

Grade 4 Science - Earth Systems

Activity #5

Starting a Garden

Grade 4 Science - Living Systems

Activity #5

Starting a Garden

Duration: 60 minutes

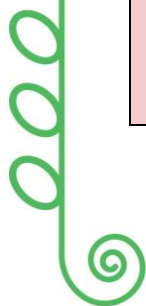
Objective	Overview:
<p>By the end of the activity, students should be able to:</p> <ul style="list-style-type: none">- Understand the impact of planting their own garden.- Understand how to calculate the area of a garden.- Understand what plants need to grow.- Understand how important plants are to other living things.- Understand the importance of being sustainable.	<ul style="list-style-type: none">- This activity introduces students to the concept of how we need to protect and respect our resources by being sustainable. Students will explore what it takes to have a garden and how this helps the environment. Through research, reflections and conversations students will gain a deeper understanding of the importance of being sustainable and protecting our natural resources that give us life.

Science Guiding Question	Learning Outcome
How does Earth sustain life?	Students investigate the systems of Earth and reflect on how their interconnections sustain life.
Knowledge	<ul style="list-style-type: none">- First Nations, Metis and Inuit hold understandings of Earth systems that sustain life, including that all things are interconnected.- Organisms require warmth and energy from the Sun to live.- In Alberta, sunlight is more direct, and the length of daylight is longer, in summer than in winter.- First Nations, Metis and Inuit laws of nature include: how nature provides gifts of life, living in harmony with the land.
Understanding	<ul style="list-style-type: none">- Earth's surface is warmed by the Sun, allowing for life.
Skills and Procedures	<ul style="list-style-type: none">- Discuss ways that plants and animals use water to meet their basic needs.



ELA Guiding Question	Learning Outcome
How can text organization influence communication?	Students examine how the form and structure of texts can support the communication of ideas and information.
Knowledge	<ul style="list-style-type: none"> - Literary forms of fiction and non-fiction texts include <ul style="list-style-type: none"> -novels -journal entries -media
Understanding	<ul style="list-style-type: none"> - Text form or structure can support the enjoyment and communication of ideas and information for a variety of purposes.
Skills and Procedures	<ul style="list-style-type: none"> - Explain how personal preferences for texts inspire, fascinate, or expand understandings.

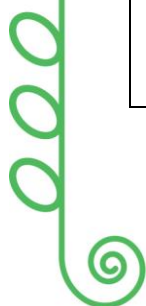
Math Guiding Question	Learning Outcome
-In what ways can communication be shaped by the choice of representation? -How can area characterize space?	-Students evaluate the use of scale in graphical representations of data. -Students interpret and express area.
Knowledge	<ul style="list-style-type: none"> - A statistical problem-solving process includes <ul style="list-style-type: none"> -formulating statistical questions -collecting data -representing data -interpreting data - Common graphs include <ul style="list-style-type: none"> -pictographs -bar graphs -dot plots - The unit can be chosen based on the area to be measured. - The area of a rectangle equals the product of its perpendicular side lengths.
Understanding	<ul style="list-style-type: none"> - Representation is a part of a statistical problem-solving process. - Representation can express many-to-one correspondence by defining a scale. - Area is a measurable attribute that describes the amount of two-dimensional space contained within a region.



Skills and Procedures	<ul style="list-style-type: none"> - Engage in a statistical problem-solving process. - Select an appropriate scale to represent data. - Represent data in a graph using many-to-one correspondence. - Justify the choice of graph used to represent certain data. - Model area by dragging a length using hands-on materials or digital applications. - Determine the area of a rectangle using multiplication. - Solve problems involving area of rectangles.
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Teacher Materials	Student Materials	Safety Concerns
Smartboard, Technology, Garden activity document	Technology, pencil, journal	Inappropriate use of technology

Timing	Instructional Element	Student Tasks
Introduction (10 minutes)	<ul style="list-style-type: none"> - Teacher talks to students about what it means to be sustainable. Link: Sustainability - “We want to get to a place where we can satisfy our needs and the needs of our community without impacting our valuable resources in a negative way.” - Teacher asks students for ways in which we can be more sustainable. Try to build upon student personal experiences. - Teacher will accept multiple responses but wants to eventually guide students to think about planting gardens. - Teacher tells students they will be working on a garden planting activity. 	<ul style="list-style-type: none"> - Students participate in classroom discussion and ask questions. - Students listen to others and the teacher when they are talking.



Development (10 minutes)	<ul style="list-style-type: none"> - Teacher hands out and presents the garden activity – Use accompanying “LAB Gardens” - Teacher explains expectations and shows the students how some questions may need some research while some others may not. 	<ul style="list-style-type: none"> - Students listen to the teacher and ask questions to clarify expectations.
Independent Work (30 minutes)	<ul style="list-style-type: none"> - Teacher gives students time to work through the questions from their activity. - Teacher circulates to answer questions and help with their responses. - Students may need more time to complete the activity. 	<ul style="list-style-type: none"> - Students work through the activity booklet and answer the questions. - Students ask questions if they need support.
Conclusion (10 minutes)	<ul style="list-style-type: none"> - Journal Entry: Once students have finished their activity, the teacher displays the following prompt for a journal reflection. “How does planting a garden show respect for the resources and how is this garden providing the gift of life for all living things” - If there is time, the teacher can collect journal entries, have students share them in a large or small group. - This activity has the possibility to motivate the class to begin a garden of their own at school or at home. 	<ul style="list-style-type: none"> - Students reflect on what they have learned and answer the journal prompt.