

Manitoba Curriculum Outcomes linked to SucSeed

** Statements written in green italics are suggestions for carrying out each outcome*

GRADE 4

Grade 4 Science, Cluster 0: Overall Skills and Attitudes

Students will be expected to:

3-0-1a. (Scientific Inquiry) Ask questions that lead to investigations of living things, objects, and events in the local environment. **(ELA 1.2.4)** GLO: A1, C2, C5

3-0-1b. (Scientific Inquiry) Make predictions based on observed patterns, collected data, or data provided from other sources. **(ELA 1.1.1; Math SP-IV.2.3)** GLO: A1, C2

3-0-1c. (Design Process) Identify practical problems to solve in the local environment. GLO: C3

**Brainstorming Activity: Think through the lens of food insecurity. How can we use our classroom garden to help those with limited access to food?*

3-0-3b. (Scientific Inquiry) Identify, with the class, variables that have an impact on an investigation. GLO: A1, A2, C2, C7

3-0-3c. (Scientific Inquiry) Create, with the class, a plan to answer a given question. **(ELA 3.1.4)** GLO: C2, C7

3-0-3d. (Design Process) Brainstorm, in small groups, possible solutions to a practical problem, and reach consensus on which solution to implement. GLO: C3, C7

3-0-3e. (Design Process) Create, in small groups, a written plan to solve a problem or meet a need. Include: identify steps to follow, prepare a simple diagram. **(ELA 1.2.3)** GLO: C3, C7

3-0-4a. (Scientific Inquiry) Carry out a plan, and describe the steps followed. **(Math SP-V.2.3)** GLO: C2

3-0-4e. Respond respectfully to the ideas and actions of others, and recognize their ideas and contributions. **(ELA 1.1.2, 5.2.2)** GLO: C5, C7

3-0-4f. Assume roles and share responsibilities as group members. **(ELA 5.2.1)** GLO: C7

3-0-4g. Verbalize questions, ideas, and intentions during classroom-learning experiences. GLO: C6

3-0-5e. Record observations in a variety of ways. Examples: point-form notes, sentences, simple diagrams, charts... **(ELA 3.2.1, 3.3.2, 4.1.3; Math SP-II.2.1, SP-V.2.3)** GLO: C2, C6

3-0-7a. Draw a simple conclusion based on their observations. GLO: A1, A2, C2

3-0-7d. Examine how new experiences, ideas, and information connect to prior knowledge and experiences, and record these connections. (ELA 1.2.1, 2.1.2, 3.3.3)
GLO: A2, C6

3-0-9a. Listen to and consider differing opinions. **(ELA 5.2.3)** GLO: C5, C7

3-0-9b. Express enjoyment when sharing and discussing science-related experiences from daily life. **(ELA 4.4.3)** GLO: C5 3-0-9c. Take the time to repeat a measurement or observation for greater precision or detail. GLO: C5

Grade 4 Science, Cluster 1: Habitats and Communities

4-1-07 Investigate and describe a variety of local and regional habitats and their associated populations of plants and animals. GLO: D2, E2

4-1-08 Predict and test to determine an appropriate method for measuring a plant population within a given habitat. GLO: A2, C2, C3, C5

Grade 4 Science, Cluster 4: Rocks, Minerals, and Erosion

4-4-04 Differentiate between minerals and rocks. Include: minerals are composed of the same substance throughout, rocks are composed of two or more minerals.. GLO: D5

4-4-11 Investigate and describe ways in which rock contributes to soil formation. GLO: D5, E2, E3

**Brainstorm: Which environments would you expect to be rocky? How might a rocky environment affect plant growth?*

4-4-12 Investigate and describe ways in which soil erosion is controlled or minimized in their community and in communities around the world. Examples: windbreaks, retaining walls, terracing, cover crops, reforestation... GLO: A5, B1, B5

4-4-13 Use the design process to determine an appropriate system for controlling soil erosion in a given situation. GLO: B1, B5, C3, E3

4-4-15 Identify natural phenomena and human activities that cause significant changes in the landscape. Examples: floods, avalanches, mud slides, hydroelectric dams, clearing land for agriculture, clear-cut forestry, forest fires... GLO: B5, D5, E3

Grade 4 English Language Arts

General Outcome 1: Students will listen, speak, read, write, view, and represent to explore thoughts, ideas, feelings, and experiences.

1.1 Discover and Explore

1.1.1 Express Ideas: Describe personal observations, experiences, predictions, and feelings.

1.1.2 Consider Others' Ideas: Consider others' ideas and observations to discover and explore personal understanding.

1.2 Clarify and Extend

1.2.2 Explain Opinions: Explain understanding of new concepts.

1.2.4 Extend Understanding: Ask questions to clarify information and develop new understanding

General Outcome 3: Students will listen, speak, read, write, view, and represent to manage ideas and information.

3.1 Plan and Focus

3.1.1 Use Personal Knowledge: Use self-questioning to determine personal knowledge of a topic and identify information needs.

3.1.2 Ask Questions: Ask topic-appropriate questions to identify information needs.

3.1.3 Contribute to Group Inquiry: Contribute knowledge of a topic in group discussion to help determine information needs.

3.1.4 Create and Follow a Plan: Recall and follow a sequential plan for accessing and gathering information.

3.3 Organize, Record, and Assess

3.3.1 Organize Information: Organize and explain information and ideas using a variety of strategies [such as clustering, categorizing, sequencing...].

3.3.2 Record Information: Record facts and ideas using a variety of strategies [such as outlining, webbing, charting...]; list authors and titles of sources.

3.3.3 Evaluate Information: Determine whether collected information is sufficient or inadequate for established purpose.

3.3.4 Develop New Understanding: Determine information needs during the inquiry.

General Outcome 4: Students will listen, speak, read, write, view, and represent to enhance the clarity and artistry of communication

4.3 Attend to Conventions

4.3.1 Grammar and Usage: Edit for complete sentences.

4.3.2 Spelling (see Strategies) Know and apply conventional spelling patterns using a variety of strategies [including phonics, structural analysis, and visual memory] and resources [such as junior dictionaries, electronic spell-check functions...] when editing and proofreading.

4.3.3 Punctuation and Capitalization: Know and use some punctuation conventions [including periods, exclamation marks, and question marks] when editing and proofreading.

4.4 Present and Share

4.4.1 *Share Ideas and Information:* Present information and ideas on a topic to engage a familiar audience using a pre-established plan; use print and non-print aids to enhance the presentation.

4.4.2 *Effective Oral Communication:* Select, monitor, and use appropriate volume, expression, and non-verbal cues in presentations; use physical stance and gestures to enhance communication.

General Outcome 5: Students will listen, speak, read, write, view, and represent to celebrate and to build community.

5.2 Encourage, Support, and Work with Others

5.2.1 *Cooperate with Others:* Cooperate and collaborate in small groups.

5.2.2 *Work in Groups:* Ask others for their ideas and express interest in their contributions.

5.2.3 *Use Language to Show Respect:* Show consideration for those whose ideas, abilities, and language use differ from own.

5.2.4 *Evaluate Group Process:* Understand how class members help each other to maintain group process.

Grade 4 Mathematics

General Learning Outcome: Use patterns to describe the world and solve problems.

Strand: Patterns and relations (Patterns)

Specific Learning Outcomes:

4.PR.1. Identify and describe patterns found in tables and charts, including a multiplication chart. [C, CN, PS, V]

Achievement Indicators: Identify and describe a variety of patterns in a multiplication chart, Determine the missing elements in a table or chart, Identify error(s) in a table or chart, Describe the pattern found in a table or chart.

4.PR.2. Reproduce a pattern shown in a table or chart using concrete materials. [C, CN, V]

Achievement Indicators: Create a concrete representation of a pattern displayed in a table or chart, Explain why the same relationship exists between the pattern in a table and its concrete representation.

4.PR.3. Represent and describe patterns and relationships using charts and tables to solve problems. [C, CN, PS, R, V].

Achievement Indicators: Extend patterns found in a table or chart to solve a problem, Translate the information provided in a problem into a table or chart, Identify and extend the patterns in a table or chart to solve a problem.

4.PR.4. Identify and explain mathematical relationships using charts and diagrams to solve problems. [CN, PS, R, V]

Achievement Indicators: Complete a Carroll diagram by entering data into correct squares to solve a given problem, Determine where new elements belong in a Carroll diagram, Solve a problem using a Carroll diagram, Identify a sorting rule for a Venn diagram, Describe the relationship shown in a Venn diagram when the circles intersect, when one circle is contained in the other, and when the circles are separate, Determine where new elements belong in a Venn diagram, Solve a problem by using a chart or diagram to identify mathematical relationships.

General Learning Outcome: Collect, display, and analyze data to solve problems.

Strand: Statistics and Probability (Data Analysis)

Specific Learning Outcomes:

4.SP.2. Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions. [C, PS, R, V]

Achievement Indicators: Identify an interval and correspondence for displaying a set of data in a graph, and justify the choice. Create and label (with categories, title, and legend) a pictograph to display a set of data using many-to-one correspondence, and justify the choice of correspondence used. Create and label (with axes and title) a bar graph to display a set of data using many-to-one correspondence, and justify the choice of interval used. Answer a question using a graph in which data is displayed using many-to-one correspondence