

Ontario Farming STEMterprise

Grade 5 Pizza Shop Project



Are your students budding entrepreneurs?

Ontario Farming STEMterprise is a FREE, curriculum-based program that turns agriculture into a hands-on business challenge. Students build real-world skills in science, math, health, language, and technology while launching their own classroom pizza business.

From exploring the digestive system to analyzing market research, students will see how STEM connects to everyday life — and to Ontario farming.

How it Works

The project unfolds in stages, each packed with engaging lessons:

- **Starting a Business** – Students will be introduced to entrepreneurship by creating their own pizza business idea and launching their learning about marketing research and strategies.
- **Food and Our Body** – Through activities like making a model of the digestive system and learning about heart health, students will connect nutrition and science to their business.
- **Market Research and Business Plan** – Students will design and run surveys, analyze results with graphs, and use data to shape their pizza recipes. They will also use the survey results to inform their branding and eco-friendly packaging plans.
- **Food Systems and Farming** – Students will explore where pizza ingredients come from and discover how technology is shaping modern, sustainable farming. This learning will guide their pizza recipe decisions.
- **Create and Pitch** – After calculating costs, finalizing their plans, and even making pizzas or pizza pinwheels, the program wraps up with a celebration of learning, from STEM Dens to cooking shows to restaurant-style presentations.

Why Teachers Love STEMterprise

- **Cross-curricular:** Ties into Ontario curriculum expectations for science, math, language, health, and more.
- **Hands-on & engaging:** From coding connections to creative marketing projects, students stay involved every step.
- **Flexible:** Use all stages or adapt to your class needs.

Ready to bring entrepreneurship and agriculture into your classroom?

Get started with Ontario Farming STEMterprise today — it's free, teacher-friendly, and student-approved!

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Grade 5 Project Scope - Building a Pizza Shop

Ontario Farming STEMterprise is a cross-curricular, hands-on program where students build their own pizza business while exploring science, math, health, language, and technology. Along the way, they make real-world connections to careers in agriculture, discover how coding and technology support modern farming, and see how STEM skills apply beyond the classroom.

Flexible and engaging, the project is designed to meet curriculum expectations while sparking curiosity and innovation.

The project is broken up into the following five stages:



Grade 5 Project Overview

Ontario Farming STEMterprise applies STEM skills to meet cross-curricular challenges as students develop a pizza business that will fuel Ontario students for learning. Students develop their understanding of where pizza ingredients come from, and set up a business to test, market, and showcase their product. The program is designed with flexibility in mind. All teaching resources are editable and lessons can be rearranged to suit learning needs. Supplemental resources include Career Connections, Coding Connections, Combined Grade Supports, and Assessment Samples.

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Starting a Business	Food & Our Body	Market Research & Business Plan	Food Systems & Farming	Create & Pitch
Students will learn about entrepreneurship to help them meet the challenge of creating a new pizza business. They will be introduced to marketing. Lessons • Pizza Challenge • Pizza Shop Business • Introduction to Market Research • Marketing Strategies Teaching Resources • STEMterprise Contract • Entrepreneur Inspiration • Business Planning	Students will learn about the role of grain in a healthy diet, Canada's Food Guide, and how grains benefit the circulatory and digestive systems. Teachers can consider growing ingredients. Lessons • Digestive System • Canada's Food Guide • Heart Health Teaching Resources • Digestive System experiment • Food Label Hunt • Fibre and Grains article	Students will gather and analyze data about customers' pizza preferences. They will learn how to market their product and create promotional materials, and responsible packaging. Lessons • Conducting Surveys • Analysing Surveys • Promotional Materials • Packaging Teaching Resources • Survey examples • Graphs and tables • Feedback forms	Students will explore where food comes from and factors that influence ingredient choice. They will also learn how farmers use technology. Lessons • Food Origins • Pizza Recipe • Farm Tech Teaching Resources • Pizza Recipes and template • Farm Tech Research Task • Renewable Energy STEM Challenge	In this final stage, students learn about pricing, determine a cost for their product, and have the opportunity to showcase their business. There are several ways to do this, whether your students make pizza or not. Lessons: • Pricing • Finalizing Plans • Pizza Making (optional) ★ Business Showcase Teaching Resources • Pizza Recipes, Selling Price Guide, Checklist, Script, Awards

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Stage 1: Starting a Business

Lesson 1: Pizza Challenge

Students are introduced to the project, get excited about what's ahead, and learn the basics of entrepreneurship.

Lesson 2: Pizza Shop Business

Students build their business vocabulary and begin brainstorming ideas for their own pizza shop.

Lesson 3: Intro to Market Research

Students form their business groups and explore why market research is key to successful business planning.

Lesson 4: Intro to Marketing Strategies

Students explore how branding evolves over time and create a business name and logo.

Stage 2: Food and our Body

Lesson 1: The Digestive System

Students explore the digestive system with a hands-on activity that simulates digestion using everyday materials. An extension activity connects to the importance of fibre in a healthy diet.

Lesson 2: Canada's Food Guide

Through activities on Canada's Food Guide, whole grains, and nutrition labels, students learn about healthy eating. An optional grain planting activity is available, with seed kits provided.

Lesson 3: Heart Health

Students examine how diet impacts cardiovascular health by learning about:

- The circulatory system
- The role of fibre in both the digestive and circulatory systems
- The benefits of high-fibre foods through an interactive game

Optional Coding Connection: An Ozobot activity is included for classes that want to integrate coding.

Stage 3: Market Research and Business sPlan

Lesson 1: Conducting Surveys

Using digital tools like Google Forms or Microsoft Forms, students design and distribute surveys to gather pizza preferences. A paper survey version is also provided as an option.

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Lesson 2: Analyzing Surveys

Students analyze their survey data, creating charts and graphs that connect directly to Grade 5 math expectations. Extensions include exploring mean, median, and mode.

Lesson 3: Promotional Materials

Students learn about audiences and advertising, then design promotional materials for their pizza shop. Peer feedback is built into the process.

Lesson 4: Packaging

Students consider how packaging impacts branding, marketing, and the environment, then design their own sustainable packaging options.

Stage 4: Food Systems and Farming

Lesson 1: Food Origins

Students trace the journey of pizza ingredients from farm to plate.

Lesson 2: Pizza recipes

Students review provided recipes and select or adapt one for their business based on their market research results.

Lesson 3: Farm Tech

Students discover how modern farmers use advanced technology to farm smarter and more sustainably. Video and research activities highlight real-life examples, with optional extensions in broadcasting, podcasting, renewable energy, or coding with Micro:Bit.

Stage 5: Create and Pitch

Lesson 1: Pricing

Students calculate the cost of making their pizzas, exploring financial literacy concepts like unit rate, tax, and budgeting. A “Would You Rather” has students compare costs and think about the best buy.

Lesson 2: Finalizing Plans

Students finalize their marketing, packaging and prepare for the Showcase through one or more activities:

- Revising based on peer feedback
- Presenting their plans to the class
- Creating posters or flyers for a school-wide sale

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- Reflecting on the process and lessons learned

Lesson 3: Pizza Making (Optional)

Students may prepare pizzas or pinwheels in class, or explore alternate hands-on activities that fit their classroom's needs and limitations.

Lesson 4: Business Showcase

The project culminates in a celebration of learning, with students sharing their pizza businesses in creative ways. Options include:

- STEM Den
- Cooking Show
- Business Showcase Voting
- Food Blog
- Restaurant Simulation

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Pizza Shop Business Curriculum Expectations

The Ontario expectations highlighted in the STEMterprise lessons are the key ones and not exclusive. The program allows for other curriculum expectations to be taught and assessed.

Ontario Curriculum

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The Arts

- D1 apply the creative process to produce two-and three-dimensional art works to communicate feelings, ideas, understanding
- D2 apply critical analysis to communicate responsive feelings, ideas, understandings.

Health

Social-Emotional Learning Skills: Healthy Living

- D2.1 explain how to use nutrition fact tables and ingredient lists on food labels to make informed choices about healthy and safe foods
- D3.1 describe how advertising, food marketing, and media affect food choices and explain how these influences can be evaluated to help people make healthier choices

Language

Literacy Connections and Applications

- A2.3 gather, evaluate, use information, considering validity, credibility, accuracy, and perspectives, to construct knowledge, create texts, and demonstrate learning
- A2.4 demonstrate an understanding of the forms, conventions, and techniques of digital and media texts, consider the impact on the audience, and apply this understanding when analyzing and creating texts
- A2.5 demonstrate an understanding of connections in texts
- A2.6 select and use appropriate digital and media tools to support the design process and address authentic, relevant, real-world problems by developing innovative solutions
- A2.7 communicate and collaborate successfully with various communities

Foundations of Language: Oral & Non-Verbal Communication

- B1.1 use effective listening skills
- B1.2 use a variety of listening strategies successfully
- B1.3 identify purpose and audience in different contexts
- B1.4 identify, use oral and non-verbal communication strategies
- B1.5 able to create cohesive sentences for audience comprehension

Foundations of Language: Reading and Writing

- B2.2 understanding a variety of words; acquire and use vocabulary explicitly taught

Foundations of Language: Conventions for Reading and Writing

- B3. demonstrate an understanding of sentence structure, grammar, cohesive ties, and capitalization and punctuation, and apply this knowledge when reading and writing sentences, paragraphs, and a variety of texts

Comprehension: Understanding and Responding

- C1.3 Recognize text patterns such as compare and contrast, and text features associated with text forms, and explain how they help readers understand the meaning

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Composition

- D3.1 produce final texts using a variety of techniques and tools, including digital design and production tools, to achieve the intended effect
- D3.2 publish and present texts they have created, using selected media and tools, and explain how each helped them communicate their intended message
- D3.3 describe various strategies and tools that helped them communicate their intended message when publishing and presenting texts and suggest steps for future improvement as a text creator.

Note: Additional connections can be made to:

B1, B2, B3: listening, applying oral communication skills, writing, punctuation, presenting

Mathematics

Number

- B1.3 represent equivalent fractions in various contexts
- B2.2 recall and demonstrate multiplication facts

Coding (optional extension lessons)

- C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves conditional statements and other control structures
- C3.2 read and alter existing code, including code that involves conditional statements and other control structures, and describe how changes to the code affect the outcomes

Data

- D1.1 explain importance of sampling techniques
- D1.2 collect data using sampling techniques
- D1.3 select from among a variety of graphs the type of graph best suited to sets of data
- D1.4 create an infographic
- (optional extension) D1.5 determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers and decimal numbers, and explain what each of these measures indicates about the data
- D1.6 analyse different sets of data

Financial Literacy

- F1.2 estimate and calculate transaction costs
- F1.3 design sample basic budgets to manage finances
- F1.4 explain the concepts of credit and debit, how they impact financial decisions
- F1.5 calculate unit rates for goods and services

Science

STEM Skills and Connections

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- A1.1 use scientific research process and skills to conduct investigations
- A1.2 use scientific experimentation process and associated skills to conduct investigations
- A1.4 follow established health and safety procedures
- A1.5 communicate their findings, using science and technology vocabulary
- A2.1 write and execute code in investigations and when modelling concepts, with a focus on using different methods to store and process data for a variety of purposes (optional extension lessons)
- A2.2 identify and describe impacts of coding and of emerging technologies on everyday life, including skilled trades (optional coding extension lessons)
- A3.1 describe practical applications of science and technology
- A3.2 investigate how science and technology can be used with other subject areas to address real-world problems (optional Career Connections lesson extension)
- A3.3 analyse contributions to science and technology from various communities (optional Career Connections lesson extension)

Human Health and Body Systems:

- B1.3 explain how food literacy can support decisions that affect physical and mental health
- B2.1 identify systems of the human body, and describe their basic function
- B2.2 describe the basic structure and function of vital organs in various systems in the human body
- B2.3 describe interrelationships between human body systems
- B2.4 identify various diseases and medical disorders in humans and the organs and/or body system or systems that they affect

Properties of and Changes in Matter

- C1.1 assess the impacts on society and the environment of various processes used in the manufacture of common products
- C1.2 assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts

Earth and Space Systems

- E1.1 Students analyze the long-term impacts of human uses of energy and natural resources, including climate change, and suggest ways to mitigate these impacts.

Environmental Education

The Ontario curriculum emphasizes the importance of understanding the relationship between people and the natural world. STEMterprise connects human activities (farming and business development) to the environment and natural resources (grains, other ingredients and resources).

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Transferable Skills: Innovation, Creativity, and Entrepreneurship

- 3-dimensional thinking
- Collaboration
- Conduct research
- Creativity
- Critical thinking and assessment
- Develop concepts, ideas, or products for the purpose of contributing innovative solutions to economic, social, and environmental problems.
- Demonstrate leadership, initiative, imagination, creativity, spontaneity, and ingenuity.
- Entrepreneurship
- Estimating
- Innovation
- Reading and writing instructions
- Organize content
- Problem solving
- Wise consumerism

Pizza Shop Business Agriculture/Agri-Food Themes

Through the STEMterprise Pizza Shop project, students build important skills and knowledge that tie directly to Ontario's curriculum. Just as importantly, they get the chance to **explore where their food comes from** and how it makes its way from the field to their plate.

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Students will...

- Begin to understand that much of the grains they regularly eat are grown right here in Ontario!
 - Ontario grows six million acres of barley, corn, oats, soybeans and wheat
- Understand that farms are businesses
- Grains are included in Canada's Food Guide as an important part of a healthy diet. In fact, they are an important staple around the world.
 - Canada's Food Guide recommends that grains make up 25% of your diet
- Grains are the foundation of many healthy and enjoyable meals
- Grains contain several essential vitamins and minerals, such as B vitamins, iron, zinc and magnesium.
- Grains also improve digestion, give your body energy, and help your brain perform at its best.
- Grains are good for heart health
- Understand how agriculture has changed and how farmers apply technology to farm more efficiently and protect the environment
- Determine interest in grain-based food and use that information to promote and highlight grains' benefits.
- Consider how to increase interest in grain-based foods.
- Understand the role of marketing related to agricultural products

Supporting Grade 4 and 6 Students in Combined Grade 4/5 and 5/6 STEMterprise Classrooms

The Grade 5 STEMterprise Pizza Shop Project builds STEM skills from Strand A of the Ontario Science Curriculum. In most of the lessons, activities can be used as planned in a combined

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Grade 4/5 or 5/6 classroom. However, in Stage 2, the learning expectations vary considerably between Grade 5 Life Systems and Grade 4 and Grade 6 Science expectations.

To help make planning easier, we've developed a few optional learning opportunities designed especially for Grade 4 and 6 students. These activities connect to the Pizza Project and link directly to the Grade 4 structures and mechanisms expectations and Grade 6 flight and energy Science expectations.

You'll find the STEMterprise lessons and resources in this [folder](#) and with ready-to-go [slides for grade 4](#) and [grade 6](#) as well as alternative learning suggestions. As you explore these learning opportunities, we understand that teachers know their students best—feel free to adapt these ideas or use your own approaches to meet your learners' needs.

Challenge your students with the engaging STEM activities listed below that blend innovation, agriculture, pizza, and their grade-level science curriculum.

Grade 4 STEM Challenges	Grade 6 STEM Challenges
• Pizza Pulley Power - travel back 200 years to when a well was needed to water plants • Simple machines - flour grinding gears • Ozobot pizza delivery path with Food Chain lesson	• Parachute Plane Pizza Delivery • Paper Pizza Delivery Airplane (<i>simpler</i>) • Pizza Drone Delivery STEM Challenge • Drone Rotor Improvement (<i>simpler</i>)

STEMterprise Grade 5 Pizza Shop Business: Assessment

STEMterprise has extensive opportunities for assessment *for*, *as*, and *of* learning. Ontario's [Growing Success](#) document notes that assessment “should be triangulated to include observation, student-teacher conversations, and student products.” As teachers go through the various STEMterprise stages, there are ongoing opportunities to gather information about student learning with evidence from observations, conversations, and products as

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students engage in the hands-on, and collaborative activities on their learning journey toward creating their own pizza business.

Our full list of available suggestions and samples of assessment tools are provided here: [STEMterprise Grade 5 Assessment Planning](#). Teachers are encouraged to modify resources as they feel works best for their students.

Pizza Shop Business FAQ

What is the Ontario Farming STEMterprise program? Check out the Project Overview to see how this Ontario curriculum aligned, hands-on, and flexible program can fit into your grade 5 science, math, language, health, and arts learning this year.

What can teachers expect to receive? You will receive a Google Drive link with lessons arranged in folders by stage. Each lesson includes teaching slides with speaking notes,

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teaching tips, embedded videos, activity worksheets and more! The resources are all editable and adaptable.

When should lessons be taught? Lessons can be woven throughout the year or taught in a shorter period of time i.e. in 10 weeks or over a term. Each lesson varies in the amount of time and averages about 60 minute blocks. Some lessons will take longer and are indicated in the teacher notes. There are extension activities relating to coding and careers that are recommended at certain stages and can be integrated at any time.

How does STEMterprise work in a combined grade? We've had many combined grades successfully work through the [STEMterprise Grade 3 Granola Bar project](#). Most of the STEMterprise grade 5 curriculum expectations work well as foundational learning for grade 4s in a grade 4/5 class and can be extended for grade 6s in a grade 5/6 class. There is significant overlap in the language expectations and the financial literacy project components are ideal integration opportunities for combined grades. The STEM Skills and Connections expectations of the Science curriculum align for combined grades and differentiation of specific science topics can be creatively planned. An Ontario-aligned Combined Grades supplemental resource is provided with STEM challenges for grade 4 about machines and for grade 6 students about flight (links found on page 11 of the Ontario Farming STEMterprise Grade 5 Educator Information Packet). Coding extensions can also support combined grades.

What is the cost of the project? The STEMterprise project itself is completely free. The only potential costs are for materials and ingredients if you choose to have students make pizzas in class. Deciding on the final Business Showcase idea (Stage 5, Lesson 4) early in the planning process will help determine a budget. Since this is an entrepreneurship project, you can use this opportunity to discuss loans and calculate specific costs with your class. For example, a batch of pizza dough costs less than \$1.50, and the price of ingredients will vary.

Stage 4 of the project offers options for making pizza pinwheels or whole pizzas, along with guidance on how to calculate costs. Costs will vary depending on whether each business group makes unique pizzas, the entire class makes a single batch, or students make them at home. To help with these costs, you could look for partnerships with local pizzerias, your school's parent council, or other community connections.

What if we can not work with food in our school. Can we still do the project?

Absolutely! We have had many classes complete the project without working with food.

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Pizza making is optional and the lessons can still be engaging learning without making pizza at school. An option is for your students to make the pizza at home.

What is the best time to start the project? Anytime! Use the Grade 5 Project Scope (page 2 of the Ontario Farming STEMterprise Grade 5 Educator Information Packet) to look at the lessons and consider which ones you want to complete, and in what depth. Want to launch your product in Term 1? Celebrate National Pizza Month in October and get your learning journey started. Is Term 2 better? February 9 is International Pizza Day! Get your students excited as the world celebrates pizza on this day. Consider timing the end of your project and celebration with Education Week or another school community event.