



Title

Yeast-single cell organism that rises bread dough

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Table of activities

School subject	<i>Biology</i>
Topic	<i>Yeasts-organisms that belong to the kingdom of fungi</i>
Age	<i>14 years</i>
Required time fo the activity	<i>90 minutes</i>
Required materials	<i>Wheat flour, water, yeast, salt, sugar, olive oil, microscope and accessories for yeast microscopy, paper</i>
Cultural concept	<i>Making traditional Greek bread</i>



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Teaching concept

The aim of this activity is to educate students about fungi and their classification in the kingdom of fungi, with a particular focus on yeasts and their application in bread-making.

Cultural concept

Cereals, especially wheat, have been an important part of human nutrition for centuries, and bread has been a staple food for many cultures. Even the ancient Greeks had knowledge of bread making, and yeast was introduced to Greece from Egypt. Greek merchants brought recipes for flour and bread from Egypt, and the Greeks enjoyed adding honey and olive oil to their bread. Barley was also a significant cereal in ancient Greek nutrition.

Biological concept

Yeasts are single-celled microorganisms that belong to the kingdom of fungi. Their application is quite widespread, not only in baking but also in the alcoholic beverage industry. They play a crucial role in converting starch into sugar and further into alcohol and carbon dioxide. Yeasts are utilized in both the proofing process of bread dough and in the fermentation of alcoholic beverages.

Aim of activity

The objective of this activity is to educate students about the structure and application of yeasts, as well as the significance of cereals in human nutrition, by making Greek bread.

Activity

This activity has four steps:

- 1. Research: Students research yeasts, including their structure and application, and create a poster based on the collected information.*
- 2. Microscopy: Students study the structure of yeast under a microscope. A digital microscope can be used in this activity.*
- 3. Bread in Ancient Greece: Students research bread-making in ancient Greece to understand the cultural significance and techniques used.*
- 4. Bread-making: Finally, students find a recipe for Greek bread with olive oil and prepare it using yeast. This helps them understand the role of yeast in the bread-making process.*

By following these steps, students will gain a better understanding of yeast and its application in bread-making.

Additional materials



Figure 1. Preparing accessories for observing yeast



Figure 2. Learning how to use electronic microscope



Figure 3. Observing the yeast under the microscope

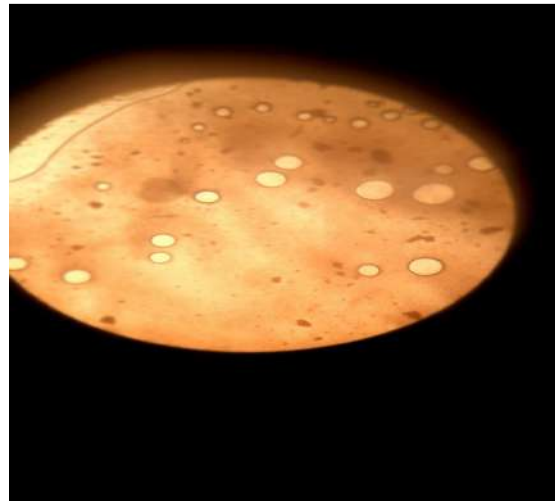


Figure 4. Yeast cells under the microscope