

Sky Watchers Curriculum Correlation

Province: Manitoba

Curriculum: Science

Grade/Cluster: Grade 5, Cluster 4: Weather

Date of Correlation: December 20, 2006

Chapter	Specific Learning Outcomes Addressed¹	Cross Curricular Connections
<p>Chapter 1</p> <p>First Steps</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p> <p>5-4-06 Observe and measure local weather conditions over a period of time, using student-constructed or standard instruments, and record and analyze these data. GLO: A2,C2,C5,D5</p> <p>5-4-07 Identify and describe components of public weather reports from a variety of sources. Include: temperature; relative humidity; wind speed and direction; wind chill; barometric pressure; humidex; cloud cover; ultraviolet index; warm and cold fronts; amount, types, and probability of precipitation GLO: C6,D5</p> <p>5-4-08 Describe the key features of a variety of weather phenomena. <i>Examples: wind speed and precipitation of blizzards</i> GLO: D5,E1,E2</p> <p>5-4-15 Identify and describe common cloud formations. Include: cumulus, cirrus, stratus GLO: D5, E1</p>	<ul style="list-style-type: none"> ▪ Activity, page 4: Technology (Internet) ▪ Throughout chapter: Math (measurement)
<p>Chapter 2</p> <p>What Makes Weather?</p> <p>Includes Activities 1 to 6 on</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p>	<ul style="list-style-type: none"> ▪ Activity, page 14: Math (measurement) ▪ Activity number 4, page 64: Math (measurement)

pages 61 to 68

5-4-03 Describe properties of air.

Include: has mass/weight and volume; expands to fill a space; expands and rises when heated; contracts and sinks when cooled; exerts pressure; moves from areas of high pressure to areas of low pressure
GLO: D3

5-4-04 Recognize that warm and cold air masses are important components of weather, and describe what happens when these air masses meet along a front.

Include: in a cold front the cold air mass slides under a warm air mass, pushing the warm air upwards; in a warm front the warm moist air slides up over a cold air mass
GLO: D5, E2

5-4-05 Use the design process to construct a weather instrument.

Examples: an instrument that measures wind direction, wind speed, rainfall
GLO: C3,D5

5-4-07 Identify and describe components of public weather reports from a variety of sources.

Include: temperature; relative humidity; wind speed and direction; wind chill; barometric pressure; humidex; cloud cover; ultraviolet index; warm and cold fronts; amount, types, and probability of precipitation
GLO: C6,D5

5-4-08 Describe the key features of a variety of weather phenomena.

Examples: wind speed and precipitation of blizzards
GLO: D5,E1,E2

5-4-10 Investigate various ways of predicting the weather, and evaluate their usefulness.

Examples: weather-related sayings, traditional knowledge, folk knowledge, observations of the natural environment
GLO: A2,A4,B2,C8

5-4-13 Explain how the transfer of energy from the Sun affects weather conditions.

Include: the Sun's energy evaporates water and warms the Earth's land, water, and air on a daily basis
GLO: D4,D5,E4

5-4-17 Identify factors that influence weather and climate in

	<p>Manitoba and across Canada, and describe their impacts. <i>Examples: jet stream, proximity to water, elevation, Chinook</i> GLO: D5, E2</p>	
<p>Chapter 3</p> <p>Weather Elements</p> <p>Includes Activities 7 to 12 on pages 69 to 73</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p> <p>5-4-05 Use the design process to construct a weather instrument. <i>Examples: an instrument that measures wind direction, wind speed, rainfall</i> GLO: C3,D5</p> <p>5-4-06 Observe and measure local weather conditions over a period of time, using student-constructed or standard instruments, and record and analyze these data. GLO: A2,C2,C5,D5</p> <p>5-4-07 Identify and describe components of public weather reports from a variety of sources. Include: temperature; relative humidity; wind speed and direction; wind chill; barometric pressure; humidex; cloud cover; ultraviolet index; warm and cold fronts; amount, types, and probability of precipitation GLO: C6,D5</p> <p>5-4-08 Describe the key features of a variety of weather phenomena. <i>Examples: wind speed and precipitation of blizzards</i> GLO: D5,E1,E2</p> <p>5-4-13 Explain how the transfer of energy from the Sun affects weather conditions. Include: the Sun's energy evaporates water and warms the Earth's land, water, and air on a daily basis GLO: D4,D5,E4</p> <p>5-4-14 Explain how clouds form, and relate cloud formation and precipitation to the water cycle. GLO: D5,E2</p> <p>5-4-15 Identify and describe common cloud formations. Include: cumulus, cirrus, stratus</p>	<ul style="list-style-type: none"> ▪ Activity, page 22: Social Studies (mapping) ▪ Activity, page 23: Math (data management) ▪ Activity, page 30: Science (sound), and Language (writing) ▪ Activity, page 31: Math (measurement) ▪ Activity, number 7 page 69: Math (measurement and data management)

	<p>GLO: D5, E1</p> <p>5-4-17 Identify factors that influence weather and climate in Manitoba and across Canada, and describe their impacts. <i>Examples: jet stream, proximity to water, elevation, Chinook</i> GLO: D5, E2</p>	
<p>Chapter 4</p> <p>Severe Weather in Canada</p> <p>Includes Activity 13 on page 74</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p> <p>5-4-02 Describe how weather conditions may affect the activities of humans and other animals. <i>Examples: heavy rainfall may cause roads to wash out; stormy conditions may prevent a space shuttle launching; in excessive heat, cattle may produce less milk</i> GLO: D5</p> <p>5-4-08 Describe the key features of a variety of weather phenomena. <i>Examples: wind speed and precipitation of blizzards</i> GLO: D5,E1,E2</p> <p>5-4-09 Provide examples of severe weather forecasts, and describe preparations for ensuring personal safety during severe weather and related natural disasters. <i>Examples: tornado, thunderstorm, blizzard, extreme wind chill, flood, forest fire</i> GLO: B3, C1, D5</p>	<ul style="list-style-type: none"> ▪ Throughout chapter: Health (severe weather safety) ▪ Activity, page 4-2: Math (measurement) ▪ Activity, page 4-9: Language (writing)
<p>Chapter 5</p> <p>Weather and Canadians</p> <p>Includes Activities 14 to 17 on pages 75 to 79</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p> <p>5-4-02 Describe how weather conditions may affect the activities of humans and other animals. <i>Examples: heavy rainfall may cause roads to wash out; stormy conditions may prevent a space shuttle launching; in excessive heat, cattle may produce less milk</i></p>	<ul style="list-style-type: none"> ▪ Activity, page 39: Language (reading and media literacy) ▪ Activity number 14, page 75: Math (data management), and Technology (spreadsheets) ▪ Activity number 15, page 76: Social Studies (mapping) ▪ Activity number 16, page 77: Social Studies (mapping) ▪ Activity number 17, pages 78 to 79: Social

	<p>GLO: D5</p> <p>5-4-16 Differentiate between weather and climate. <i>Examples: weather includes the atmospheric conditions existing at a particular time and place; climate describes the long-term weather trend of a particular region</i> GLO: D5, E1</p> <p>5-4-17 Identify factors that influence weather and climate in Manitoba and across Canada, and describe their impacts. <i>Examples: jet stream, proximity to water, elevation, Chinook</i> GLO: D5, E2</p> <p>5-4-18 Recognize that climates around the world are ever changing, and identify possible explanations. <i>Examples: volcanic eruptions, ozone depletion, greenhouse effect, El Nino, deforestation</i> GLO: B5,D5,E2,E3</p>	Studies (mapping)
<p>Chapter 6</p> <p>Ultraviolet Radiation</p> <p>Includes Activities 19 to 23 on pages 80 to 84</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p> <p>5-4-07 Identify and describe components of public weather reports from a variety of sources. Include: temperature; relative humidity; wind speed and direction; wind chill; barometric pressure; humidex; cloud cover; ultraviolet index; warm and cold fronts; amount, types, and probability of precipitation GLO: C6,D5</p> <p>5-4-18 Recognize that climates around the world are ever changing, and identify possible explanations. <i>Examples: volcanic eruptions, ozone depletion, greenhouse effect, El Nino, deforestation</i> GLO: B5,D5,E2,E3</p>	<ul style="list-style-type: none"> ▪ Throughout chapter: Health (sun safety), and Social Studies/Science (environment) ▪ Activity number 20, page 81: Health (sun safety), and Math (data management) ▪ Activity number 21, page 82: Health (sun safety), and Math (percentage) ▪ Activity number 22, page 83: Health (sun safety), and Math (percentage) ▪ Activity number 23, page 84: Health (sun safety), Math (percentage)
<p>Chapter 7</p> <p>Putting It All Together</p> <p>Includes Activity number 18</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p>	<ul style="list-style-type: none"> ▪ Activity, page 52: Language (oral communication) ▪ Activity, page 53: Language (writing and oral communication) ▪ Activity, page 57: Math (measurement) ▪ Activity number 18, page 80: Language

<p>on page 80</p>	<p>5-4-06 Observe and measure local weather conditions over a period of time, using student-constructed or standard instruments, and record and analyze these data. GLO: A2,C2,C5,D5</p> <p>5-4-07 Identify and describe components of public weather reports from a variety of sources. Include: temperature; relative humidity; wind speed and direction; wind chill; barometric pressure; humidex; cloud cover; ultraviolet index; warm and cold fronts; amount, types, and probability of precipitation GLO: C6,D5</p> <p>5-4-08 Describe the key features of a variety of weather phenomena. <i>Examples: wind speed and precipitation of blizzards</i> GLO: D5,E1,E2</p> <p>5-4-10 Investigate various ways of predicting the weather, and evaluate their usefulness. Examples: weather-related sayings, traditional knowledge, folk knowledge, observations of the natural environment GLO: A2,A4,B2,C8</p> <p>5-4-12 Describe examples of technological advances that have enabled humans to deepen their scientific understanding of weather and improve the accuracy of weather predictions. <i>Examples: satellites collect data that scientists analyze to increase understanding of global weather patterns; computerized models predict weather</i> GLO: A2,A5,B1,D5</p> <p>5-4-15 Identify and describe common cloud formations. Include: cumulus, cirrus, stratus GLO: D5, E1</p>	<p>(writing)</p>
<p>Supplement One</p> <p>Air Quality</p> <p>Includes Activities 1 to 6 on pages 9 to 17 (Supplement One)</p>	<p>5-4-01 Use appropriate vocabulary related to their investigations of weather. Include: weather; properties; volume; pressure; air masses; fronts; weather instrument; severe weather; forecast; accuracy; water cycle; climate; terms related to public weather reports, and cloud formations GLO: C6,D5</p>	<ul style="list-style-type: none"> ▪ Throughout chapter: Social Studies/ Science (environment) ▪ Activity, page 4: Technology (internet) ▪ Activity number 2A, page 10: Math (data management), and Technology (internet) ▪ Activity number 2B, page 11: Math (data management)

	<p>5-4-07 Identify and describe components of public weather reports from a variety of sources.</p> <p>Include: temperature; relative humidity; wind speed and direction; wind chill; barometric pressure; humidex; cloud cover; ultraviolet index; warm and cold fronts; amount, types, and probability of precipitation</p> <p>GLO: C6,D5</p>	<p>▪ Activity number 3, pages 12-13: Reading</p>
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¹ The chapter provides teacher information and/or student activities to support the teaching of the specific learning outcome.



This curriculum correlation was conducted by Curriculum Services Canada (CSC), the Pan-Canadian standards agency for quality assurance in learning products and programs at www.curriculum.org.