

Europeana Learning Scenario

Title

Food tests

Author(s)

Biljana Ilieva

Summary

Biologically important compounds, such as carbohydrates, proteins and fats, are present in human nutrition and decompose into simpler molecules. Only food that is decomposed into basic molecules can be used by the body for certain processes. It is therefore important for students to know how food can be tested. In other words, to discover a chemical way that foods contain sugars, fats and proteins. Europeana Food and Drink Project is a resource that provides great support for the study of the topic - Food. The open educational resource - Food and Nutrition can be fully implemented in biology classes. The resource offers new ideas that can be easily realized. The game Food Planet is a tool where students learn creatively about food in different countries.

Table of summary

Subject	Biology, Chemistry, Science, Art, History, Natural Sciences
Topic	Food
Age of students	13
Preparation time	40'
Teaching time	80'
Online teaching material	Biology, Chemistry, Sciences Food and Nutrition on Europeana Food related games on the Food and Nutrition website Food and Food Labels at Scientix Multicultural meals at Scientix Biochemistry Of Food (Find The Mistake) at Biolab Food Tests Art Bloemstillevens met fruit en vogelnestje History Tasting Historical Europe at Europeana food and Drinks Geography http://foodanddrinkeurope.eu/applications/games/
Offline teaching material	Paper, writing kit, laboratory accessories, iodine, burette solution, benedict solution, ethanol, various types of foods
Europeana resources used	Activities to Support the Food and Nutrition unit in the SPHE Curriculum http://foodanddrinkeurope.eu/applications/games/

Licenses

Please indicate below which license you attribute your work with by picking one of the options below. We do **NOT** recommend the last option – in case you pick that one, your work will not be translatable or editable. If you include images in the learning scenario, please make sure to add the source and licenses under the pictures themselves.



- ✓ **Attribution CC BY.** This license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licenses offered. Recommended for maximum dissemination and use of licensed materials.

Integration into the curriculum

Biology - Parts of balanced foods

Chemistry- The chemical composition of the food

Life skills - What it is a food pyramid

Art- Using the visual elements, Creating and designin

History/ Introduction of the birthplace – Traditional food

This teaching content is in accordance with the curriculum for biology for 8th grade, chemistry for 9th grade, introduction of the birthplace for 3rd grade, fine arts for 6th grade which are approved by the Ministry of Education and the Bureau for development of education

<http://bro.gov.mk/docs/nastavni-programi/Cambridge/VII-IX/Nastavna%20programa-Biologija-VIII%20odd%20devetgodisno.pdf>

Aim of the lesson

To choose foods depending on the needs of the body

Propose foods that are needed for the proper functioning of the body

To use laboratory food testing equipment

Take safety measures when handling the equipment

Trends

Project-Based Learning: students get fact-based tasks, problems to solve and they work in groups. This kind of learning usually transcends traditional subjects.

Collaborative Learning: a strong focus on group work.

21st century skills

- *Critical thinking and problem solving;*
- *Cooperation and leadership;*
- *Effective oral and written communication;*
- *Access and analysis of information;*
- *Curiosity and imagination;*
- *Agility and adaptability*
- *Contents of knowledge and topics from the 21st century;*

	<p>Fourth group: - prove the presence of glucose (reduced sugars) in some liquids with the help of Benedict reagent (Feling I and Feling II)</p> <p>Fifth group: - prove the presence of proteins with a Biuretic test (NaOH and CuSO₄)</p> <p>Optional – PP presentation from https://www.tes.com/teaching-resource/food-tests-6138364</p> <p>Activity 3 - Group presentations</p> <p>Activity 4 - Self-assessment of groups by check list</p>	20'
		10'
Homework	<p>Make your own balanced diet bowl using Microsoft Office Paint or www.tinglink.com or you can do it on a paper plate by sticking thumbnails of various food items.</p> <p>https://www.europeana.eu/portal/en/record/9200579/kvkex8db.html?q=Food#dcid=1552837340974&p=2</p> <p>http://foodanddrinkeurope.eu/applications/elearning-resources/lesson-plans/food-and-nutrition/</p> <p>Appendix A - Lesson Part 1: Choosing Food and Staying Healthy is recommended for students to better do their homework</p>	5'

Assessment

Biology - Parts of balanced foods

Chemistry- The chemical composition of the food

Life skills - What it is a food pyramid

Art- Using the visual elements, Creating and designing/ Dish with fruits and vegetables - technique pencil

History/ Introduction of the birthplace – Writing essay "Traditional v/s healthy food

Important questions like help writing the essay

1. What kind of food is cooked in the past, and what now?
2. Whether in the past the food that was eaten was completely healthy (explain)
3. Why are we suspicious today when it comes to healthy food?
4. What foods of the past are cooked today? Which dishes are forgotten?

Student feedback

* Creation of a brochure on the topic "Healthy nutrition" in Microsoft Office Publisher

* create a healthy food video and attach it to YouTube or Vimeo

* To debate on the theme Modern Teen Diseases - Anorexia and Bulimia

Teacher's remarks

The students achieved the goals of the class. The class had an excellent working atmosphere. They set the roles in the group through consensus. Each member of the group was active and fully realized the given task. The students communicated, collaborated with each other, were creative, critically thinking to reach the solution to the task they were given. During the presentation they showed good presenting skills. It should be emphasized that students with special needs actively participated in testing of starch foods. They achieved their goals at the class.

At the end of the day, the students were self-assessed by a prepared check list by the teacher and were very self-critical.

About the Europeana DSI-4 project

[Europeana](#) is Europe's digital platform for cultural heritage, providing free online access to over 53 million digitised items drawn from Europe's museums, archives, libraries and galleries. The Europeana DSI-4 project continues the work of the previous three Europeana Digital Service Infrastructures (DSIs). It is the fourth iteration with a proven record of accomplishment in creating access, interoperability, visibility and use of European cultural heritage in the five target markets outlined: European Citizens, Education, Research, Creative Industries and Cultural Heritage Institutions.

[European Schoolnet](#) (EUN) is the network of 34 European Ministries of Education, based in Brussels. As a not-for-profit organisation, EUN aims to bring innovation in teaching and learning to its key stakeholders: Ministries of Education, schools, teachers, researchers, and industry partners. European Schoolnet's task in the Europeana DSI-4 project is to continue and expand the Europeana Education Community.