talk further about the physical properties of these instruments and how they are fit for purpose to allow us to measure physical conditions.

(Number Knowledge, Measurement, Physical Inquiry and Physics Concepts, Technological Products, Characteristics of Technology)

2 WATER CYCLE (10 mins)

- a. Hand out the A3 Water Cycle diagrams between groups of five or so students.
- b. Give them each a water droplet counter that they can move around the diagram, pretending they are part of the water cycle.
- c. Explain the terminology for water cycle processes to them from the teacher's copy.
- d. To help them remember these terms, have them move their water droplets around the water cycle diagram in response to different processes as they are called out.

(Investigating and Communicating in Science, Earth and Interacting Systems)

3 WHERE IN THE WORLD IS OUR WATER? (30 mins)

- a. Use the instruction card in the teacher's reference sheets to carry out this activity. Fill the bucket from the tap in the Winter Garden Glasshouse.
- b. Discuss ways that we can save water at home.
 - Collect rainwater to use in the garden
 - Take shorter showers, use water-saving tap filters
 - Use water-efficient appliances
 - Cover pools so water doesn't evaporate
 - Water plants intentionally by hand; don't use indiscriminate sprinklers
 - Don't leave taps running when not in use
 - Run full dishwasher loads only
 - Don't use a hose to wash cars
 - Eat less red meat - a lot of water goes into raising cows for meat.

(Number Knowledge, Investigating and Communicating in Science, Earth and Interacting Systems)

4 CLIMATE COMPARISONS (30 mins)

- a. Give each student a Climate Comparison worksheet to fill out as they explore the rainforest and desert Winter Garden Glasshouse environments.
- b. Discuss how plants are adapted to different living environments, and what specific features they have learnt about which help plants survive in climates with different amounts of water.

(Measurement, Living World - Ecology and Evolution)