



## Stage 7 - Designing a Healthy Recipe and Conducting Market Research

### Stage Overview:

In this stage, the curriculum focus is on Mathematics and Health. Students will develop their own recipes, design market research surveys, and use the data they collect to inform their decisions about what product they will make.

### Learning Objective:

- Learn about the importance of grains and their role in a healthy diet, and develop a recipe for a bar with grain as an ingredient.
- Design two healthy granola bar flavours to appeal to the target market.
- Understand the importance of sourcing local ingredients.
- Design a survey.
- Construct a pictograph or bar graph to show market research results.
- Use data to guide decision-making.

### Materials Needed:

- Basic granola bar recipe to be adapted:  
<https://www.cookspiration.com/recipe.aspx?perma=KiWeDjW7ioQ&g=6>
- *Tally Template* (one per group)
- Access to the internet/recipe books

Time Frame: 3 hours

**Curriculum Connections:** These lesson plans are mapped to curriculum objectives. Find all the details on page 4.

### Presentation Notes - Stage 7

<b>Slide 3:</b> Grains in our Diet	<ul style="list-style-type: none"><li>• Explain: grains are an important part of a healthy diet. Ontario produces several types of grains: barley, corn, oats, soybeans, and wheat. They provide your body with carbohydrates, protein, fat, and several minerals important for good health.</li><li>• The grain products we love contain refined or whole grains. Refined means they have had more processing than whole grains. Both are healthy choices and which one you eat is a matter of preference.</li><li>• People who cannot eat gluten can find gluten-free grain products such as Ontario-grown corn, soybeans, and oats. Display images of products made with different grains and have students identify which grain is an ingredient.</li></ul>
<b>Slide 4:</b> Energy	<ul style="list-style-type: none"><li>• Explain: in this stage, students will design their new granola bar products.</li><li>• Remind students of the importance of a balanced diet and use the presentation to discuss the health benefits of grains.</li></ul>



<p><b>Slide 5:</b> Design Your Product</p>	<ul style="list-style-type: none"> <li>• In business groups, ask students to decide as a group which two grain ingredients they want to include in their basic granola bar recipes.</li> <li>• Provide groups with the basic granola bar recipe to adapt and ask students to brainstorm ideas for ingredients they could add to their bars for additional flavours.</li> <li>• Provides ideas to help students get started (e.g., lemon zest or honey with raisins or cranberries with orange zest).</li> <li>• Students may wish to use recipe books or the Internet to research which flavours work together, take inspiration from their taste-testing in stage 2, or they could invent a new flavour combination.</li> <li>• Ask students to be mindful of allergies, especially to nuts, in the school as they explore ingredients. Remind them that soybeans can be made into soy butter if they need a creamy ingredient.</li> <li>• Ask groups to research the nutritional benefits of their ingredients and to find out where they are grown so they can consider their food miles.</li> </ul>
<p><b>Slide 6:</b> Your Ingredients</p>	<ul style="list-style-type: none"> <li>• Ask business groups to think of three flavour ideas for their bars.</li> </ul>
<p><b>Slide 7:</b> Unique Selling Point</p>	<ul style="list-style-type: none"> <li>• Introduce the idea of a “Unique Selling Point” (USP) or something they can offer consumers that is different from the competition. Have them consider a customer need they can meet that is not being met.</li> <li>• Ask students to consider what their USP will be. Will it be a different shape bar? Will they use a high-fibre recipe? Will their bar be made entirely with locally grown ingredients?</li> <li>• Give the children guidance as they make their choices to ensure their ideas will be achievable with the resources and time available.</li> </ul>
<p><b>Slide 8:</b> Market Research</p>	<ul style="list-style-type: none"> <li>• Using the PowerPoint presentation, raise questions to introduce market research and how students can use it to help them decide which flavour granola bar they should make.</li> <li>• Explain: students are going to conduct a survey and record their results using a tally table. We do this by asking many people which of our flavour ideas they prefer. We can focus on people we think will buy our product.</li> <li>• By asking customers what they would prefer, students can make a product customers are more likely to buy and be happy with.</li> <li>• To display their results, they will learn about pictographs on slide 11.</li> </ul>



<p><b>Slide 9:</b> Tally Tables</p>	<ul style="list-style-type: none"> <li>• Explain: for this survey, we need to ask a closed multiple choice question. We will offer a small range of granola bar flavour options and ask participants to choose the option they would like most. This will tell us whether people will want to buy our product.</li> <li>• Once they have decided on their flavours, ask the business groups to write down their research question(s) (e.g., what is the most popular granola bar flavour in Grade 3 in our school?).</li> <li>• Students may like to extend their survey by asking a second question about the factors that would affect their buying behaviour (e.g., price, fair trade, local produce, allergy).</li> <li>• Before they collect their data, ask students to draw a tally table to record their findings (or use the tally table template found at the end of the lesson plan).</li> <li>• Use the example in the slide to model how to record results in a tally table.</li> <li>• Give students the opportunity to collect answers from as many children as possible (consider using students from a range of grades).</li> <li>• Allow time for group members to give feedback on their findings and draw conclusions about the most popular flavour among their target customers.</li> </ul>
<p><b>Slide 10:</b> Chocolate Bar Challenge</p>	<ul style="list-style-type: none"> <li>• Ask students to write a list of top tips for drawing pictographs. This could be completed as a chocolate bar challenge activity: each child has a plain piece of paper they fold into six segments. They fill one segment with their own idea and then collect answers from their peers to fill the remaining segments and they have six different top tips for drawing pictographs.</li> </ul>
<p><b>Slide 11:</b> Drawing a Pictograph</p>	<ul style="list-style-type: none"> <li>• Use the example in the slide to take students through each stage of drawing a pictograph and share tips for drawing one.</li> <li>• Model each step of constructing a pictograph.</li> <li>• Ask students to construct a pictograph to display their market research results. You could extend them here by also covering how to draw an additional bar graph.</li> </ul>
<p><b>Slide 12:</b> Your Final Decision</p>	<ul style="list-style-type: none"> <li>• Ask groups to reach a final decision about the flavour of their granola bar and write two sentences to explain what their market research showed and their group's final decision.</li> <li>• At the end of the lesson, students should write a shopping list for the ingredients they wish to add to their granola bars and give it to their teacher.</li> </ul>



## Curricular Connections:



### Mathematics

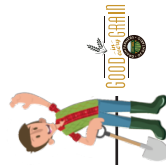
- **B1.1** read, represent, compose, and decompose whole numbers up to and including 1,000, using a variety of tools and strategies, and describe various ways they are used in everyday life.
- **C.4.** apply the process of mathematical modelling to represent, analyze, make predictions, and provide insight into real-life situations.
- **D1.2** collect data through observations, experiments, and interviews to answer questions of interest that focus on qualitative and quantitative data, and organize the data using frequency tables.
- **D1.3** display sets of data, using many-to-one correspondence, in pictographs and bar graphs with proper sources, titles, labels, and appropriate scale.
- **D1.5** analyze different sets of data presented in various ways, including in frequency tables and in graphs with different scales, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decision.
- **E2.5** use various units of different sizes to measure the same attribute of a given item, and demonstrate that even though using different-sized units produces a different count, the size of the attribute remains the same.



# Taste Testing Scoring Template

Write the attributes you are testing along the top of the grid and then score each bar out of five for each feature.

Granola bar/ Feature	Taste	Texture	Shape	Smell	Things I liked about this bar	Things I did not like about this bar
A						
B						
C						
D						
E						





# Market Research Tally Table Template

## Question 1

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<b>Granola bar flavour</b>	<b>Tally</b>

## Question 2

What other factors are important to you when you are choosing a food product?

<b>Factor</b>	<b>Tally</b>
<b>Price</b>	
<b>Packaging</b>	
<b>Locally Sourced Ingredients</b>	

