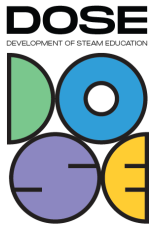


# Yeast dough



**Name of the study scenario:** Yeast dough

**Which subjects are integrated in the activity:** mathematics, informatics, nature, home economics, art

**Target group (age and group size):** 7th grade.

**Duration of the activity:** 6 academic hours

**Keywords:** Yeast, yeast dough, sticky protein, fermentation process

**Summary of activities (-200 words):**

Students learn how to make yeast dough by acquiring basic knowledge in various subjects. Every acquired knowledge and its practical application is a prerequisite for the success of the next stage. Students get to know the life activities of yeast and the necessary conditions for it. Consideration of the conditions ensures the success of the dough. Describing experiences and taking notes helps to reflect on what happened. Designing a recipe page in art education consolidates knowledge.

**List of materials, environments and tools:**

Math calculator, recipes. You can use the websites of e-shops of different store chains.

Yeast, sugar, temperature measurement and storage options for testing

Household tools and possibilities for making and baking yeast dough. Pressed yeast, dry yeast, flour, liquid (milk) butter, sugar, salt. Temperature measuring devices, different ways to maintain the temperature during lifting, recipes, measuring instruments, possibility of baking.

Information technology - data search, executive recipe creation options both individually and shared (eg Microsoft office, blogs, etc., presentation creation - Powerpoint, etc.).

Designing an art recipe sheet into a home recipe collection, either by hand or using a design program. Pens, markers, paper, cutouts, etc

**Detailed description of the activity, covering both teaching and learning activities:**

1. Biological overview of yeast activity. Theoretical work with a text and listening to an explanation and experiments. Allows students to listen (watch), confirm what they have learned with an experiment and ask the teacher questions about what happened.
2. Teaching must allow students to experience both success and failure, it is wise to provide different initial conditions for the experiment and to allow the result to be reflected by everyone. Teaches to perceive and make sense of experience through a scientific text (age-appropriate).

## Yeast dough

3. Introduction to the basics of mathematical calculation. Calculating ingredients on the principle of rationality - how can and in this case be expedient to make a calculation. Price awareness and product pricing principles.
4. The aim is to prepare the quantities of the recipe to be used per household hour (on paper or in a suitable environment).
5. Home-made yeast dough and baking products. Work in groups. Students take the ingredients of the recipe of their choice and correct it by calculation and prepare the dough. Students can choose which yeast they use, which lifting method they use and which products they make. The role of the teacher is to answer questions and guide if necessary. The process succeeds when the knowledge and experience learned in biology and mathematics is applied. We should not be afraid of failure, it confirms the need to carry out preliminary work consciously.
6. Informatics- information search- home preparation lesson. Helps develop a critical attitude towards sources, as anyone can post anything for public reading. The teacher helps to analyze.
7. Gathering the observations experienced during the work in a shared environment (Teams, MS Office, etc.), necessary for the last task in an art class. Students collect the information gained during the work in their group folder as text, photos or video material) Teaches outline.
8. Designing a recipe page in an art lesson for a home economics recipe book. Critical analysis of the collected material, identification of the most important, understandable wording. Composition - arrangement of text groups and images on the page, so that it would be easy to follow the work and everything important would be said. Both artisanal and computer-aided design can be used.

**Learning outcomes:** To learn how to make yeast dough through process awareness, testing, analysis and fixation.

**Evaluation guide:** Estimated evaluation in stages. The final grade is formed as a result of the analysis of the calculated stage grades and the student's work process.

### **Reflection and recommendations for the operator:**

The common position of the subject teachers regarding the degree of practicality of the study and the amount of the student's own activities is important. This is probably better for teachers who know each other's educational views well. Learning planning requires flexibility from everyone, as the process has to take place one after the other for the student, and this requires teachers to rearrange the planned content. Therefore, planning such study cycles at the beginning of the study period is likely to work better. Gives students a good experience in combining different subjects. All stages are more thorough, because teachers of different subjects can approach more meaningfully and there is more time for each stage.

There is no need to be afraid of failures during learning, it expands the range of experiences and guides students to go through the stages more meaningfully. A practical

## Yeast dough

approach and a wide range of analytical options ensure a broad knowledge base. It is a very useful venture, but it requires a lot of preparation.



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