



Reggie's Technology Adventure

Farms of the Future

Students will explore currently used technologies in agriculture and food production through the story "Reggie's Technology Adventure", and then use this knowledge to design their own model "Farm of the Future" including farm layout and production, technologies in use, and careers needed on this farm.

Subject Levels/ Suggested Grade

Grade 3 Applied Design, Skills and Technologies

Grade 3 Arts Education

Grade 4 Science



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Grade and Subject	Curricular Competencies	Content Connections
Grade 3 Applied Design, Skills, and Technologies	<p>Identify needs and opportunities for designing, through exploration</p> <p>Generate ideas from their experiences and interests</p> <p>Make a product using known procedures or through modelling of others</p> <p>Use trial and error to make changes, solve problems, or incorporate new ideas from self or others</p> <p>Demonstrate their product, tell the story of designing and making their product, and explain how their product contributes to the individual, family, community, and/or environment</p> <p>Use personal preferences to evaluate the success of their design solutions</p> <p>Use materials, tools, and technologies in a safe manner in both physical and digital environments</p>	<ul style="list-style-type: none"> Students are expected to use the learning standards for Curricular Competencies from Applied Design, Skills, and Technologies K-3 in combination with grade-level content from other areas of learning in cross-curricular activities to develop foundational mindsets and skills in design thinking and making.
Grade 3 Art Education	<p>Choose elements, processes, materials, technologies, tools, and environments of the arts</p> <p>Explore identity, place, culture, and belonging through arts experiences</p> <p>Connect knowledge and skills from other areas of learning in planning, creating and interpreting works of art</p>	<ul style="list-style-type: none"> Elements of Design: line, shape, space, texture, colour, form Principles of Design: pattern, repetition, rhythm, contrast, emphasis
Grade 4 Science	<p>Identify questions about familiar objects and events that can be investigated scientifically</p> <p>Identify some simple environmental implications of their and others' actions</p> <p>Co-operatively design projects</p> <p>Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate</p>	<ul style="list-style-type: none"> Devices that transform energy

Teacher Background

In this activity, students will explore currently used technologies in agriculture and food production through the story “Reggie’s Technology Adventure”, and then use this knowledge to design their own model “Farm of the Future” including farm layout and production, technologies in use, and careers needed on this farm. Many students, especially those who do not have a background in agriculture, may think of all farms as being duplicates of “Old MacDonald’s Farm” with red barns, jolly old farmers in straw hats and overalls, and happy farm animals mingling together in one field in ones and twos. It is important to introduce students to the concept of a modern farm at a young age, not only to dispel these myths, but also to showcase the advancements and technology use present in farming operations. With 1 in 8 jobs being connected to agriculture and food production, it is important to relate to students how important and interconnected farms are to our economy and personal well-being, and have them connect themselves to the chain as consumers and potentially as future producers.

Materials

- Short story – “Reggie’s Technology Adventure” available to order from <https://www.bcaitc.ca/resources/resource-order-form>
- Student handouts:
 - Paper and art supplies for the future farm rough copy
 - My Future Farm final worksheet and reflection

Procedure

1. Hook: Prior to beginning this lesson, ask students to think the word “technology” and in a Whiteboard Splash activity, invite each student or pair of students to add one word or a short sentence to the whiteboard connected to technology. Once the words have been recorded, repeat this process for the word “agriculture”. Have the students note any similarities between the two lists, and ask if they think technology exists in agriculture. Record the amount of yes and no answers on a chart to compare before and after reading “Reggie’s Technology Adventure”.
2. Read the story, “Reggie’s Technology Adventure” to the class as part of Canadian Agriculture Literacy Month (CALM). If possible, invite a farmer, agriculture worker, or 4-H member into the class to help deliver the story and have them share how they use technology in their careers/involvement in agriculture.
3. Revisit the chart of student yes and no answers, and ask if anyone would like to change their opinions after reading the story (all students should now know that technology is involved in agriculture in many different ways). Compare the first chart to the second.
4. Hand each student a page of large rough-copy paper (11.5x17). Tell them that they are going to create their own model “Farm of the Future”. Have the students fold their paper in half – one half will be used for their rough copy notes, and one half for their rough copy sketch.
 - a. Depending on the prior agriculture knowledge of your students, it may be beneficial at this stage to showcase a variety of farms – avoiding the stereotypical “Old MacDonald” farm or cartoon farm images. BCAITC’s Grow BC GIS map stories are a great place to get an overview of different types of agriculture production with lots of visual images and videos to accompany the stories, available here: <https://www.bcaitc.ca/index.php/resources/grow-bc-guide-bcs-agriculture-resources>. You can also find virtual farm tours at FarmFood 360

(note that not all of these will be applicable to BC farming practices as they are based out of Ontario). When showing these images or videos pause and have students point out technology they see in action.

- b. If possible, a field trip to a farm will provide additional context for students to create their farm plans.
5. Starting with the note side of the paper, have students write down three technology ideas they would like to see on their farm. Remind students to think about the technology Reggie saw on his adventure, and the technology they may have seen in their own visits or experiences with farms. Challenge them to think about technology that is used in their homes or schools, and if it could be used on the farm as well. Think about what the technology could be used for (running machines, testing product, helping the farmer, etc.) and write a point form note beside their brainstorm.
6. When the students have written three ideas, have them stand up and do a gallery walk to review what other classmates have written. If they spot a new idea, they can write it on their brainstorm pages. Once students have a minimum of five ideas, they can begin to sketch what their farms will look like on the other half of their paper.
7. Have students work on creating their good copy documents of the sketch and how their technology will be used on the farm into the Good Copy handout provided in this lesson.
8. Have students present their Future Farm list and images to their classmates, explaining their design.

Extension Activities

- Instead of drawing their future farm, have students create it in an online building platform such as Minecraft or as a physical diorama
- Use the accompanying vocabulary practice worksheets included in this lesson to help further understanding of technology and agriculture terms
- Take a farm tour with your class like Reggie did to explore technology currently being used on the farm
- This lesson can be used as a precursor or companion lesson to “Farmer Robot – How Robots Improve Agriculture” available for download on the BCAITC website www.bcaitc.ca/resources

Credit

“Reggie’s Technology Adventure” was produced by AITC Newfoundland as part of the Canadian Agriculture Literacy Month initiative.

My Farm of the Future

Name: _____

Date: _____

My Future Farm is called _____.

It has these types of technologies

Example:

___A tractor___ to ___help the farmer make hay to feed their animals_____

1. _____ to

2. _____ to

3. _____ to

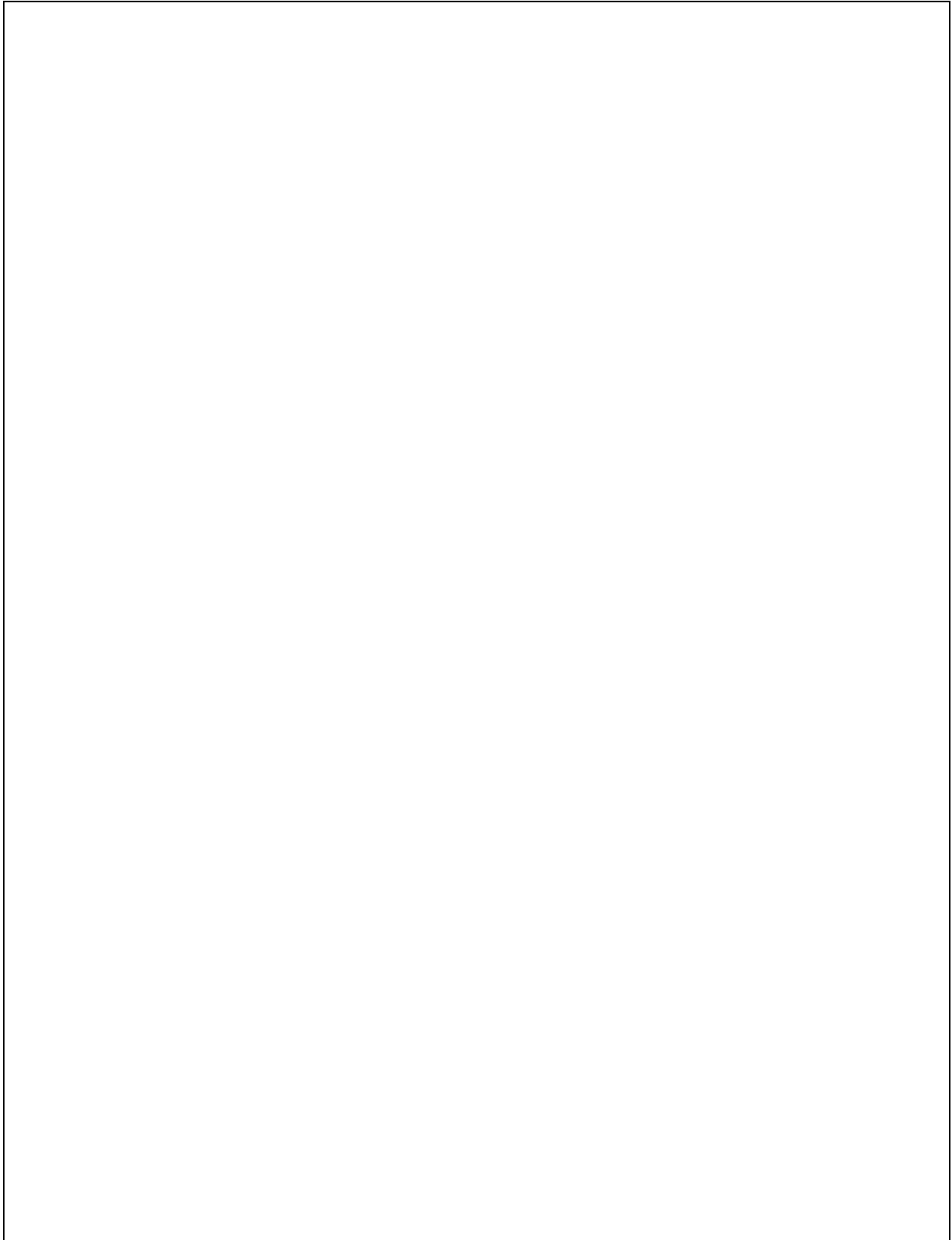
4. _____ to

5. _____ to

My Farm of the Future

Name: _____

Date: _____

A large, empty rectangular box with a thin black border, intended for a student to draw or write their 'Farm of the Future'.

Definitions

Name: _____

Date: _____

Technology:

Agriculture:

Contraption:

Forage:

Drone:

Definitions Key

Name: _____

Date: _____

Technology:

Machinery and equipment developed from the application of scientific knowledge.

Agriculture:

The science or practice of farming, including use of soil for growing crops and raising animals to provide food and other products.

Contraption:

A machine or device that appears strange or unknown.

Forage:

Bulky food such as grass or hay for horses and cattle.

Drone:

A remote-controlled pilotless aircraft or missile.

Reggie's Technology Adventure

O B K W J W H M Y F M P X M O
W N E X T L Z Z E G O U Q I N
T C Y B G R G F Q G R X A L B
S P T P G T L N R D I U H K A
P H Y Z K J W H O U A W O I E
P R O C E S S I N G P L A N T
D S E N O H P O R C I M F G T
T E L B A T E I M R V O Z M C
O X A O X D C N E R R U C A O
B A X Q W U A S O A I K W C M
O I L H L B A R G R B M H H P
R N B T L L Y E H X D J Y I U
H A U X W I Y H N A Y N N N T
C R U Y L C A Y P F B B D E E
E M W B T E C H N O L O G Y R

AGRICULTURE

FORAGE

MILKINGMACHINE

TABLET

COMPUTER

LASER

PROCESSINGPLANT

TECHNOLOGY

DRONE

MICROPHONES

ROBOT

Reggie's Technology Adventure **KEY**

O B K W J W H M Y F M P X **M** O
W N E X T L Z Z E G O U Q **I** N
T C Y B G R G F Q G R X A **L** B
S P T P G T L N R D I U H **K** A
P H Y Z K J W H O U **A** W O **I** E
P R O C E S S I N G P L A N T
D **S E N O H P O R C I M F G T**
T E L B A T E I M R V O Z M C
O X A O X D C N E R R U C A O
B A X Q W U A S O A I K W C M
O I L H L B A R G R B M H H P
R N B T L L Y E H X D J Y I U
H A **U** X W I Y H N A Y N N **N T**
C **R** U Y L C A Y P F B B D **E E**
E M W B T E C H N O L O G Y R

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