

Food Science and Technology

Academic Content Area: Environment and Ecology – Grade 10

Career Development Event Content

1. Gain an understanding of professional opportunities in the field of food science and technology, marketing and management occupations.
2. Experience group participation and leadership responsibilities in a competitive food science and technology program.
3. Understand industry equipment and machines.
4. Knowledge of formulation of products to meet specific market requirements, new package design, nutritional label development and quality control programs.
5. Present product development.
6. Experience food quality and safety practicum, which includes customer complaint letter and food safety/sanitation.
7. Demonstrate sensory evaluations.

Related Academic Standards/Anchors

Objectives 1-7: **4.4.10.C,D**

Connecting Examples: CDE Objectives and Standards/Anchors

Ex. 1 – Related to 4.4.10.C: Explain the functions of the components of the food and fiber systems. **Students must understand the functions of the components of the food industry. First, they must know what the components of the food industry are and how they function in order to successfully compete the exam, marketing scenario and sensory differences testing.**

Ex. 2 – Related to 4.4.10.D: Analyze the efforts of increased efficiency in agriculture through technology. Sub-point, compare various technological advancements and analyze each for its contribution toward labor and cost efficiency. **Students must complete a marketing scenario. Within this scenario, students are required to use the most efficient and effective way/means to develop, design, package and market the desired product assigned. Student then present their product development to the panel of judges.**

Food Science and Technology

Academic Content Area: Mathematics – Grade 11

Career Development Event Content

1. Gain an understanding of professional opportunities in the field of food science and technology, marketing and management occupations.
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4. Knowledge of formulation of products to meet specific market requirements, new package design, nutritional label development and quality control programs.
5. Present product development.
6. Experience food quality and safety practicum, which includes customer complaint letter and food safety/sanitation.
7. Demonstrate sensory evaluations.

Related Academic Standards/Anchors

Objectives 1-7: 2.1.11.A; 2.2.11A,B; 2.3.11.A,C; 2.4.11.B,C; 2.5.11.A,B,C,D; 2.8.11.C

Connecting Examples: CDE Objectives and Standards/Anchors

Ex. 1 – Related to 2.2.11.A: Develop and use computation concepts, operations and procedures with real numbers in problem-solving situations. **Students must be able to use computation concepts during the examination, practicums and scenarios. For example, a food contains 4 grams of protein, 5 grams of fat, and 2 grams of carbohydrates. That would be equivalent to _____ calories.**

Ex. 2 – Related to 2.4.11.B: Construct valid arguments form stated facts. **Students develop, market, package, orally present and defend a product. Students must use the configured/calculated facts to construct a valid argument or defense of the product they have developed.**

Ex. 3 – Related to 2.5.11.D: Conclude a solution process with a summary of results and evaluate the degree to which the results obtained represent an acceptable response to the initial problem and why the reasoning is valid. **Students must be able to develop a product (solution process) with a summary of results and be able to evaluate how the product developed meets the desire of the selected audience. The students must be able to validate their reasoning.**

Food Science and Technology

Academic Content Area: Reading, Writing, Speaking and Listening – Grade 11

Career Development Event Content

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3. Understand industry equipment and machines.
4. Knowledge of formulation of products to meet specific market requirements, new package design, nutritional label development and quality control programs.
5. Present product development.
6. Experience food quality and safety practicum, which includes customer complaint letter and food safety/sanitation.
7. Demonstrate sensory evaluations.

Related Academic Standards/Anchors

Objectives 1-7: 1.1.11.A,C,F; 1.2.11.A,B; 1.4.11.B,C; 1.5.11.A,B,C,D,E,F,G; 1.6.11.A,C,D,E; 1.8.11.B,C

Connecting Examples: CDE Objectives and Standards/Anchors

Ex. 1 – Related to 1.5.11.A: Write with sharp, distinct focus. **Students are required to reply to a customer complaint letter. When writing the letter they must identify the topic, task and audience and establish and maintain a single point of view.**

Ex. 2 – Related to 1.5.11.G: Present and/or defend written work for publication when appropriate. **Students must be able to defend their work in developing a product during the marketing scenario.**

Ex. 3 – Related to 1.6.11.C: Speak using skills appropriate to formal speech situations. **Students will need to present their developed product during the marketing scenario. They are evaluated on how well they present the materials and developed product and their response to questions.**

Ex. 4 – Related to 1.6.11.E: Participate in small and large group discussions and presentations. **Student are evaluated on how well they work together as a small group during the marketing scenario and how they present their product orally as a team.**

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Academic Content Area: Science and Technology – Grade 10

Career Development Event Content

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5. Present product development.
6. Experience food quality and safety practicum, which includes customer complaint letter and food safety/sanitation.
7. Demonstrate sensory evaluations.

Related Academic Standards/Anchors

Objectives 1-7: **3.1.10.A,D,E; 3.2.10.A,B,D; 3.6.10.A; 3.7.10.A,B; 3.8.10.B**

Connecting Examples: CDE Objectives and Standards/Anchors

Ex. 1 – Related to 3.2.10.B: Apply process knowledge and organize scientific and technological phenomena in varied ways. Sub-point, develop appropriate scientific experiments: raising questions, formulating hypotheses, testing, controlled experiments, recognizing variables, manipulating variables, interpreting data and producing solutions. Students must compete as a team in the marketing scenario, which entitles them to use their knowledge and experience with experimentation, variables, data and production of a solution. For example, students (product development group) receive a memorandum from marketing research and business development to use the given materials, ingredients, pricing and nutritional information provided to design a “Heat and Eat Meal from the Microwave”.

Ex. 2 – Related to 3.8.10.B: Analyze how human ingenuity and technological resources satisfy specific human needs and improve the quality of life. Sub-point, identify several problems and opportunities that exist in your community, apply various problem-solving methods to design and evaluate possible solutions. Within the marketing scenario, students must identify the need/problem or desire of the selected audience, apply various problem-solving techniques to develop a solution that satisfies the request of the scenario. For example, developing a “Heat and Eat Meal from the Microwave” for teens and older retirees.