



Where We Grow

Lesson #1

CURRICULUM CONNECTIONS

Mathematics, Grade 7

Data Management and Probability

- Make and evaluate convincing arguments, based on the analysis of data.

Mathematics, Grade 8

Data Management and Probability

- Apply a variety of data management tools and strategies to make convincing arguments about data.

History and Geography, Grade 7

B. Natural Resources Around the World: Use and Sustainability

B3. Understanding Geographic Context: demonstrate an understanding of the sources and use of different types of natural resources and of some of the effects of the extraction/harvesting and use of these resources.

MATERIALS

- Agri-trekking Interactive Resource
- Computer access for each student or each pair of students
- A copy of Appendix A: *Where We Grow* worksheet for each student

LEARNING GOAL(S)

- Students can identify how agriculture is distributed across Ontario.
- Students can identify the physical characteristics needed for agricultural activity.
- Students can compare and contrast agriculture across counties.
- Students can use data management tools to draw conclusions about where things grow in Ontario.

HOOK

Begin with a think/pair/share* activity to get students thinking about the term agriculture and what it means.

- Introduce the term agriculture to students by writing it on the board.
- Ask students to think about what the term “agriculture” means to them and discuss their ideas with the person next to them before asking for volunteers to share with the class.
- Define agriculture** and explain that agriculture is food, fibre and fuel (biogas, ethanol, etc.); products that everyone needs and uses on a regular basis.

***Think/Pair/Share:** Students will think about the answers to the questions on their own before sharing their ideas with a partner. Once students have had time to discuss, ask for volunteers to share with the class.

****Agriculture:** the science, art or practice of cultivating the soil, producing crops and raising livestock and in varying degrees the preparation and marketing of the resulting products.

ACTIVITY

- Open the Agri-Trekking website. Display the site for the whole class to see and provide a quick overview of the website if necessary.
 - Click on “View Map.” Click on your school’s local county. Click on “Graphs: County Farm Types.”
- Ask each student to look at the bar and circle graph and individually make one conclusion about the data.
- After providing students with a few moments to think, have them share their conclusion with a partner. Call on several students to share their conclusions with the whole class.
- Generate class discussion to get students thinking critically about the information that is depicted on the graphs by asking questions such as: *How many farms are there in total in our county? Which farm type makes the most money in our county? Why do you think this is? Which farm type requires the most physical space in our county? Why do you think this is? Do the farm types in our county reflect our citizen’s eating habits? What are the reasons for the varying numbers of different farm types? Why do we have so many of farm type X, and so few of farm type Y? What information is missing on these graphs?*
- Have the students navigate to the online Agri-Trekking Interactive Resource. If this is the students’ first time using the resource, provide a quick tutorial of the layout.
- Inform students they will be using the Agri-Trekking Resource to gather data on a chosen county and record the information on the *Where We Grow* worksheet (see Appendix B). The county can be the one you’re in, one they are interested in or one assigned by the teacher. (Note: Students will be required to compare counties further in the lesson. Having all of the students choose their local county should be avoided.)
- Once students have completed the *Where We Grow* worksheet, divide the class into pairs. Try to pair students with counties that are some distance from one another (e.g., Kenora and Lambton, Cochrane and Toronto, etc.).
- Instruct students to share the information they have gathered on the worksheet and compare the similarities and differences in the two counties.
- Referencing their own notes, students can discuss why each county grows what it does, taking into consideration: growing days, soil composition, interesting facts that contribute to land use, and other information they have gathered.
- Ask students to create a data display (i.e. double bar graph) to compare the data from two counties.
- Students must decide and justify which type of graph would best convey their information in comparison.
- Together in their pairs, students will write an explanation of the story the data tells.
 - Take into consideration guiding questions:
 1. What can you reasonably conclude?
 2. How can you justify your conclusion?
 3. What conclusion would be unreasonable?
- Have each pair present their data displays and explanations in front of the class or in small groups.
- Conclude with a discussion about student’s findings of what is grown in Ontario. *Where can you access these farm products?*

ASSESSMENT

Assessment **for** Learning:

- Consider student responses in introductory activity as indication of knowledge on topic of Agriculture in Canada. Provide scaffolding of knowledge through definitions, prior knowledge and visual aids if necessary.

Assessment **of** Learning:

- Collect the *Where We Grow* worksheets to assess students' ability to use appropriate data management methods and communicate the results of their inquiries effectively.
- Assess partner work for the students' ability to create and justify a data display comparing counties.

EXTENSIONS

Survey:

- Students can create a survey question to poll their class, or another class, asking what type of farm they would like to visit, or learn more about. Once they have surveyed the students they can create a graph to display the information.

Research:

- Have students choose one type of farm from their county and research 4 careers that connect to this farm type. Reference www.growingcareers.com for more information on career choices in agriculture.
- Students can visit www.farmfood360.ca to explore what the different farm types look like.

Where We Grow Worksheet

County:	Length of growing season:
Type of soil: Physical Environment Characteristics:	Interesting Facts:

Surveys were conducted in each county to determine the farms by industry type found in that county. This data has been communicated through a pie graph and bar graph, both showing the same information, the number of farms by industry type.

Record the information about your county in the chart and answer the following questions:

1. Which farm type is the most popular in your county?

2. Which farm type is the least popular in your county?

3. What percent of the total farms is your most popular farm type?

4. What percent of the total farms is your least popular farm type?

5. Which type of graph shows this data more effectively? Why?
6. Identify the type of bias that might be displayed in the data collected?

Number of Farms By Industry Group	#
Dairy and Milk	
Beef	
Hog and Pig	
Sheep and Goat	
Poultry and Egg	
Other Animal Production	
Oilseed and Grain	
Vegetable	
Fruit and Tree Nut	
Greenhouse, Nursery and Floriculture	
Other Crop Farming	

7. Change the question to match the purpose of the survey.

**Amy wants to find out what types of farms there are in her county, she surveys farmers:
“Do you have a Dairy farm or a Vegetable farm?”**