



Long Range Grade 2 Science and Technology Plan

Term 1: Earth and Space Systems – Air and Water in the Environment

Specific Expectations

Understanding Basic Concepts

- demonstrate an awareness of air as a substance that surrounds us and takes up space, and whose movement we feel as wind;
- describe the movement of air relying on their observations of its effects (e.g., tree branches swaying, clouds moving);
- compare characteristics of and changes in observed air conditions, in both indoor and outdoor environments (e.g., cold winter temperatures outdoors and warm temperatures indoors);
- identify ways in which changes in temperature affect living things, including themselves (e.g., decisions concerning activities or transportation; hibernation; dormancy; migration);
- recognize that water exists in three states on earth (e.g., solid - visible as ice; liquid - visible as rain or as water in lakes, streams, etc.; gas - present but invisible as water vapour);
- identify and describe forms of moisture in the environment (e.g., dew, snow, fog, frost, rain);
- identify the factors that cause things to dry quickly or slowly (e.g., air temperature; amount of moisture in the air; amount of wind);
- recognize evidence of the water cycle (e.g., observe water in a closed container and water in an open container; observe puddles evaporating after a rainstorm).

Developing Skills of Inquiry, Design and Communication

- ask questions about and identify needs or problems arising from events in the outdoor environment, and explore possible answers and solutions (e.g., observe that there is a relationship between the patterns and movement of clouds and changes in weather; monitor the length of time needed for various materials used for clothing to dry in order to determine which materials are more suitable for wet weather);
- plan investigations to answer some of these questions or solve some of these problems, and describe the steps involved;
- use appropriate vocabulary in describing their explorations, investigations, and observations (e.g., use words such as solid, liquid, vapour; use the

- correct terms to describe quantities of water in standard (metric) and non-standard units of measure);
- record relevant observations, findings, and measurements, using written language, drawings, concrete materials, and charts (e.g., record and graph weather data gathered over a period of a few weeks);
 - communicate the procedures and results of explorations and investigations for specific purposes, using drawings, demonstrations, and oral and written descriptions (e.g., write the instructions for constructing a pinwheel, adding helpful drawings or diagrams).

Relating Science and Technology to the World Outside the School

- predict and describe how local weather conditions affect living things, including themselves (e.g., effect of
- wind on trees in autumn, effect of snowfall on humans' ability to travel);
- describe the different uses of water and identify some that are essential for maintaining our health (e.g., water is used for drinking and washing; clean drinking water is essential for the health of humans);
- identify sources of drinking water (e.g., wells, springs, Great Lakes, rivers);
- recognize that clean water is an increasingly scarce resource in many parts of the world and that the water we use is part of our environment and should be used wisely (e.g., taps should be turned off while brushing teeth;
- toxic substances such as paint should not be poured down the drain);
- demonstrate awareness of the ways in which the disposal of waste water can affect our health and the health of other living things (e.g., pouring waste water containing chemicals into a lake or river can seriously harm
- people and the organisms that live in the water).