

Manitoba Curriculum Outcomes

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

GRADE 3

Grade 3 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 3 Science, Cluster 1: Growth and Changes in Plants

Students will be expected to:

3-1-02 Observe, compare, and contrast the structure and appearance of several types of plants. Examples: plants with different types of roots, trees with needles and trees with leaves... GLO: C2, D1, E1

3-1-03 Show respect for plants as living things. GLO: B5

3-1-04 Conduct experiments to determine conditions needed for healthy plant growth. Include: light, water, air, space, warmth, growing medium, nutrients. GLO: A1, C2, C5, D1

3-1-05 Recognize that a plant uses the Sun's energy to make its own food. GLO: D1, D2, D4, E4

3-1-06 Use the design process to construct an environment that enhances plant growth. Examples: window sill garden, terrarium, cold frames... GLO: A5, C3, C5, D1

3-1-07 Identify the basic parts of plants and describe their functions. Include: roots, stems, leaves, flowers, pistil, stamen, ovule, pollen, seeds, fruit. GLO: D1, E2

**Perhaps bring in a flower and have students dissect it to understand the parts and see them in real time*

3-1-08 Explain how different adaptations of plants help them survive in particular environments. Examples: cacti have fleshy stems that store water, allowing them to survive in a dry environment; plants with tap roots can grow well in heavily compacted soil... GLO: D1, D2, E1

3-1-10 Care for a flowering plant throughout its life cycle, tracking its growth and its changes over time. GLO: B5, C5, D1, E3

3-1-11 Identify characteristics that remain constant and those that change throughout the life cycle of a flowering plant. Examples: generally, for a given plant, the leaf shape and flower colour stay the same, whereas the leaf size and number of leaves change... GLO: D1, E3

3-1-14 Describe ways plants are important to the environment. Examples: improve soil, air, and water quality; reduce erosion... GLO: B5, D2

3-1-17 Investigate to determine how humans from various cultures make useful products from plant materials. Examples: lumber milling, paper making, rope making, fabric making... GLO: A3, A4, B1

3-1-18 Explain how humans replenish the plants they use and the consequences if plants are not replenished. Examples: after loggers harvest trees, new ones should be planted to ensure a future lumber supply... GLO: B1, B5, E3

Grade 3 Science, Cluster 4: Soils in the Environment

3-4-01 Use appropriate vocabulary related to their investigations of soils in the environment. Include: soil, soil component, loam, clay, sand, pebbles, organic matter, humus, rocks, sedimentation, sieving, water-holding capacity. GLO: C6, D5

3-4-02 Identify and describe various components within a sample of soil from the local environment. Examples: clay, loam, sand, pebbles, organic matter, humus, rocks... GLO: D5

3-4-05 Compare the water-holding capacity of different soils. Examples: sandy soil retains far less water than loamy soil... GLO: D3, D5, E1

**Demonstrate the water holding capacity with clear plastic containers bearing different types of soils. This could be done in groups.*

3-4-07 Conduct experiments to determine how different soils affect the growth of plants. Examples: compare the same type of plant grown in sand versus potting soil... GLO: A1, A2, C2, D2

3-4-09 Identify animals found in soil and explain their importance to soil quality. Examples: worms, insects, and mammals help to aerate the soil or increase nutrients... GLO: B5, D2

3-4-11 Use the design process to construct a simple composter that returns organic matter to the soil. Examples: classroom composter for left-over food, school composter for grass clippings and leaves... GLO: B1, B5, C3, D2

Grade 3 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 3 Mathematics

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

Strand: Statistics and Probability

Specific Learning Outcomes:

3.SP.1. Collect first-hand data and organize it using: Tally marks, line plots, charts, and lists to answer questions. [C, CN, V]

Achievement Indicator: Record the number of objects in a set using tally marks, Determine the attributes of line plots, Organize a set of data using tally marks, line plots, charts, or lists, Collect and organize data using tally marks, line plots, charts, or lists, Answer questions arising from a line plot, chart, or list, Answer questions using collected data.

3.SP.2. Construct, label, and interpret bar graphs to solve problems. [PS, R, V]

Achievement indicator: Determine the attributes of bar graphs, Create bar graphs from a set of data including labelling the title and axes, Draw conclusions from a bar graph to solve problems, Solve problems by constructing and interpreting a bar graph.

**Understanding bar graph permits students to plot their data (ex. Growth in mm per day of their plant) of their garden plants*