MANITOBA, CANADA
Curricular Connections

A SPECIAL THANK YOU TO Agriculture in the Classroom MB for compiling the following document.

The strongest connections are Grade 7, 8, 10, 12; however, all grades are welcome and encouraged to participate in this vital topic.

Grade: 7 Subject: Social Studies

	Sustainability Game Lessons 1 - 4	Land Use & World Geography Lesson 5	Careers Game Lesson 6
Skills - Specific Learning Outcomes			
7-S-103	√	√	
7-S-206		√	
7-S-301	√	√	
7-S-302	√	√	
7-S-303	√	√	√
7-S-404	√	√	√
Core Concept – Citizenship Knowledge and Value Outcomes			
7-KC-002	√	√	
7-KC-004	√	√	√
7-VC-003	√	√	√
7-VC-004	√	√	√
General and Specific Learning Outcomes			
7-KI-006	√	√	
7-KI-009	√	√	
7-KI-013	√		
7-VI-006	√	√	√
7-KL-018	√	√	
7-KL-023	√	√	
7-KL-026	√	√	
7-KL-029	√	√	
7-VL-009	√	√	
7-KH-031	√	√	
7-KG-032	√	√	
7-VG-012	√	√	
7-KE-045	√	√	
7-KE-046	√	√	√
7-KE-048	√		
7-KE-049	√		
7-KE-050	√		√
7-KE-052	√	√	√
7-KE-053	√	√	
7-KE-054	√	√	
7-VE-017	√	√	

Grade 7 Social Studies

Outcomes for Sustainability Game Levels/Lessons 1 – 4

Skills – Specific Learning Outcomes for Levels/Lessons 1 - 4

S-103 Make decisions that reflect the principles of sustainable development.

S-301 Evaluate the advantages and disadvantages of solutions to a problem.

S-302 Draw conclusions based on research and evidence.

S-303 Evaluate personal assumptions based on new information and ideas.

S-404 Elicit and clarify questions and ideas in discussions.

Core Concept – Citizenship for Levels/Lessons 1-4

KC-002 Describe the impact of various factors on quality of life in Canada and elsewhere in the world. Examples: access to shelter, food, water, health care, and education; globalization...

KC-004 Describe ways in which their personal actions may affect quality of life for people elsewhere in the world. Examples: consumer choices, conservation actions, sharing of resources, letters and petitions…

VC-003 Be willing to contribute to their groups and communities.

VC-004 Be willing to take action to support quality of life for people around the world.

General and Specific Learning Outcomes for Levels/Lessons 1 - 4

Cluster 1: World Geography

7.1.3 Global Population Trends

- 7-KL-018 Locate on a world map the major population clusters and explain the relationship between population distribution and the natural environment.
- 7-KG-032 Identify on a world map the more and less developed nations and explain why a nation is considered to be more or less developed.

Cluster 2: Global Quality of Life

7.2.1 What is the Good Life?

- 7-KI-006 Identify diverse cultural and social perspectives regarding quality of life. Examples: differing concepts of poverty and wealth; materialism

7.2.4 Power, Wealth, Justice

- 7-KE-045 Give examples of the uneven distribution of wealth and resources in the world and describe the impact on individuals, communities, and nations.

Cluster 3: Ways of Life in Asia, Africa or Australasia

7.3.1 Elements of Societies

- 7-KI-009 Identify elements that all societies have in common. Examples: social structure, communication, art, beliefs, technology, governance, economic organization...
- 7-VI-006 Be willing to broaden personal perspectives and experiences beyond the familiar.
- 7-VG-012 Demonstrate interest in ways of life of other societies in the world.

7.3.2 Natural Environment

- 7-KL-023 Give examples of the influence of the natural environment on ways of life in a society of Asia, Africa, or Australasia.

7.3.5 Economy and Well Being

- 7-KI-013 Describe factors that affect health in a society of Asia, Africa, or Australasia. Examples: access to safe water, food, and medical care; AIDS and other epidemics...
- 7-KE-046 Identify major economic activities in a society of Asia, Africa, or Australasia.
- 7-KE-048 Give examples of the impact of changing technologies on ways of life in a society of Asia, Africa, or Australasia.
- 7-KE-049 Identify issues related to work and trade in a society of Asia, Africa, or Australasia. Examples: child labour, exploitation in or exclusion from the workforce, cooperatives, fair trade...

Cluster 4: Human Impact in Europe or the Americas

7.4.2 Environmental Impact

- 7-KL-029 Give examples of the impact of human activity on the natural environment in a society of Europe or the Americas. Examples: endangered plant and animal species, reforestation, restoration of wetlands...
- 7-KE-050 Identify major economic activities in a society of Europe or the Americas.
- 7-KE-053 Describe sustainable development issues in a society of Europe or the Americas.
- 7-VL-009 Be willing to take actions to help sustain the natural environment in Canada and the world.

7.4.4 Historical Influences

- 7-KH-031 Identify historical events that continue to affect a society of Europe or the Americas. Examples: colonization, slavery, wars, disasters, agricultural or technological change...

7.4.5 Living in the Global Village

- 7-KE-052 Identify issues related to food production and distribution in a society of Europe or the Americas.

- 7-KE-054 Give examples of the environmental and social impact of consumerism in the local community and in a society of Europe or the Americas.
- 7-KL-026 Identify human activities that contribute to climate change.
- 7-VE-017 Be willing to consider the consequences of their consumer choices.

Outcomes for Land Use and Geography Game Level/Lesson 5

Skills – Specific Learning Outcomes for Level/Lesson 5

S-103 Make decisions that reflect the principles of sustainable development.

S-206 Select and interpret various types of maps for specific purposes.

S-301 Evaluate the advantages and disadvantages of solutions to a problem.

S-302 Draw conclusions based on research and evidence.

S-303 Evaluate personal assumptions based on new information and ideas.

S-404 Elicit and clarify questions and ideas in discussions.

Core Concept – Citizenship for Level/Lesson 5

KC-002 Describe the impact of various factors on quality of life in Canada and elsewhere in the world. Examples: access to shelter, food, water, health care, and education; globalization...

KC-004 Describe ways in which their personal actions may affect quality of life for people elsewhere in the world. Examples: consumer choices, conservation actions, sharing of resources, letters and petitions…

VC-003 Be willing to contribute to their groups and communities.

VC-004 Be willing to take action to support quality of life for people around the world.

General and Specific Learning Outcomes for Level/Lesson 5

Cluster 1: World Geography

7.1.3 Global Population Trends

- 7-KL-018 Locate on a world map the major population clusters and explain the relationship between population distribution and the natural environment.
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Cluster 2: Global Quality of Life

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- 7-VE-017 Be willing to consider the consequences of their consumer choices.

Outcomes for Careers Game Level/Lesson 6

Skills – Specific Learning Outcomes for Level/Lesson 6

S-303 Evaluate personal assumptions based on new information and ideas.

S-404 Elicit and clarify questions and ideas in discussions.

Core Concept – Citizenship for Level/Lesson 6

KC-004 Describe ways in which their personal actions may affect quality of life for people elsewhere in the world. Examples: consumer choices, conservation actions, sharing of resources, letters and petitions…

VC-003 Be willing to contribute to their groups and communities.

VC-004 Be willing to take action to support quality of life for people around the world.

General and Specific Learning Outcomes for Level/Lesson 6

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Cluster 4: Human Impact in Europe or the Americas

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7.4.5 Living in the Global Village

- 7-KE-052 Identify issues related to food production and distribution in a society of Europe or the Americas.

J2050 Curriculum Connections

Grade: 7 Subject: Science

	Sustainability Game	Land Use & World Geography	Careers Game
General Learning Outcomes			
A1	√		
A2	√	√	
A5	√		
B1	√	√	
B2	√	√	
B4			√
B5	√	√	
C4	√		
C8	√		
D1	√		
D2	√		
D5	√		
E2	√	√	
E3	√		
Specific Learning Outcomes			
7-0-6a	√		
7-0-6b	√		
7-0-7f	√	√	
7-0-8g	√	√	
7-0-9b			√
7-0-9e	√	√	
7-0-9f	√	√	
7-1-05	√	√	
7-1-06	√	√	
7-1-14	√		
7-1-15	√		
7-4-09	√	√	
7-4-10	√	√	
7-4-11	√	√	
7-4-15			√

Grade 7 Science

Outcomes for Sustainability Game Levels/Lessons 1 – 4

General Learning Outcomes for Levels/Lessons 1 - 4

Nature of Science and Technology

A1. Recognize both the power and limitations of science as a way of answering questions about the world and explaining natural phenomena

A2. Recognize that scientific knowledge is based on evidence, models, and explanations, and evolves as new evidence appears and new conceptualizations develop

A5. Recognize that science and technology interact with and advance one another

Science, Technology, Society, and the Environment (STSE)

B1. Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

B2. Recognize that scientific and technological endeavours have been and continue to be influenced by human needs and the societal context of the time

B5. Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally

Scientific and Technological Skills and Attitudes

C4. Demonstrate appropriate critical thinking and decision-making skills when choosing a course of action based on scientific and technological information

C8. Evaluate, from a scientific perspective, information and ideas encountered during investigations and in daily life

Essential Science Knowledge

D1. Understand essential life structures and processes pertaining to a wide variety of organisms, including humans

D2. Understand various biotic and abiotic components of ecosystems, as well as their interaction and interdependence within ecosystems and within the biosphere as a whole

D5. Understand the composition of the Earth's atmosphere, hydrosphere, and lithosphere, as well as the processes involved within and among them

Unifying Concepts

E2. Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems

E3. Recognize that characteristics of materials and systems can remain constant or change over time, and describe the conditions and processes involved

Specific Learning Outcomes for Levels/Lessons 1 - 4

Cluster 0: Overall Skills and Attitudes

7-0-7f Reflect on prior knowledge and experiences to construct new understanding and apply this new knowledge in other contexts.

7-0-8g Discuss societal, environmental, and economic impacts of scientific and technological endeavours. Include: local and global impacts.

7-0-9e Be sensitive and responsible in maintaining a balance between the needs of humans and a sustainable environment.

7-0-9f Consider both immediate and long-term effects of their actions.

Cluster 1: Interactions within Ecosystems

7-1-05 Identify and describe positive and negative examples of human interventions that have an impact on ecological succession or the makeup of ecosystems.

7-1-06 Identify environmental, social, and economic factors that should be considered in the management and preservation of ecosystems.

Cluster 4: Earth's Crust

7-4-11 Identify environmental, social, and economic factors that should be considered in making informed decisions about land use.

Additional Outcomes for Sustainability Game

Additional Specific Learning Outcomes for Level/Lesson 1

Cluster 0: Overall Skills and Attitudes

7-0-6a Construct graphs to display data, and interpret and evaluate these and other graphs

7-0-6b Interpret patterns and trends in data, and infer and explain relationships.

Additional Specific Learning Outcomes for Level/Lesson 2

Cluster 1: Interactions within Ecosystems

7-1-14 Identify beneficial and harmful roles played by micro-organisms.

7-1-15 Research and describe human food production or preservation techniques that apply a knowledge of micro-organisms

Cluster 4: Earth's Crust

7-4-09 Recognize that soil is a natural resource, and explain how the characteristics of soil determine its use.

7-4-10 Describe methods used to control soil erosion, and recognize the importance of soil conservation.

Additional Specific Learning Outcomes for Level/Lesson 3

Cluster 4: Earth's Crust

7-4-10 Describe methods used to control soil erosion, and recognize the importance of soil conservation.

Outcomes for Land Use and Geography Game Level/Lesson 5

General Learning Outcomes for Level/Lesson 5

Nature of Science and Technology

A2. Recognize that scientific knowledge is based on evidence, models, and explanations, and evolves as new evidence appears and new conceptualizations develop

Science, Technology, Society, and the Environment (STSE)

B1. Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

B2. Recognize that scientific and technological endeavours have been and continue to be influenced by human needs and the societal context of the time

B5. Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally

Unifying Concepts

E2. Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems

Specific Learning Outcomes for Level/Lesson 5

Cluster 0: Overall Skills and Attitudes

7-0-7f Reflect on prior knowledge and experiences to construct new understanding and apply this new knowledge in other contexts.

7-0-8g Discuss societal, environmental, and economic impacts of scientific and technological endeavours. Include: local and global impacts.

7-0-9e Be sensitive and responsible in maintaining a balance between the needs of humans and a sustainable environment.

7-0-9f Consider both immediate and long-term effects of their actions.

Cluster 1: Interactions within Ecosystems

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7-4-10 Describe methods used to control soil erosion, and recognize the importance of soil conservation.

7-4-11 Identify environmental, social, and economic factors that should be considered in making informed decisions about land use.

Outcomes for Careers Game Level/Lesson 6

General Learning Outcomes for Level/Lesson 6

Science, Technology, Society, and the Environment (STSE)

B4. Demonstrate a knowledge of, and personal consideration for, a range of possible science- and technology-related interests, hobbies, and careers

Specific Learning Outcomes for Level/Lesson 6

Cluster 0: Overall Skills and Attitudes

7-0-9b Express interest in a broad scope of science and technology related fields and issues.

Cluster 4: Earth's Crust

7-4-15 Identify specialized careers involving the study of the Earth's crust or the utilization of geological resources, and give examples of technologies used in each.

J2050 Curriculum Connections

Grade: 7 Subject: Food and Nutrition

	Sustainability Game Lessons 1 - 4	Land Use & World Geography Lesson 5	Careers Game Lesson 6
Goal 6			
7.6.3.1	√		
7.6.3.2	√		
Goal 7			
7.7.2.5	√		
7.7.5.2			√
7.7.5.3			√

Grade 7 Foods and Nutrition

Outcomes for Sustainability Game Levels/Lessons 1 – 4

Goal 6: Demonstrate understanding of sustainability.

GLO 6.3: Explore environmental matters related to food.

7.6.3.1 Describe programs and practices that reduce the impact of food production and consumption on the environment, and demonstrate the practice of recycling food packaging in a foods lab.

7.6.3.2 Describe environmentally responsible food-related strategies.

Goal 7: Demonstrate understanding of career opportunities and the skills required.

GLO 7.2: Demonstrate decision-making skills.

7.7.2.5 Predict and analyze the consequences of decisions.

Outcomes for Careers Game Level/Lesson 6

Goal 7: Demonstrate understanding of career opportunities and the skills required.

GLO 7.5: Plan a career related to food and nutrition.

7.7.5.2 Demonstrate an awareness of food-related occupations and careers (e.g., marketing, designer, retail, production, technology, industry).

7.7.5.3 Demonstrate an awareness of nutrition-related occupations and careers (e.g., science, technology, industry).

J2050 Curriculum Connections

Grade: 8 Subject: Science

	Sustainability Game	Land Use & World Geography	Careers Game
General Learning Outcomes			
A1	√		
A2	√	√	
A5	√		
B1	√	√	
B2	√	√	
B4			√
B5	√	√	
C4	√		
C8	√		
D1	√		
D2	√		
D5	√		
E2	√	√	
E3	√		
Specific Learning Outcomes			
8-0-6a	√		
8-0-6b	√		
8-0-7f	√	√	
8-0-8g	√	√	
8-0-9b			√
8-0-9e	√	√	
8-0-9f	√	√	
8-4-17	√		
8-4-18	√		

Grade 8 Science

Outcomes for Sustainability Game Levels/Lessons 1 – 4

General Learning Outcomes for Levels/Lessons 1 - 4

Nature of Science and Technology

A1. Recognize both the power and limitations of science as a way of answering questions about the world and explaining natural phenomena

A2. Recognize that scientific knowledge is based on evidence, models, and explanations, and evolves as new evidence appears and new conceptualizations develop

A5. Recognize that science and technology interact with and advance one another

Science, Technology, Society, and the Environment (STSE)

B1. Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

B2. Recognize that scientific and technological endeavours have been and continue to be influenced by human needs and the societal context of the time

B5. Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally

Scientific and Technological Skills and Attitudes

C4. Demonstrate appropriate critical thinking and decision-making skills when choosing a course of action based on scientific and technological information

C8. Evaluate, from a scientific perspective, information and ideas encountered during investigations and in daily life

Essential Science Knowledge

D1. Understand essential life structures and processes pertaining to a wide variety of organisms, including humans

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D5. Understand the composition of the Earth's atmosphere, hydrosphere, and lithosphere, as well as the processes involved within and among them

Unifying Concepts

E2. Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems

E3. Recognize that characteristics of materials and systems can remain constant or change over time, and describe the conditions and processes involved

Specific Learning Outcomes for Levels/Lessons 1 - 4

Cluster 0: Overall Skills and Attitudes

8-0-7f Reflect on prior knowledge and experiences to construct new understanding and apply this new knowledge in other contexts.

8-0-8g Discuss societal, environmental, and economic impacts of scientific and technological endeavours. Include: local and global impacts.

8-0-9e Be sensitive and responsible in maintaining a balance between the needs of humans and a sustainable environment.

8-0-9f Consider both immediate and long-term effects of their actions.

Additional Outcomes for Sustainability Game

Additional Specific Learning Outcomes for Level/Lesson 1

Cluster 0: Overall Skills and Attitudes

8-0-6a Construct graphs to display data, and interpret and evaluate these and other graphs

8-0-6b Interpret patterns and trends in data, and infer and explain relationships.

Additional Specific Learning Outcomes for Level/Lesson 2

Cluster 4: Water Systems on Earth

8-4-17 Identify substances that may pollute water, related environmental and societal impacts of pollution, and ways to reduce or eliminate effects of pollution.

8-4-18 Identify environmental, social, and economic factors that should be considered in the management of water resources.

Additional Specific Learning Outcomes for Level/Lesson 3

Cluster 4: Water Systems on Earth

8-4-17 Identify substances that may pollute water, related environmental and societal impacts of pollution, and ways to reduce or eliminate effects of pollution.

8-4-18 Identify environmental, social, and economic factors that should be considered in the management of water resources.

Outcomes for Land Use and Geography Game Level/Lesson 5

General Learning Outcomes for Level/Lesson 5

Nature of Science and Technology

A2. Recognize that scientific knowledge is based on evidence, models, and explanations, and evolves as new evidence appears and new conceptualizations develop

Science, Technology, Society, and the Environment (STSE)

B1. Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

B2. Recognize that scientific and technological endeavours have been and continue to be influenced by human needs and the societal context of the time

B5. Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally

Unifying Concepts

E2. Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems

Specific Learning Outcomes for Level/Lesson 5

Cluster 0: Overall Skills and Attitudes

8-0-7f Reflect on prior knowledge and experiences to construct new understanding and apply this new knowledge in other contexts.

8-0-8g Discuss societal, environmental, and economic impacts of scientific and technological endeavours. Include: local and global impacts.

8-0-9e Be sensitive and responsible in maintaining a balance between the needs of humans and a sustainable environment.

8-0-9f Consider both immediate and long-term effects of their actions.

Outcomes for Careers Game Level/Lesson 6

General Learning Outcomes for Level/Lesson 6

Science, Technology, Society, and the Environment (STSE)

B4. Demonstrate a knowledge of, and personal consideration for, a range of possible science- and technology-related interests, hobbies, and careers

Specific Learning Outcomes for Level/Lesson 6

Cluster 0: Overall Skills and Attitudes

8-0-9b Express interest in a broad scope of science and technology related fields and issues.

J2050 Curriculum Connections

Grade: 8 Subject: Food and Nutrition

	Sustainability Game Lessons 1 - 4	Land Use & World Geography Lesson 5	Careers Game Lesson 6
Goal 5			
8.5.1.3	√		
8.5.1.4	√		
8.5.1.5	√		
8.5.1.6	√		
Goal 6			
8.6.1.6	√		
8.6.3.1	√		
8.6.3.2	√		
Goal 7			
8.7.2.5	√		
8.7.5.2			√
8.7.5.3			√

Grade 8 Foods and Nutrition

Outcomes for Sustainability Game Levels/Lessons 1 – 4

Goal 5: Demonstrate understanding of design, innovation, and information technology.

GLO 5.1: Demonstrate familiarity with technological developments and trends in the food and nutrition industry.

8.5.1.3 Recognize that technology is a way of solving problems in response to human needs.

8.5.1.4 Provide examples of food-related technologies from the past, and describe how they have evolved over time.

8.5.1.5 Describe positive and negative effects of scientific and technological food-related endeavours. Include: effects on themselves, society, the environment, and the economy.

8.5.1.6 Discuss societal, environmental, and economic impacts of scientific and technological food-related endeavours (e.g., local and global impacts).

Goal 6: Demonstrate understanding of sustainability.

GLO 6.1: Explore food security and availability issues as they relate to food.

8.6.1.6 Identify the components of food security (e.g., availability, accessibility, adequacy, acceptability, sustainability).

GLO 6.3: Explore environmental matters related to food.

8.6.3.1 Demonstrate the practice of recycling food packaging in a foods lab, and assess programs and practices that reduce the impact of food production and consumption on the environment.

8.6.3.2 Demonstrate environmentally responsible food-related strategies.

Goal 7: Demonstrate understanding of career opportunities and the skills required.

GLO 7.2: Demonstrate decision-making skills.

8.7.2.5 Predict and analyze the consequences of decisions.

Outcomes for Careers Game Level/Lesson 6

Goal 7: Demonstrate understanding of career opportunities and the skills required.

GLO 7.5: Plan a career related to food and nutrition.

8.7.5.2 Demonstrate an awareness of food-related occupations and careers (e.g., marketing, designer, retail, production, technology, industry).

8.7.5.3 Demonstrate an awareness of nutrition-related occupations and careers (e.g., science, technology, industry).

J2050 Curriculum Connections

Grade: 10 Subject: Geography

	Sustainability Game Lessons 1 - 4	Land Use & World Geography Lesson 5	Careers Game Lesson 6
Core Concept – Citizenship Knowledge and Value Outcomes			
S2-KC-001	√	√	√
S2-KC-002	√	√	
S2-VC-001	√	√	√
General and Specific Learning Outcomes			
S2-KI-003		√	
S2-KI-005	√	√	
S2-VI-002		√	
S2-VI-003	√		
S2-KL-014		√	
S2-KL-017		√	
S2-KL-018	√	√	
S2-KL-020		√	
S2-KL-021	√	√	
S2-KL-022	√		
S2-KL-023	√		
S2-KL-028		√	
S2-KL-030		√	
S2-VL-005	√	√	
S2-VL-006	√	√	
S2-KH-033	√		
S2-KH-034	√	√	
S2-KG-037	√	√	
S2-KG-038	√	√	
S2-VG-008		√	

S2-VP-009	√	√	
S2-VP-010	√		
S2-KE-043	√		
S2-VE-012	√	√	
Skills - Specific Learning Outcomes			
S2-S-103	√	√	
S2-S-107	√		
S2-S-204		√	
S2-S-302	√	√	
S2-S-303	√	√	√
S2-S-307	√	√	

Grade 10 Geography

Outcomes for Sustainability Game Levels/Lessons 1 – 4

Skills – Specific Learning Outcomes for Levels/Lessons 1 - 4

S-103 Promote actions that reflect principles of sustainability.

S-107 Make decisions that reflect social responsibility.

S-302 Draw conclusions and make decisions based on research and various types of evidence.

S-303 Reconsider personal assumptions based on new information and ideas.

S-307 Propose and defend innovative options or solutions to address issues and problems.

General and Specific Learning Outcomes for Levels/Lessons 1 - 4

Cluster 1: Geographic Literacy

S2.1.1 What is Geography

- S2-KC-001 Give examples of ways in which geographic knowledge and understanding can inform decision making.
- S2-VC-001 Value the importance of geographic knowledge and understanding in making informed decisions.

S2.1.5 Why Care?

- S2-VL-005 Respect the Earth as a complex environment in which humans have important responsibilities.
- S2-KL-018 Explain the importance of stewardship in the preservation of the Earth's complex environment.

Cluster 2: Natural Resources

S2.2.2 Diverse Perspectives

- S2-KH-033 Identify factors that influence the changing use of natural resources over time. Examples: technology, culture...
- S2-VI-003 Be willing to consider diverse views regarding the use of natural resources.

S2.2.3 Sustainable Development

- S2-KC-002 Describe sustainability issues related to natural resource extraction and consumption.
- S2-VP-009 Be willing to consider the implications of personal choices regarding natural resources.

Cluster 3: Food from the Land

S2.3.1 Areas and Conditions

- S2-KL-021 Identify physical conditions required to produce major food crops. Examples: topography, soil, climate, water...
- S2-KL-023 Describe the impact of various agricultural practices on the physical environment. Examples: soil erosion, water quality, soil fertility...

S2.3.2 Food Production

- S2-KI-005 Identify human factors affecting the production and use of various types of food. Examples: cultural, economic, political, marketing...
- S2-KH-034 Give examples of ways in which food production has changed over time. Examples: soil conservation strategies, technological change...

S2.3.3 Safeguarding Our Food Supply

- S2-KL-022 Explain ways in which natural- and human-caused phenomena affect food production.
- S2-KG-037 Give examples of the potential impact of climate change on food production.
- S2-VL-006 Be willing to consider the environmental consequences of their food choices.

S2.3.4 Contemporary Issues Related to Food

- S2-KG-038 Identify issues relating to scarcity and distribution of food.
- S2-KE-043 Identify the changing nature of farming on the prairies and describe the social and economic implications for communities.
- S2-VP-010 Be willing to consider the economic and political influence of their food choices. Examples: food fashions, food aid, food shortages...

Cluster 5: Urban Places

S2.5.3 Environmental and Economic Issues

- S2-VE-012 Appreciate the interdependence between urban centres and hinterlands.

Outcomes for Land Use and Geography Game Level/Lesson 5

Skills – Specific Learning Outcomes for Levels/Lessons 1 - 4

S-103 Promote actions that reflect principles of sustainability.

S-204 Select, use, and interpret various types of maps.

S-302 Draw conclusions and make decisions based on research and various types of evidence.

S-303 Reconsider personal assumptions based on new information and ideas.

S-307 Propose and defend innovative options or solutions to address issues and problems.

General and Specific Learning Outcomes for Level/Lesson 5

Cluster 1: Geographic Literacy

S2.1.1 What is Geography

- S2-KC-001 Give examples of ways in which geographic knowledge and understanding can inform decision making.
- S2-VC-001 Value the importance of geographic knowledge and understanding in making informed decisions.

S2.1.3 Place and Identity

- S2-KI-003 Explain the relationship between place and identity.
- S2-VI-002 Appreciate the importance of place to their identity.

S2.1.4 Global Environmental Types

- S2-KL-014 Explain the concept of global environmental types as physical geographic regions that are composites of climate, vegetation, and soils.
- S2-KL-017 Identify on a map of the world major population clusters and explain the relationship between population and global environmental types.

S2.1.5 Why Care?

- S2-VL-005 Respect the Earth as a complex environment in which humans have important responsibilities.
- S2-KL-018 Explain the importance of stewardship in the preservation of the Earth's complex environment.

Cluster 2: Natural Resources

S2.2.3 Sustainable Development

- S2-KC-002 Describe sustainability issues related to natural resource extraction and consumption.
- S2-VP-009 Be willing to consider the implications of personal choices regarding natural resources.

Cluster 3: Food from the Land

S2.3.1 Areas and Conditions

- S2-KL-020 Identify the major food production areas on a map of the world and a map of Canada. Examples: grains, oil seeds, fruit, vegetables, beverages, animal, fish, fowl...
- S2-KL-021 Identify physical conditions required to produce major food crops. Examples: topography, soil, climate, water...

S2.3.2 Food Production

- S2-KI-005 Identify human factors affecting the production and use of various types of food. Examples: cultural, economic, political, marketing...
- S2-KH-034 Give examples of ways in which food production has changed over time. Examples: soil conservation strategies, technological change...

S2.3.3 Safeguarding Our Food Supply

- S2-KG-037 Give examples of the potential impact of climate change on food production.
- S2-VL-006 Be willing to consider the environmental consequences of their food choices.

S2.3.4 Contemporary Issues Related to Food

- S2-KG-038 Identify issues relating to scarcity and distribution of food.

Cluster 4: Industry and Trade

S2.4.3 Globalization

- S2-VG-008 Be willing to consider the social and environmental impacts of their consumer choices.

Cluster 5: Urban Places

S2.5.2 Location and Function of Urban Places

- S2-KL-028 Identify factors that influence the location of urban centres.

S2.5.3 Environmental and Economic Issues

- S2-KL-030 Describe urban environmental and economic issues. Examples: land use, relationship to hinterland, infrastructure...
- S2-VE-012 Appreciate the interdependence between urban centres and hinterlands.

Outcomes for Careers Game Level/Lesson 6

Skills – Specific Learning Outcomes for Level/Lesson 6

S-303 Reconsider personal assumptions based on new information and ideas.

General and Specific Learning Outcomes for Level/Lesson 6

Cluster 1: Geographic Literacy

S2.1.1 What is Geography

- S2-KC-001 Give examples of ways in which geographic knowledge and understanding can inform decision making.
- S2-VC-001 Value the importance of geographic knowledge and understanding in making informed decisions.

J2050 Curriculum Connections

Grade: 10 Subject: Science

	Sustainability Game	Land Use & World Geography	Careers Game
General Learning Outcomes			
A1	√		
A2	√	√	
A5	√		
B1	√	√	
B2	√	√	
B4			√
B5	√	√	
C4	√		
C8	√		
D1	√		
D2	√		
D5	√		
E2	√	√	
E3	√		
Specific Learning Outcomes			
S2-0-5d	√	√	
S2-0-6a	√		
S2-0-6d	√		
S2-0-7e	√	√	
S2-0-8f			√
S2-0-9b			√
S2-0-9e	√	√	
S2-0-9f	√	√	
S2-1-01	√		
S2-1-02	√		
S2-1-05	√		
S2-1-06	√		
S2-1-10	√	√	
S2-4-01	√		
S2-4-08	√		

Grade 10 Science

Outcomes for Sustainability Game Levels/Lessons 1 – 4

General Learning Outcomes for Levels/Lessons 1 - 4

Nature of Science and Technology

A1. Recognize both the power and limitations of science as a way of answering questions about the world and explaining natural phenomena

A2. Recognize that scientific knowledge is based on evidence, models, and explanations, and evolves as new evidence appears and new conceptualizations develop

A5. Recognize that science and technology interact with and advance one another

Science, Technology, Society, and the Environment (STSE)

B1. Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

B2. Recognize that scientific and technological endeavours have been and continue to be influenced by human needs and the societal context of the time

B5. Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally

Scientific and Technological Skills and Attitudes

C4. Demonstrate appropriate critical thinking and decision-making skills when choosing a course of action based on scientific and technological information

C8. Evaluate, from a scientific perspective, information and ideas encountered during investigations and in daily life

Essential Science Knowledge

D1. Understand essential life structures and processes pertaining to a wide variety of organisms, including humans

D2. Understand various biotic and abiotic components of ecosystems, as well as their interaction and interdependence within ecosystems and within the biosphere as a whole

D5. Understand the composition of the Earth's atmosphere, hydrosphere, and lithosphere, as well as the processes involved within and among them

Unifying Concepts

E2. Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems

E3. Recognize that characteristics of materials and systems can remain constant or change over time, and describe the conditions and processes involved

Specific Learning Outcomes for Levels/Lessons 1 - 4

Cluster 0: Overall Skills and Attitudes

S2-0-5d Evaluate, using pre-determined criteria different STSE options leading to a possible decision.

S2-0-6d Adjust STSE options as required once their potential effects become evident.

S2-0-7e Reflect on prior knowledge and experiences to develop new understanding.

S2-0-9e Be sensitive and responsible in maintaining a balance between the needs of humans and a sustainable environment.

S2-0-9f Demonstrate personal involvement and be proactive with respect to STSE issues.

Additional Outcomes for Sustainability Game

Additional Specific Learning Outcomes for Level/Lesson 1

Cluster 0: Overall Skills and Attitudes

S2-0-6a Interpret patterns and trends in data, and infer and explain relationships.

Cluster 1: Dynamics of Ecosystems

S2-1-06 Construct and interpret graphs of population dynamics.

Additional Specific Learning Outcomes for Level/Lesson 2

Cluster 1: Dynamics of Ecosystems

S2-1-01 Illustrate and explain how carbon, nitrogen, and oxygen are cycled through an ecosystem.

S2-1-02 Discuss factors that may disturb biogeochemical cycles. Include: natural events, human activities.

S2-1-05 Investigate and discuss various limiting factors that influence population dynamics. Include: density-dependent and density-independent factors.

S2-1-10 Investigate how human activities affect an ecosystem and use the decision-making process to propose a course of action to enhance its sustainability. Include: impact on biogeochemical cycling, population dynamics, and biodiversity.

Additional Specific Learning Outcomes for Level/Lesson 3

Cluster 1: Dynamics of Ecosystems

S2-1-02 Discuss factors that may disturb biogeochemical cycles. Include: natural events, human activities.

S2-1-05 Investigate and discuss various limiting factors that influence population dynamics. Include: density-dependent and density-independent factors.

S2-1-10 Investigate how human activities affect an ecosystem and use the decision-making process to propose a course of action to enhance its sustainability. Include: impact on biogeochemical cycling, population dynamics, and biodiversity.

Cluster 4: Weather Dynamics

S2-4-01 Illustrate the composition and organization of the hydrosphere and the atmosphere. Include: salt water, fresh water, polar ice caps/glaciers, troposphere, and stratosphere.

S2-4-08 Discuss potential consequences of climate change.

Outcomes for Land Use and Geography Game Level/Lesson 5

General Learning Outcomes for Level/Lesson 5

Nature of Science and Technology

A2. Recognize that scientific knowledge is based on evidence, models, and explanations, and evolves as new evidence appears and new conceptualizations develop

Science, Technology, Society, and the Environment (STSE)

B1. Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

B2. Recognize that scientific and technological endeavours have been and continue to be influenced by human needs and the societal context of the time

B5. Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally

Unifying Concepts

E2. Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems

Specific Learning Outcomes for Level/Lesson 5

Cluster 0: Overall Skills and Attitudes

S2-0-5d Evaluate, using pre-determined criteria different STSE options leading to a possible decision.

S2-0-7e Reflect on prior knowledge and experiences to develop new understanding.

S2-0-9e Be sensitive and responsible in maintaining a balance between the needs of humans and a sustainable environment.

S2-0-9f Demonstrate personal involvement and be proactive with respect to STSE issues.

Cluster 1: Dynamics of Ecosystems

S2-1-10 Investigate how human activities affect an ecosystem and use the decision-making process to propose a course of action to enhance its sustainability. Include: impact on biogeochemical cycling, population dynamics, and biodiversity.

Outcomes for Careers Game Level/Lesson 6

General Learning Outcomes for Level/Lesson 6

Science, Technology, Society, and the Environment (STSE)

B4. Demonstrate a knowledge of, and personal consideration for, a range of possible science and technology-related interests, hobbies, and careers

Specific Learning Outcomes for Level/Lesson 6

Cluster 0: Overall Skills and Attitudes

S2-0-8f Relate personal activities and possible career choices to specific science disciplines.

S2-0-9b Express interest in a broad scope of science and technology related fields and issues.

J2050 Curriculum Connections

Grade: 12 Subject: Global Issues: Citizenship and Sustainability

	Sustainability Game Lessons 1 - 4	Land Use & World Geography Lesson 5	Careers Game Lesson 6
Essential Question			
How will we sustainably feed over 10 billion people by the year 2050?	√	√	√
Learning to Know			
Develop ecological literacy through an understanding of the interdependence of society, the environment, and the economy.	√	√	
Be open to new ideas and divergent thinking.	√	√	
Seek knowledge from diverse sources and perspectives	√	√	
Use creative, critical, and systems thinking to address complex questions.	√	√	
Engage in long-term thinking, and articulate a vision for a sustainable future.	√	√	
Learning to Do			
Act responsibly towards self, others, and the environment.			√
Be willing to let go and give back, and to make changes so as to live sustainably.	√	√	√
Be an empowered and committed agent of change, willing to take a stand and engage in action for a sustainable future.	√	√	√
Cultivate and share personal skills, talents, and gifts.			√
Practice helpfulness and share hopefulness.			√
Demonstrate care and respect through language and actions.			√
Learning to Be			
Be willing to contribute to the present and future well-being of all.			√
Be introspective, reflective, and self-aware.			√
Acquire a strong sense of self-knowledge and personal identity.			√
Learning to Live Together			
Respect Earth as a shared commons made up of complex and interconnected systems.	√	√	
Recognize the solidarity of all human beings and their dependence upon the planet.	√	√	
Respect diversity and value equity.	√	√	
Enduring Understandings			
Our ecological footprint is exceeding Earth's capacity to sustain biodiversity and human life.	√	√	√
Our decisions and actions matter; they have social, environmental, economic, and political consequences.	√	√	√
Individuals, groups, governments, and corporations have the power to effect change and the responsibility to contribute to a sustainable future.	√	√	√
There is no them or over there: we all belong to the human species, our concerns are interdependent, and we are part of the natural world.	√	√	
Take Action			
Minimize your ecological footprint, and live more responsibly (e.g., use fewer non-renewable resources; reduce waste; limit dependence on petrochemicals; seek sustainable and ethical food choices...).	√	√	√
Assess the relative value and sustainability of economic and technological	√	√	

developments in order to make informed decisions.

Grade 12 Global Issues: Citizenship and Sustainability

Journey 2050

Essential Question

How will we sustainably feed over 10 billion people by the year 2050?

Sustainability Game Levels/Lessons 1 – 4 and Land Use and Geography Game Level/Lesson 5

Learning to Know

Acquire knowledge and understanding, and think critically about our complex and changing world.

- Develop ecological literacy through an understanding of the interdependence of society, the environment, and the economy.
- Be open to new ideas and divergent thinking.
- Seek knowledge from diverse sources and perspectives.
- Use creative, critical, and systems thinking to address complex questions.
- Engage in long-term thinking, and articulate a vision for a sustainable future.

Learning to Do

Learn to participate effectively in local, national, and global communities.

- Be willing to let go and give back, and to make changes so as to live sustainably.
- Be an empowered and committed agent of change, willing to take a stand and engage in action for a sustainable future.

Learning to Live Together

Learn to live peacefully with others and to care for our common homeland.

- Respect Earth as a shared commons made up of complex and interconnected systems.
- Recognize the solidarity of all human beings and their dependence upon the planet.
- Respect diversity and value equity.

Enduring Understandings

- Our ecological footprint is exceeding Earth's capacity to sustain biodiversity and human life.
- Our decisions and actions matter; they have social, environmental, economic, and political consequences.
- Individuals, groups, governments, and corporations have the power to effect change and the responsibility to contribute to a sustainable future.
- There is no them or over there: we all belong to the human species, our concerns are interdependent, and we are part of the natural world.

Take Action

- Minimize your ecological footprint, and live more responsibly (e.g., use fewer non-renewable resources; reduce waste; limit dependence on petrochemicals; seek sustainable and ethical food choices...).
- Assess the relative value and sustainability of economic and technological developments in order to make informed decisions.

Careers Game, Summary and Follow Up Level/Lesson 6

Learning to Do

Learn to participate effectively in local, national, and global communities.

- Act responsibly towards self, others, and the environment.
- Be willing to let go and give back, and to make changes so as to live sustainably.
- Be an empowered and committed agent of change, willing to take a stand and engage in action for a sustainable future
- Cultivate and share personal skills, talents, and gifts.
- Practice helpfulness and share hopefulness.
- Demonstrate care and respect through language and actions.

Learning to Be

Build self-knowledge and be conscious of connections to nature and society.

- Be willing to contribute to the present and future well-being of all.
- Be introspective, reflective, and self-aware.
- Acquire a strong sense of self-knowledge and personal identity.

Enduring Understandings

- Our ecological footprint is exceeding Earth's capacity to sustain biodiversity and human life.
- Our decisions and actions matter; they have social, environmental, economic, and political consequences.
- Individuals, groups, governments, and corporations have the power to effect change and the responsibility to contribute to a sustainable future.

Take Action

- Minimize your ecological footprint, and live more responsibly (e.g., use fewer non-renewable resources; reduce waste; limit dependence on petrochemicals; seek sustainable and ethical food choices...).

J2050 Curriculum Connections

Grade: 12 Subject: Food and Nutrition

	Sustainability Game Lessons 1 - 4	Land Use & World Geography Lesson 5	Careers Game Lesson 6
VI. Major concept: Global food Issues			
C.1.	√	√	
C.3.	√	√	
VII. Major Concept: Careers in Food			
B.2.			√
B.4.			√

Grade 12 Foods and Nutrition

Outcomes for Sustainability Game Levels/Lessons 1 – 4 and Land Use and Geography Game Level/Lesson 5

VI. Major Concept: Global Food Issues

Major Objectives: To discuss critically ways of helping to solve world hunger problems and to accept some responsibility to act.

C. World Food Shortages

The majority of the world's people are hungry. Geographic limitations, cultural biases, religious influences, education deficiencies, political ramifications and agricultural and technological problems are all aspects of the world's nutrition problem.

Objectives:

- To be aware of world food issues.

C.1. Causes of Shortages

Limited Resources: World food shortages are caused by crop failures, population growth, limited resources and world markets.

Objectives:

- To identify world food shortages resulting from limited resources.

Economic Factors: Economic poverty is not restricted to individuals but may include entire countries.

Objectives:

- To identify economic factors contributing to world food shortages.

C.3. Solving the Problem

Solutions to world food problems will involve cooperation between developed and developing countries and an understanding of causes.

Objectives:

- To discover ways in which food supplies could be increased in less developed countries.
- To identify organizations which help to alleviate world food crisis.

Outcomes for Careers Game Level/Lesson 6

VII. Major Concept: Careers in Food

Major Objectives: To recognize career opportunities in food science, business, industrial services, and dietetics.

B. Vocational Choices:

The food industry employs millions of persons in a wide variety of jobs, representing all interests, educational levels and abilities. With a growing population and increased consumer demands, career opportunities will continue to expand within Canada and abroad. Vocational choice within the food industry depends on personal skills, knowledge and interest, as well as job opportunities and available training.

Objectives:

- To discover the job opportunities within the food industry in production, processing, distribution and merchandising.
- To analyze personal aptitudes and academic training needed for specific careers.

B.2. Skilled Vocations

Particular food-related vocations require skilled workers with training and/or experience beyond the entry level.

Objectives:

- To recognize the training and aptitudes required at the skilled level.

B.4. Professional Careers

Professional careers require specialized training at the college level or beyond.

Objectives:

- To generalize that an intensive study in a particular field is a major prerequisite for assuming professional responsibilities.