

Food Chemistry Concept Storyline

Unifying Concept

Living organisms are organized into functional systems and require a balance of nutrients for their growth and survival.

Unit Concept

Humans need a range of nutrients, including carbohydrates, fats, and proteins, to provide a well-balanced diet.

Grade-Level Concept

Foods contain nutrients that may be identified by chemical and physical tests. Knowing about nutrients helps people choose healthy diets.

Subconcept 1

Foods provide a variety of nutrients.

Lesson 1: Pre-Unit Assessment: Thinking about Foods We Eat
Students discuss what they know about foods and nutrients.

Lesson 2: Identifying Healthy Foods: Getting Ready
Students explore the characteristics of foods they will be testing in the unit.

Lesson 17: Post-Unit Assessment: Sharing What We Know about Food Chemistry
Students discuss and reflect on what they have learned about food and nutrition.

Subconcept 2

Chemical and physical tests may be used to determine whether a food contains starches, glucose, fats, or proteins.

Lesson 3: Testing Liquids for Starch
Students use iodine as a test for starch in five known liquids.

Lesson 4: Testing Foods for Starch
Students apply the starch test to several foods.

Lesson 6: Testing Liquids for Glucose
Students test for the presence of glucose in five known liquids.

Lesson 7: Testing Foods for Glucose

Students apply the glucose test to several foods.

Lesson 9: Testing Liquids for Fats

Students use unglazed brown paper as a test for fats in five known liquids.

Lesson 10: Testing Foods for Fats

Students apply the fat test to several foods.

Lesson 12: Testing Liquids for Proteins

Students use Coomassie blue as a test for proteins in five known liquids.

Lesson 13: Testing Foods for Proteins

Students apply the protein test to several foods.

Lesson 16: What Is in a Marshmallow? Applying What We Have Learned
Students use the testing procedures to identify the nutrients in a marshmallow.

Subconcept 3

Nutrients are essential to human health.

Lesson 5: Learning More about Starch

Students share their results from Lesson 4, retest some of the foods, and read about the nutritional value of starch.

Lesson 8: Learning More about Glucose

Students share their results from Lesson 7, retest some of the foods, and read about the nutritional value of glucose.

Lesson 11: Learning More about Fats

Students share their results from Lesson 10, retest some of the foods, and read about the nutritional value of fats.

Lesson 14: Learning More about Proteins

Students share their results from Lesson 13, retest some of the foods, and read about the nutritional value of proteins.

Subconcept 4

Food labels provide information on nutrients that the body needs to stay healthy.

Lesson 15: Examining Labels: Making the Connection
Students link their test data to information on a Nutrition Facts label.