

Manitoba Curriculum Outcomes linked to SucSeed

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

GRADE 6

Grade 6 Science, Cluster 0: Overall Skills and Attitudes

Students will be expected to:

5-0-1a (Scientific Inquiry) Formulate, with guidance, specific questions that lead to investigations. Include: rephrase questions to a testable form, focus research questions.

GLO: A1, C2 (**ELA Grade 5, 3.1.1; Math: SP-I.1.5**)

5-0-1c (Design Process) Identify practical problems to solve. Examples: How can I determine the mass of air? Which prepared pizza should I buy?... GLO: C3

5-0-1d (Design Process) Identify various methods to solve a practical problem, and select and justify one to implement. Examples: constructing and testing a prototype; evaluating consumer products; accessing information from a variety of sources... GLO:

C3 (**Math: SP-II.1.5**)

5-0-2c Record information in own words and reference sources appropriately. GLO: C6 (**ELA Grade 5, 3.3.2**)

5-0-3b (Scientific Inquiry) Identify variables that might have an impact on their experiments and, with guidance, variables to hold constant to ensure a fair test. GLO: A2, C2

5-0-4c Work cooperatively with group members to carry out a plan, and troubleshoot problems as they arise. GLO: C7 (**ELA Grade 5, 5.2.2**)

5-0-4d Assume various roles and share responsibilities as group members. GLO: C7 (**ELA Grade 5, 5.2.2**)

5-0-4e Use tools and materials in a manner that ensures personal safety and the safety of others. Include: keeping an uncluttered workspace; putting equipment away after its use; handling glassware with care. GLO: C1

5-0-5e Estimate and measure mass/weight, length, volume, and temperature using SI and other standard units. GLO: C2, C5 (**Math: SS-IV.1.5, SS-III.1.5, SS-I.1.5, SS-VIII.4.3**)

**Students can measure the height of their plants and weigh the final product before harvesting. This data could be used for bar graphing.*

5-0-5f Record and organize observations in a variety of ways. Examples: point-form notes, sentences, labelled diagrams, charts, ordered lists of data, frequency diagrams, spread sheets...

5-0-6a Construct graphs to display data, and interpret and evaluate these and other graphs. Examples: bar graphs, frequency tallies, line plots, broken line graphs... GLO: C2, C6 (**ELA Grade 5, 3.3.1; Math: SP-II.1.5, SP-III.2.5, SP-IV.1.5; TFS: 4.2.2–4.2.6**)

5-0-6c Identify and suggest explanations for patterns and discrepancies in data. GLO: A1, A2, C2, C5

5-0-7b (Scientific Inquiry) Base conclusions on evidence rather than preconceived ideas or hunches. GLO: C2, C4

5-0-7e Identify new practical problems to solve. GLO: C3

5-0-7f Use prior knowledge and experiences selectively to make sense of new information in a variety of contexts. GLO: A2, C4 (**ELA Grade 5, 1.2.1**)

5-0-7g Communicate methods, results, conclusions, and new knowledge in a variety of ways. Examples: oral, written, multimedia presentations... GLO: C6 (**ELA Grade 5, 4.4.1; TFS: 3.2.2, 3.2.3**)

5-0-8b (Scientific Inquiry) Identify examples of scientific knowledge that have developed as a result of the gradual accumulation of evidence. GLO: A2

5-0-9e Be sensitive to and develop a sense of responsibility for the welfare of other humans, other living things, and the environment. GLO: B5

Grade 6 Science, Cluster 1: Diversity of Living Things

Students will be expected to:

6-1-06 Identify the five kingdoms commonly used for the classification of living things, and provide examples of organisms from each to illustrate the diversity of living things. Include: monerans, protists, fungi, plants, animals. GLO: A1, D1, E1, E2

6-1-07 Recognize that many living things are difficult to see with the unaided eye, and observe and describe some examples. GLO: C2, D1, E1

6-1-08 Observe and describe the diversity of living things within the local environment. Include: fungi, plants, animals. GLO: A1, C2, D1, E1

**Consider if these organisms contribute to plant growth. Why or why not?*

Grade 6 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 6 Mathematics

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

Strand: Patterns and relations (patterns)

Specific Learning Outcomes:

6.PR.2. Represent and describe patterns and relationships using graphs and tables. [C, CN, ME, PS, R, V]

Achievement Indicators: Translate a pattern to a table of values and graph the table of values (limit to linear graphs with discrete elements). Create a table of values from a pattern or a graph. Describe, using everyday language, orally or in writing, the relationship shown on a graph.

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

Strand: Statistics and Probability (Data Analysis)

Specific Learning Outcomes:

6.SP.1. Create, label, and interpret line graphs to draw conclusions. [C, CN, PS, R, V]

Achievement Indicators: Determine the common attributes (title, axes, and intervals) of line graphs by comparing a set of line graphs. Determine whether a set of data can be represented by a line graph (continuous data) or a series of points (discrete data), and explain why. Create a line graph from a table of values or set of data. Interpret a line graph to draw conclusions.

6.SP.2. Select, justify, and use appropriate methods of collecting data, including questionnaires experiments databases electronic media [C, PS, T]

Achievement indicators: Select a method for collecting data to answer a question, and justify the choice. Design and administer a questionnaire for collecting data to answer a question and record the results. Answer a question by

performing an experiment, recording the results, and drawing a conclusion. Explain when it is appropriate to use a database as a source of data. Gather data for a question by using electronic media, including selecting data from databases.

6.SP.3. Graph collected data and analyze the graph to solve problems. [C, CN, PS]

Achievement Indicators: Select a type of graph for displaying a set of collected data, and justify the choice of graph. Solve a problem by graphing data and interpreting the resulting graph.