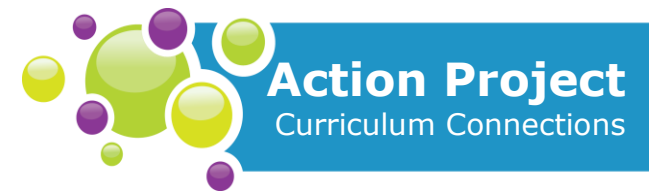


# Living Space

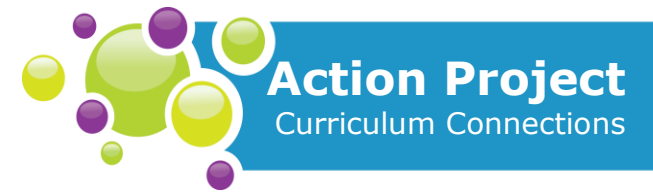
## Curriculum Connections: Manitoba



Gr.	Course	Cluster/GCO	Lesson	Outcomes
6	<a href="#">Science Grade 6 (2000)</a>	Cluster 4: Exploring the Solar System	MINDS-ON 1	6-4-03 Identify Canadians who have contributed to space science or space technology, and describe their achievements.
			MINDS-ON 1	6-4-04 Investigate past and present space research programs involving astronauts, and explain the contributions to scientific knowledge.
			MINDS-ON 1	6-4-05 Describe positive and negative impacts arising from space research programs.
			MINDS-ON 1, 2	6-4-02 Identify technological developments that enable astronauts to meet their basic needs in space
			MINDS-ON 2	6-0-2a Access information using a variety of sources.
			MINDS-ON 3	6-0-5c Select and use tools and instruments to observe, measure, and construct.
			ACTION 1, 2	6-0-5c Select and use tools and instruments to observe, measure, and construct.
			ACTION 1, 2	6-0-5e Estimate and measure accurately using SI and other standard units.
			ACTION 1, 2	6-0-5f Record and organize observations in a variety of ways.
			ACTION 1, 2	6-0-6a Construct graphs to display data, and interpret and evaluate these and other graphs.
			ACTION 1, 2	6-0-6c Identify and suggest explanations for patterns and discrepancies in data
			ACTION 2	6-0-3a Formulate a prediction/hypothesis that identifies a cause and effect relationship.
			ACTION 2	6-0-3b Identify variables that might have an impact on their experiments, and variables to hold constant to ensure a fair test.
			ACTION 2	6-0-3c Create a written plan to answer a specific question. Include: apparatus, materials, safety considerations, steps to follow
			ACTION 2	6-0-4c Work cooperatively with group members to carry out a plan, and troubleshoot problems as they arise.
			ACTION 2	6-0-5a Make observations that are relevant to a specific question.
CONSOLIDATION	6-0-7a Draw a conclusion that explains investigation results. Include: explaining patterns in data; supporting or rejecting a prediction/hypothesis			

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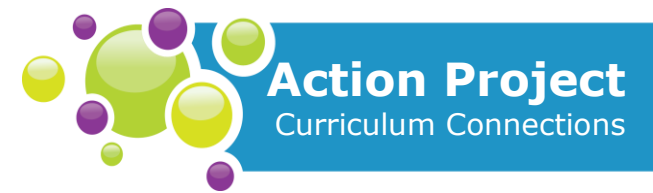
## Curriculum Connections: Manitoba



			CONSOLIDATION	6-0-7b Base conclusions on evidence rather than preconceived ideas or hunches.
			CONSOLIDATION	6-0-7f Reflect on prior knowledge and experiences to construct new understanding, and apply this new knowledge in other contexts.
			CONSOLIDATION	6-0-7g Communicate methods, results, conclusions, and new knowledge in a variety of ways.
			CONSOLIDATION	6-0-7h Identify potential applications of investigation results.
			ALL	6-4-01 Use appropriate vocabulary related to their investigations of Earth and space.
6	<a href="#">Interdisciplinary Middle Years Multimedia (Grade 6) (2001)</a>	Inventions, Innovations, Discoveries	ACTION 1, 2	ICT.12 Students use spreadsheet to record and graph data
			CONSOLIDATION	ICT.8 Students create multimedia presentations
			ALL	Ongoing Learning Experiences
6	<a href="#">Mathematics Grade 6 (2013)</a>	Statistics and Probability (Data Analysis)	ACTION 1, 2	<p><b>General Learning Outcome:</b> Collect, display, and analyze data to solve problems.</p> <p>6.SP.1. Create, label, and interpret line graphs to draw conclusions.</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- Create a line graph from a table of values or set of data.</li> <li>- Interpret a line graph to draw conclusions.</li> </ul>
			ACTION 1, 2	<p>6.SP.2. Select, justify, and use appropriate methods of collecting data, including questionnaires, experiments, databases, electronic media</p> <ul style="list-style-type: none"> <li>- Answer a question by performing an experiment, recording the results, and drawing a conclusion.</li> <li>- Gather data for a question by using electronic media, including selecting data from databases.</li> </ul>
			ACTION 2	<p>6.SP.3. Graph collected data and analyze the graph to solve problems.</p> <ul style="list-style-type: none"> <li>- Solve a problem by graphing data and interpreting the resulting graph.</li> </ul>
9	<a href="#">Senior 1 Science (2001)</a>	Cluster 4: Exploring the Universe	MINDS-ON 1, 2	S1-4-10 Investigate ways in which Canada participates in space research and in international space programs, and then use the decision-making process to address a related issue.
			MINDS-ON 1, 2	S1-4-11 Evaluate the impact of space science and technologies in terms of their benefits and risks to humans

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## Curriculum Connections: Manitoba



9	<a href="#">Grade 9 Mathematics (2009)</a>	Statistics and Probability	ACTION 2	9 SP2: Select and defend the choice of using either a population or a sample of a population to answer a question.
			ACTION 2	9SP4: Develop and implement a project plan for the collection, display and analysis of data
10	<a href="#">Senior 2 (20S) Computer Science (2004)</a>	SLO 2.1 Documentation	MINDS-ON 3	2.1.3 Assign meaningful names to variables using accepted conventions.
			MINDS-ON 1, 2, 3	2.2.1 Present an informal explanation of ideas and code to the teacher and other students.
		SLO 3.2 Reasoning and Logic	MINDS-ON 2, 3	3.2.4 Confirm an algorithm's logic by hand-tracing a computer program.
			MINDS-ON 1, 2, 3	3.2.6 Graphically represent the solution to non-numeric and numeric problems using – diagrams, pseudocode
			CONSOLIDATION	3.2.3 Identify the logical series of steps involved in solving a problem.
		SLO 4.2 Programming: Data Structures	CONSOLIDATION	4.2.3 Obtain input from the program user.
			CONSOLIDATION	4.2.6 Use string data for input, concatenation, and output of text.
		SLO 4.3 Programming: Control Structures	MINDS-ON 1, 2, 3 CONSOLIDATION	4.3.1 Identify, use, and trace control structures, including <ul style="list-style-type: none"> <li>– linear (sequential)</li> <li>– branching (if/then/else)</li> <li>– looping (definite and indefinite)</li> </ul>
		SLO 1.1 Teamwork	ALL	1.1.1 Develop interpersonal and communication skills by working in groups, thinking in collaboration with others, and communicating information among group members.
			ALL	1.1.2 Participate in at least one group project during the course.
		SLO 4.5 Programming: Reusable Code	MINDS-ON 1, 2, 3 CONSOLIDATION	4.5.1 Use existing code provided by the teacher to build a larger program.