FOOD SCIENCE DISCOVERED…THE LIFE OF A FOOD SCIENCE INNOVATION

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Annotation

In this project, students will explore the life of a food science innovation through the creation of a product resume. Students will examine the life of an original product, including its discovery or invention, the history of the product, and the product's benefits and limitations.

Primary Learning Outcomes:

Students will explore the history and nature of food science and scientific discovery.

Students will be able to use available information sources (e.g. internet search, library research, online databases books, periodicals) to research an assigned topic.

Students will be able to organize, synthesize, and evaluate information in the preparation of a written report and oral presentation.

Students will be able to communicate effectively orally and in writing.

Assessed GPS:

SCSh1. Students will evaluate the importance of curiosity, honesty, openness, and skepticism in science.

b. Recognize that different explanations often can be given for the same evidence.
c. Explain that further understanding of scientific problems relies on the design and execution of new experiments which may reinforce or weaken opposing explanations.

SCSh6. Students will communicate scientific investigations and information clearly.

b. Write clear, coherent accounts of current scientific issues, including possible alternative interpretations of the data.
d. Participate in group discussions of scientific investigation and current scientific issues.

SCSh8. Students will understand important features of the process of scientific inquiry.

Students will apply the following to inquiry learning practices:

a. Scientific investigators control the conditions of their experiments in order to produce valuable data.
b. Scientific researchers are expected to critically assess the quality of data including possible sources of bias in their investigations' hypotheses, observations, data analyses, and interpretations.
c. Scientists use practices such as peer review and publication to reinforce the integrity of scientific activity and reporting.
d. The merit of a new theory is judged by how well scientific data are explained by the new theory.
e. The ultimate goal of science is to develop an understanding of the natural universe which is free of biases.

f. Science disciplines and traditions differ from one another in what is studied, techniques used, and outcomes sought.

SCSh9. Students will enhance reading in all curriculum areas by:

a. Reading in All Curriculum Areas
b. Discussing books
c. Building vocabulary knowledge
d. Establishing context

Duration:
Introduction: 15 minutes
Student Assignment: Adaptable to class schedule
Conclusion: Adaptable to class schedule
Total Class Time: Adaptable to class schedule

Technology Connection:
Students may use all available information resources (*e.g.* internet search, library research, online databases books, periodicals) to complete the assignment.

Procedures:
Introduction:
Provide students with the "Food Science Discovered…The Life of a Food Science Innovation" student handout. Review with students the expectations and evaluation procedures.

Estimated Time:
15 minutes

Student Assignment:
Students should follow directions set forth in the student handout.

Estimated Time:
Adaptable to class schedule

Conclusion:
Have students present to the class, during a 5-10 minute oral presentation, their product resumes.

Estimated Time:
Adaptable to class schedule

Assessment:
Project assessment should be based on the following rubric.

Product Resume (85 points)

- Product Name
- Product Description – 20 points
- Brief History of Product – 15 points
- Product Benefits – 15 points
- Product Limitations – 15 points
- Improvements to Product – 20 points

Presentation (15 points)

FOOD SCIENCE DISCOVERED…THE LIFE OF A FOOD SCIENCE INNOVATION
Student Handout

Introduction:

Have you ever wondered why there is a hole in the center of a lifesaver, who discovered sugar, or how the microwave works? The products we encounter daily at mealtime were developed as a result of the hard work of thousands of food scientists.

Your Task:

In this activity, you will go beyond your textbook to learn about one of many food science innovations. You will examine the life of an original product, thus discovering how and why it came to be.

Select an innovation for study, and research its life. You may choose an original food product or any innovation related to the processing, preparation, packaging or storage of food. The following is a list of possible food science innovations:

- Popcorn
- Milk Chocolate
- Microwave
- Fast Food
- Bubble Gum
- Coca Cola
- Coffee
- Soft Drink Can

A minimum of five resources is required. The following internet resources may contain information regarding your innovation:

- Food Network: Unwrapped – http://www.foodnetwork.com/food/show_cw/0,1976,FOOD_9955,00.html
- HowStuffWorks – http://www.howstuffworks.com/

Upon completion of your research, construct a resume for your product. The following information should be included:

- Product Name
- Product Description
    - *For Food Items*
        - What is the product?
        - What ingredients are most important to the product?
        - How is the product made?
        - How is the product different from similar products?
    - *For Food Processes, Packages, etc.*
        - What is the innovation?
        - What is the function/purpose of the innovation?
        - How does the innovation work?
        - How is the innovation different from similar innovations?

- Brief History of Product
  - Discovering Scientist(s) or Inventor(s)
  - Date of Discovery or Invention
  - How/why was the product/innovation developed/discovered?
- Product Benefits
  - Why was the product/innovation beneficial to the food industry, consumers, and/or society?
- Product Limitations
  - Does the product have any negative effects on the food industry, consumers, and/or society?
- Improvements to Product
  - Have there been any recent improvements to the product/innovation?
  - If you were a food scientist, how would you improve upon or replace the product/innovation? (Describe your improvement, your selection of it, and how it could be accomplished.)

NOTE: Additional information regarding your product may be added at your discretion.

Upon completion, you will present your product resume to the class during a 5-10 minute oral presentation.

Evaluation:
Project assessment should be based on the following rubric.

Product Resume (85 points)
- Product Name
- Product Description – 20 points
- Brief History of Product – 15 points
- Product Benefits – 15 points
- Product Limitations – 15 points
- Improvements to Product – 20 points

Presentation (15 points)