



High School Science Virtual Learning

Applied Biological Science

Microbiology and Food

May 11, 2020



High School Applied Biological Science

Lesson: May 11, 2020

Objective/Learning Target:

Understand and describe how microorganisms can be beneficial in food production.

Let's Get Started:

Use the video to answer the questions:

1. What is fermentation?
2. What is the other name for fermentation?





Let's Get Started: **Answers**

1. Making energy without the used of oxygen
2. Anaerobic Respiration



Lesson Activity:

Directions: Read over the article and watch the video over microbiology in food. Use the information to answer the practice questions.

Link(s): [Microbiology and Food Video](#)
[Microbes and Food Reading](#)



Practice

You will use the information from the lesson activity to answer the practice questions.



Practice Questions

1. How are microbes utilized in the production of some foods?
2. Why is fermentation from microorganisms necessary in some food production?
3. List the 2 most common microorganisms used in food production.
4. List 3 common foods that are produced using the help of microorganisms.



Answer Key

Once you have completed the practice questions check with the work.

1. Micro-organisms have been used since ancient times to make bread, cheese, yoghurt and wine. Food manufacturers continue to use micro-organisms today to make a wide range of food products by a process known as fermentation.
2. Fermentation not only gives food a good taste, texture and smell, but it causes changes that reduce the growth of unwanted food microbes. This improves the food's storage life and safety.
3. Yeast and lactose consuming bacteria,
4. Bread, cheese, and yogurt



More Practice

Use these readings to help answer the following practice questions:

[Food Poisoning](#)

[Food Spoilers](#)



More Practice Questions

1. Are all microbes beneficial in food production? Explain
2. List microbes that are the most common in food borne illnesses.
3. How do microbes cause spoilage?



Answer Key

Once you have completed the practice questions check with the work.

1. No, not all microorganisms are beneficial in food production, actually most microbes are dangerous in foods and can cause food spoilage and food poisoning.
2. *Campylobacter jejuni*, *E. Coli*, *Salmonella*, *Listeria monocytogenes*
3. Sometimes microbes get in or on our food and start to break it down to provide them with energy and nutrients. Microbial growth causes the food to look, taste and/or smell disgusting. The food becomes unfit for humans to eat and must be thrown away. An example of this is mold on bread.



Additional Practice

[What's in my rootbeer?](#)

[Food Preservation](#)

[Making Yogurt](#)

[Microbiology and Food Reading](#)