Weather Station Science K-6

Grade	Science Curriculum: Prescribed Learning Outcomes	Science Teaching Tips
Kinder-garten	**Processes & skills of science** 1. Use the five senses to make observations 2. Share with others information obtained by observing	• Observe weather conditions outside @ school & @ home • Talk about & draw observations made about weather with a buddy and/or to the class • See Handmade Science connections; Lesson 1 (Observation is the first tool of weather forecasting, overview p.7) & Forecasting Tips for each weather instrument on p.75.
Grade 1	**Processes & skills of science** 1. Communicate observations, experiences & thinking in a variety of ways 2. Classify objects, events, and organisms **Earth & Space Science** 1. Describe changes that occur in daily & seasonal cycles & their effects on living things **Life Science** Describe the basic needs of local plants & animals (e.g., food, water, light)	• Talk about, draw & graph observations made about weather conditions • See Handmade Science connections; Lesson 1 (Observation is the first tool of weather forecasting, overview p.7) & Forecasting Tips for each weather instrument on p.75. • Record weather measures across the school year. • Relate changes in weather to changes in plants across the year (i.e., cherry blossoms, chestnuts, changes in leaves) • Observe & discuss how weather has an impact on plants & animals (lack of rain, extreme heat, early frost …)
Grade 2	**Processes & skills of science** 1. Use their senses to interpret observations 2. Infer the probable outcome of an event or behaviour based on observations **Life Science:** Describe some changes that affect animals (e.g., hibernation, migration, decline in population)	• Compare observations of weather with data on weather station website • Predict weather for pm or next day or weekend based on observations of sky (types of clouds, colour of sky, wind) • Use examples from Yukon, NWT & Nunavut for details about how changes in weather affect caribou, bears, seals etc.
Grade 3	**Processes & skills of science** 1. Ask questions that foster investigations & explorations relevant to the context 2. Measure objects & events **Life Science:** Describe how plants are harvested & used throughout the seasons	• Ask questions about weather: Why is it colder under that big tree? Why is it warmer at another school? Why does it rain more in some places? See Handmade Science connections; Lesson 2 (Weather can be measured, p.18), & Forecasting Tips for each weather instrument on p.75. • Make a rain gauge & measure rainfall; Make an anemometer to measure wind; Make a thermometer to measure temperature. • Discuss growing seasons of fruits & veggies in BC (Why can you grow grapes in the Okanagan?)

Grade 4	**Processes & skills of science** 1. Make predictions, supported by reasons & relevant to the content 2. Use data from investigations to recognize patterns & relationships & reach conclusions **Earth & Space Science** 1. Measure weather in terms of temperature, precipitation, cloud cover, wind speed & direction 2. Analyze impacts of weather on living & non-living things	• Make personal weather instruments to measure weather. See Handmade science connections; Making different weather instruments instructions, p.75. • Compare & look for patterns in these measurements to the weather station data @ the school & at other schools on the Victoria weather map • Compare the temperature in Victoria to other parts of the world across 1-2 weeks • For details on Grade 4 Learning outcomes for science, math & language arts go to Teacher Resources @ victoriaweather.ca and look for Grade 4 Science Lesson Plans by Joyce Ramsden. Scroll down to Grade 4 Learning Outcomes for great connections across three subject areas.
Grade 5	**Processes & skills of science** 1. Identify variables that can be changed in an experiment 2. Evaluate the fairness of a given experiment 3. Describe the steps in designing an experiment	• Build a weather station (For specific details go to Teacher Resources @ victoriaweather.ca and look for Handmade Science). • Identify variables you will study. • Make predictions about outcomes. • Measure weather & compare at different locations. • Experiment to investigate microclimates in the area. (Why is the temperature different in certain locations? How much rain at different locations?)
Grade 6	**Processes & skills of science** 1. Manipulate & control a number of variables in an experiment 2. Apply solutions to a technical problem **Earth & Space Science** 1. Explain obstacles unique to exploration of a specific extreme environment 2. Assess technologies used for extreme environments 3. Describe contributions of Canadians to exploration technologies	• Design weather instruments to measure extreme weather conditions (i.e., hail, high winds, snow depth, extreme rain) • Obtain weather data for extreme environment of study (i.e., desert, Antarctica, arctic) & compare to Victoria weather. Examine plants & animals that live in these extreme environments & compare to Victoria. • What's the difference between marine weather & aviation weather? Are different instruments used to record these types of weather?