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Sustainable food Labels

Theme: **Sustainable Food Production**

Total duration: 5 hours

School subjects involved (suggestion): Science, Agriculture, Civic education.

Equipment/materials: Computers and internet; Paper and pencils

Worksheets: Worksheets are available as annex.

Digital tools: PC and software for presentations.
IBW or Canva software for brainstorming.

Brief description

This Learning Unit stimulates students to associate the concept of sustainability to food production systems and make the difference in terms of food choice.

This LU invites the students to analyse the labels on the products and interview producers and sellers to understand if the product is promoted (or not) as sustainable. For instance, there are specific labels indicating the environmental sustainability of the product. Other products may report text slogans promoting aspects related to environmental sustainability, other products may not show any of these.

By searching the meaning of such labels and slogans, interviewing producers, and sellers, searching bibliography on the main production methods for specific ingredients, students will understand how food production generates impacts on the environment but also how sustainable production methods and practices can improve it.

https://goodfoodeplus.cebas.csic.es/

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Learning Objectives

Students will learn about:

- ✓ Regenerative agriculture
- ✓ Food labels regarding sustainable productions
- ✓ Impacts of food production on the environment

Students will be in a position to:

- ✓ Work in groups
- ✓ Organize own learning through a step-by-step learning process
- ✓ Analyse text and contents on food products
- ✓ Prepare and perform interviews to producers and sellers
- ✓ Prepare reports
- ✓ Use PowerPoint or similar software

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Steps of the Learning Unit

Orientation

Duration: 20 minutes
School subjects: Science, Technology, English, other.
Where the activity takes place: In the classroom.
Method (how the students have to work): As a class.
Equipment / materials: Interactive whiteboard to show a video or the PowerPoint presentation provided with the Learning Unit resources on the theme of agriculture and its impacts on the environment. Use the Worksheet – Part 1.

Description:
You can show students one of these videos (in English) on the impacts of agricultural practices on the environment:

- **Impacts of Agricultural Practices** https://youtu.be/dbEtcjNxGVQ This video tells in short about the impacts of our life needs (about 7 minutes).
- **Can we create the "perfect" farm? - Brent Loken** https://www.youtube.com/watch?v=xFqecEtdGZ0 In the form of cartoon this video presents the conventional and sustainable methods of agriculture in the world (about 7 minutes).
- **Consequences of Agricultural Practices [AP Human Geography Unit 5 Topic 10]** https://youtu.be/MnLGUxhL2JI Mr. Sinn, in his style, gives a short class on the topics connected to the theme (about 5 minutes).

After the video, brainstorm the class by summarizing what they have learnt, regarding the

- ***environmental impacts*** *of agriculture*
- ***solutions to make agriculture more sustainable (if needed, provide the definition of sustainability as the capacity to produce without inferring the capacity of the resources to regenerate, as they should be available to next generations)***

You can use interactive whiteboard and software to collect students' ideas in form of virtual post-it and then, make conceptual maps.

Conceptualisation

Duration: 10 minutes

School subjects involved (suggestion): any.
Where the activity takes place: In the classroom.
Method (how the students have to work): Students work in groups.
Equipment / materials: none.
Description:

The phase aims to stimulate students' hypothesis and raise questions about the sustainability of their recipe. *How students consider the selected food / recipe; what do they know and how they would know about sustainability (e.g. Have they even noticed labels on packages? What do they know about labels?)*

You can give students some hints asking them if they know any labels indicating the production method or if they have never read on the food packaging any information about the food production and supply chain.

Investigation

Duration: 3 classes of 45 minutes
School subjects: any of those involved
Where the activity takes place: In the classroom and as homework.
Method (how the students have to work): *Students work in groups.*
Equipment / materials: Worksheet – Part 2

Description:

1) Planning
Location: In classroom
Time: 15 minutes
Materials: Notes and pens
Description:

- Students take the dish/meal and list the ingredients of the recipes and each group is assigned with one or more ingredients.

2) Performing
Location: Homework and in classroom
Time: 45 minutes (in class)
Equipment / Materials: PC, camera/video, Worksheet – Part 2.
Digital tools: camera/video
Description:
As homework:

- The groups of students go to the supermarket/market and find the ingredients of the recipes. They read, photograph, scan any labels/sentences/slogans/information on the package or interview the sellers. Take note of the publicity of any sustainable aspect. (They don't have to be afraid if the ingredient/foods do not report any sustainability message, this should be considered as produced by conventional methods).
- Students should look around in the market or in other places for more sustainable alternatives

In the classroom (or at home):

1) Students search information on the meaning of the label and if available, any information about the production system from the internet or from sellers' interviews (in any).

Do you know the specificity of each of these logos?

Figure 2: A few eco-labels

Some links where you they can find information about the labels
https://www.ecolabelindex.com/ecolabels/
https://www.europarl.europa.eu/RegData/etudes/STUD/2022/699633/IPOL_STU(2022)699633_EN.pdf
https://www.moving-h2020.eu/farm-certification-schemes-for-sustainable-agriculture-specifications-for-origin-and-quality-of-the-final-products/
A Review of Eco-labels and their Economic Impact *https://hal.inrae.fr/hal-02628579/document*
https://www.semanticscholar.org/paper/Steps-in-the-Right-Direction%3A-Understanding-Food-Gossenberger-H%C3%A4rnby/f4cc36b2b69a13ccea599b8528b2fa9db2b8b0a8

(Production methods likely reported: e.g., without the use of chemical pesticides or synthesis fertilizers, no genetically modified, produced in an environmentally friendly way etc.)

3) Analysis / Findings

Location: In classroom or at home

Time: 45 minutes

Equipment / Materials: PC, Worksheet – Part 2.

Digital tools:

Description:

Each team may gather all information in a table like the one below and report the findings on the meaning of the labels/interviews.

Produce/ingredient	Type of label of sustainability	Meaning of the label	Slogan on the package	Production method described on the package or on the website of the producer

Conclusion

Duration: 45 minutes

School subjects: any of those involved

Where the activity takes place: In the classroom.

Method (how the students have to work): Students work in groups or as a class.

Equipment / Materials: PC, Worksheet – Part 3.

Digital tools: Software for presentations.

Description:

All teams should gather the findings; they may use a table like the one below and then, answer the following questions to reflect on the sustainability of their food.

Produce/ingredient	*Type of label of sustainability*	*Meaning of the label*	*Slogan on the package*	*Production method described on the package or on the website of the producer*

- *How many ingredients are produced in a sustainable way?*
- *How would you consider the market's offer in terms of sustainability?*
- *What is your opinion on the information on sustainability reported on the package?*

Discussion

Duration: 45 minutes
School subjects: any of those involved
Where the activity takes place: In the classroom.
Method (how the students have to work): Students work as a class.
Equipment / Materials: PC
Digital tools: Software for presentations.

Description:

Students are brainstormed about how to improve the sustainability of the meal/food:

1) They must provide the highest number of solutions to improve the sustainability of the food/meal on the basis of the videos and other sources that have been analysed during the whole activity
2) They have to agree and choose solution(s) to make the food more sustainable e.g., by substituting one ingredient with a similar one that reports a sustainability label.

Students prepare a final outcome that gathers the findings and their reflections and are invited to present it into events at school and outside school.

Other resources:

Sustainable productions:

Organic agriculture in Europe https://agriculture.ec.europa.eu/farming/organic-farming_en This website provides comprehensive information about organic agriculture practices and regulations in Europe

Regenerative agriculture https://regenerationinternational.org/why-regenerative-agriculture/ This website provides basic and clear information about the practices of sustainable and low-impact agriculture.

Biodynamic agriculture https://www.biodynamics.com/what-is-biodynamics This website provides a comprehensive explanation about this type of agriculture.

Agroecology https://www.agroecology-europe.org/the-13-principles-of-agroecology/ This website provides a comprehensive explanation about agroecology approaches and practices.

Irrigation in agriculture:

Irrigation Water Management: Irrigation Water Needs
https://www.fao.org/3/s2022e/s2022e00.htm#Contents

Irrigation in Agriculture: 5 Ways to Artificially Water Crops or Plants
https://www.agrivi.com/blog/five-ways-to-artificially-supply-plants-with-water/

How Much Water Crops Need and Why https://www.twl-irrigation.com/how-much-water-crops-need-and-why/

Use of Fertilizers:

Type of fertilizers: https://www.fertilizerseurope.com/fertilizers-in-europe/types-of-fertilizer/

Is Too Much Fertilizer a Problem? https://kids.frontiersin.org/articles/10.3389/frym.2020.00063

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Worksheet on Sustainability in food labels

This activity will help you to answer the two following questions regarding the meal that you have chosen to investigate in the GOODFOOD project:

- **"What is the environmental impact of your chosen dish/meal?"**

Part 1. Orientation.

Date: _____

Group work (students' names):

_____

_____

Based on the videos/presentations shown,

- *Make a list of the environmental impacts of agriculture on the environment that were mentioned*

  _____

  _____

  _____

  _____

- *Make a list of the solutions that were mentioned to make agriculture more sustainable*

_____

_____

_____

_____

_____

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Part 2. Conceptualization.

Date: _____

Group work (students' names):

_____

_____

Dish/Meal: _____

Do you consider your dish/meal sustainable?

_____

_____

How would you do to know if it is sustainable? Describe the methodology that you would apply in order to know it.

_____

_____

_____

_____

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Part 3. Investigation.

Date: _____

Class work.

Ingredient(s): _____

Where have the ingredients/products been produced?

_____
_____
_____

Are there any labels/slogans related to the ingredient/product? Which ones? Does the producer promote the product as organic?

_____
_____
_____

Make a list of questions you would ask the producer or seller to know about the sustainability of the ingredient/product

_____
_____
_____

Find information about the labels and production methods of the ingredients that are promoted by the producer/sellet or are written on the packaging.

_____
_____
_____

Some links where you can find information about the labels:

https://www.ecolabelindex.com/ecolabels/
https://www.europarl.europa.eu/RegData/etudes/STUD/2022/699633/IPOL_STU(2022)699633_EN.pdf
https://www.moving-h2020.eu/farm-certification-schemes-for-sustainable-agriculture-specifications-for-origin-and-quality-of-the-final-products/
A Review of Eco-labels and their Economic Impact https://hal.inrae.fr/hal-02628579/document
https://www.semanticscholar.org/paper/Steps-in-the-Right-Direction%3A-Understanding-Food-Gossenberger-H%C3%A4rnby/f4cc36b2b69a13ccea599b8528b2fa9db2b8b0a8
(Production methods likely reported: e.g., without the use of chemical pesticides or synthesis fertilizers, no genetically modified, produced in an environmentally friendly way etc.)

Part 4. Conclusion.

Date: _____

Class work.

How many ingredients are produced in a sustainable way? Which ones?

_____
_____
_____

How would you consider the market's offer in terms of sustainability?

_____
_____
_____

What is your opinion on the information on sustainability reported on the package?

_____
_____
_____
_____
_____

Part 5. Discussion.

Date: _____

Class work.

How to make the food/meal more sustainable?

Provide the highest number of solutions to improve the sustainability of the food/meal on the basis of the videos and other sources that have been analysed during the whole activity

_____
_____
_____
_____

Choose solution(s) to make the food more sustainable (e.g., by substituting one ingredient with similar one that report a sustainability label) and explain why

Suggested alternative ingredient and why:

_____
_____
_____
_____