

Snack Time Studies: What Is Food Science?

Answer Sheet

What is food science?

- The study of producing, processing, preparing, ___evaluation,_____, and using food
 - What does this mean to you? *Answers will vary*

Food scientists in history

- Sir Francis Bacon – Preservation through ___freezing_____
- Justus von Liebig – *Researches on the Chemistry of Foods*'
- ___Fannie Farmer_____ – *Boston Cooking School Cookbook*'
- George Washington Carver – Developed more than _100 food_____ products from peanuts, sweet potatoes, and pecans
- Clarence Birdseye – ___freezing vegetables_____

Areas of food science

1. ___Production_____
2. Processing
3. Evaluation
4. ___Use_____

Food production

___Production_____ – process in which matter and energy transfer between organisms as food.

Food Production – Techniques for raising crops and animals for food.

*Example: A farmer grows wheat and oats as a grain. These are harvested and given to beef cattle and chickens as feed.

___ **Genetically Modified Plants** ___ – Scientist use the tools of modern genetics in the age-old process of improving plants, animals, and microorganisms for food production.

*Example: Corn, which is Round-up ready. The herbicide can be sprayed on corn without killing the corn but will kill grasses that grow between the rows of corn, conserving water for the corn plant.

Food processing

- ___ **Processing** ___ – takes food that has been produced and puts it through steps to create a final marketable result.
- Researcher in food science helps develop more affordable means of producing foods and retaining nutrients.
- Quality Control Specialists monitor foods through the stages of processing to ensure the foods meet ___ **aesthetic** ___ and ___ **safety** ___ standards.

*Check storage areas for cleanliness

*Develop food labels after testing foods for nutrient content.

Food preparation

Food Scientists are responsible for the cooking ___ **instructions** ___ on the back of our food products.

Science is used to determine cooking factors, such as ___ **desired cooking methods** ___ and ___ **quality characteristics** ___. These factors are based on the type of food and how different ingredients will react under certain situations.

*This keeps our food ___ **safe** ___ and ___ **desirable** ___!

Food Scientists answer the “WHYS” we come across in the kitchen.

Evaluation of food

- Evaluation – A tasting and judging process
- Test kitchens and evaluation laboratories conduct crucial research to determine whether people will buy a product.
- They focus on aroma, texture, appearance, taste, and other similar qualities.
- Food analysis - for cost and quality____ – Food is evaluated to be cost-effective.
- Later – Evaluation of the products determines two things:
 1. Acceptance by consumers
 2. Cost effectiveness

Utilization of food

Food Scientists are always searching for new uses for food items, but now more than ever before.

Why?

There are fewer resources to produce food, and there are more and more people to feed

Looking for every possible use of a food has led to soybeans in our newsprint items and corn in our gasoline!