Weather Station Math Ideas for K-6

Grade	Math Curriculum: Prescribed Learning Outcomes (**From New K-7 Math Curriculum 2006)	Mathematics Teaching Tips
Kinder-garten	**Number** • Recognize, represent & describe numbers from 1 to 10 and from 10 to 1 (concretely & pictorially) **Patterns & Relations** • Demonstrate an understanding of repeating patterns	• Read the numbers on the weather station monitors • Read the numbers on any weather graph (temperature, rainfall, wind speed etc from www.victoriaweather.ca) • Shows graphs of weekly, monthly temperature (etc) and discuss patterns (daily cycle, trends etc).
Grade 1	**Number** • Recognize, represent & describe numbers from 1 to 20 **Patterns & Relations** • Demonstrate an understanding of repeating patterns **Shape & Space** • Demonstrate an understanding of measurement as a process of comparing	• Read the numbers on the weather station monitors • Read the numbers on any weather graph (temperature, rainfall, wind speed etc from www.victoriaweather.ca) • Shows graphs of weekly, monthly temperature (etc) and discuss patterns (daily cycle, trends etc). See Handmade Science connections; p.22-Links to last lesson.
Grade 2	**Number** • Recognize, describe, and use numbers from 0 to 100 **Patterns & Relations** • Demonstrate an understanding of repeating & increasing patterns **Shape & Space** • Measurement **Statistics & Probability** • Gather & record data about self and others to answer questions • Construct & interpret concrete graphs & pictographs to solve problems	• Read the numbers on the weather station monitors • Read the numbers on any weather graph (temperature, rainfall, wind speed etc from www.victoriaweather.ca) • Use weather station monitors and weather graphs (temperature, rainfall, wind speed etc from www.victoriaweather.ca) to look for patterns and make predictions (i.e., rising pressure = clearing weather). See Handmade Science connections; p.22-Links to last lesson & Forecasting Tips for each weather instrument on p.75. • See Handmade Science connections; Lesson 2 (Weather can be measured;p.18) • Use temperature data to plot bar graphs, line graphs etc. See Handmade Science connections to make forecasts.

Grade 3	**Number** • Recognize, describe, use & compare numbers from 0 to 1000 • Apply estimation strategies **Patterns & Relations** • Demonstrate an understanding of increasing & decreasing patterns **Shape & Space** • Relate the passage of time to common activities using non-standard and standard units • Demonstrate an understanding of measuring length **Statistics & Probability** • Collect first-hand data & organize it using tally marks, line plots, charts, lists • Construct, label & interpret bar graphs to solve problems	• Use weather station monitors and weather graphs (temperature, rainfall, wind speed etc from www.victoriaweather.ca) to look for patterns and make predictions (i.e., rising pressure = clearing weather). See Handmade Science connections; p.22-Links to last lesson & Forecasting Tips for each weather instrument on p.75. • Take thermometers outside & measure temperature; compare with temperature inside (or use the monitors). See Handmade Science connections; Lesson 2 (Weather can be measured,p.18); Lesson 3 (Collected weather data can be analyzed,p.26) & Weather Observation Journal, p.109.
Grade 4	**Number** • Represent, describe & and use whole numbers to 10,000 pictorially & symbolically **Patterns & Relations** • Identify & describe patterns found in tables & charts • Identify & explain mathematical relationships using charts & diagrams to solve problems **Shape & Space** • Read & record time using digital & analog clocks, including 24hr clocks • Read & record calendar dates in a variety of formats **Statistics & Probability** • Demonstrate and understanding of many-to-one correspondence • Construct & interpret pictographs & bar graphs involving many-to-one correspondence to draw conclusions	• See victoriaweather.ca for numerous graphs on weather variables @ each school. See Handmade Science connections; Lesson 5 (Weather graphs can reveal weather patterns across a locale, overview p.64). • Use weather graphs (larger images are easier to use) to link time and dates to weather data. • See Handmade Science connections; Lesson 4 (Part II): Students make bar graphs using windsock data, overview p.44)

Grade 5	**Number** • Represent & describe whole numbers to 1,000,000 • Use estimation strategies **Patterns & Relations** • Determine the pattern rule to make predictions about subsequent elements **Shape & Space** • Demonstrate an understanding of measuring length • Demonstrate an understanding of volume & capacity **Statistics & Probability** • Differentiate between first and second-hand data • Construct and interpret double bar graphs to draw conclusions • Describe the likelihood of a single outcome occurring using such words as impossible,possible,certain. • Compare the likelihood of two possible outcomes occurring using words such as less likely,equally likely & more likely	• See Handmade Science connections; Lesson 5 (Weather graphs can reveal weather patterns across a locale, overview p.64). • 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 6	**Number** • Demonstrate an understanding of place value for numbers greater than 1,000,000 & less than 1000th • Demonstrate an understanding of ratio, percent & integers (concretely,pictorially & symbolically) **Patterns & Relations** • Represent & describe patterns & relationships using graphs & tables **Statistics & Probability** • Create, label & interpret line graphs to draw conclusions • Select,justify & use appropriate methods of collecting data • Graph collected data & analyze the graph to solve problems • Demonstrate an understanding of probability	• See Handmade Science connections; Lesson 5 (Weather graphs can reveal weather patterns across a locale, overview p.64). • See Handmade Science connections; Lesson 2 (Weather can be measured,p.18), Lesson 3 (Collected weather data can be analyzed,overview, p.26); Forecasting Tips for each weather instrument on p.75. • Discuss the chance of getting snow or hail or really windy conditions.