



Build Competencies in **sustainability** MATTERS

PROJECT

Agriculture

9

11

Nutrient science



MAKE IT PERSONAL

To what extent do you think you are influenced by environmental considerations when making food choices?



EXPLORE

1. Nutrient Illustrations

Select one of the following options.

ONE Create an illustration to identify at least three organic and three inorganic substances that are essential to the health and growth of humans and other living things.

In your illustration, identify the roles served by these substances (e.g., identify calcium as an essential material for bones; identify minerals that are necessary for plant growth).

TWO Create an illustration to show how organic matter, including carbohydrates, proteins and lipids, is synthesized by plants and animals.



Consult **WHAT IS THE CHEMISTRY OF FOOD PRODUCTS?** for these learning tasks. Use the Learning Source and the information for this guiding question in the **Sustainability Matters** carousel on **www.projectagriculture.ca**. Check out these weblinks for additional information.

Find articles on consumer related information with Alberta's agriculture and food industry, including food trends, at <https://open.alberta.ca/publications/consumer-corner>.

Find information on food labelling at www.inspection.gc.ca/food/labelling/food-labelling-for-consumers/eng/1400426541985/1400455563893.

Check out an article on *Nutrient Management Planning* on Agriculture and Agri-Food Canada's website at www.agr.gc.ca/eng/science-and-innovation/agricultural-practices/soil-and-land/soil-nutrients/nutrient-management-planning/?id=1187355760327.

Find a review of organic compounds on the CK-12 Foundation website at www.ck12.org/c/life-science/organic-compounds/lesson/Organic-Compounds-MS-LS/.

2. Food and Nutrition Myths

Use media sources to find examples of food and nutrition myths, such as the following.

- 🔥 All calories are created equal.
- 🔥 Fresh is more nutritious than frozen.
- 🔥 Fats are bad for you.
- 🔥 You can live without consuming selected macronutrients.

Use scientific evidence to bust at least two food nutrient myths that you find.

3. Origins of Organic

Research the origins of organic farming and organic labelling. Record notes on your research in a **Retrieval Chart**, labelled like the example below. Then, reflect on the following questions.



Sources	Origins of organic farming	How organic foods are labelled

How is chemistry involved? Give one example.

How would you balance the benefits and challenges that organic farming has for sustainable agriculture?



Consult **WHAT IS THE CHEMISTRY OF FOOD PRODUCTS?** for these learning tasks.

Check out these weblinks for additional information.

The Best Food Facts website presents a series of *True or Not* articles that provide expert views on the science behind the food system at www.bestfoodfacts.org/category/true-or-not/.

Agriculture More than Ever presents a series of articles based on myths in Canada's food system at www.agriculturemorethanever.ca/tag/myths/.

Watch this Agriculture and Agri-Food Canada *Mythbusters* video at www.youtube.com/watch?v=QbG7nwJ0dfs.

A complete description of Canadian organic standards in a question and answer format can be found on the Organic Federation website at www.organicfederation.ca/final-questions-and-answers-canadian-organic-standards.