



Learning Unit:

The fat component of the diet - the importance of the quality and quantity of fat in our food.



Worksheets and relevant digital tools are available at the end of this unit and within the GOODFOOD Resources Library (website: https://goodfoodeplus.cebas .csic.es/)

Total duration: ≈12-18 h (complete activity). ≈2-3 h (separate activities).



Theme:Nutritious and Healthy FoodConsumption.

Core concept:

The consumption of high quantities of fat has been associated with an increase in body weight and the development of associated chronic diseases. lt is important to learn and understand that the excess of fat but also the quality of this fat is relevant for the development of diseases. Learning to discern between the healthier and unhealthier types and quantities of fats as well as to estimate the daily amount and type of fat needed will help the students to improve their food choices and to become responsible consumers of the future with improved body health.







Learning Objectives

Students will learn to:

- Plan and develop a research project following a number of steps based on the scientific method.
- Explore the quantity and quality of the fat in different food products: understand nutritional labels and nutritional applications and websites.
- Measure and compare the fat content of different foods by means of an experimental method.
- Estimate the daily fat intake and compare it with the daily reference values: how much do we eat; how much do we need.
- > Understand the meaning of blood lipid levels in relationship with cardiovascular diseases.
- Learn the relevance of understanding and applying to their own dietary choices, the knowledge about the qualitative and quantitative fat composition of a selection of foods and their relationship with disease prevention.







Steps of the Learning Unit

Orientation

Duration: \approx 2 h.

School subjects involved: Biology, Art, English.

Where the activity takes place: classroom/fieldwork.

Method (how the students have to work): in groups.

Equipment / materials: Notebooks, pens, board, mobiles (for taking pictures), colour pencils, paper for drawing, scissors, pins, etc.

Description:

Brainstorming exercise: What do the students know about the fat in foods?

Phase 1. – The students will try to respond to a series of general <u>questions to check their **knowledge**</u> about fat in food (≈30-40 minutes). We include here a list of potential questions:

- 1. Can you define what the fats in food are? Have you ever heard the terms 'trans-fats', 'saturated fats', 'polyunsaturated fats', 'omegas'? Do you know what they are?
- 2. Do we need to eat fat? What for?
- 3. Is the fat bad for our health? How bad is the fat in our diet?
- 4. Can you think of any examples/cases of the relationship between fat intake and a disease or metabolic disease?
- 5. Have you heard about hypercholesterolemia or hyperlipidaemia? Do you know what they mean? Do you know the meaning of having high cholesterol levels?
- 6. Should we eliminate all the fat from our food? Should we avoid foods that contain a lot of fat?
- 7. Is the quantity or the quality of the fat that matters?
- 8. Do you know what the daily recommendation of dietary fats is?

We alternatively propose a **Kahoot – The Fat in our Food** (11 questions, 1 minute/question; link to the pdf with the kahoot questions at the end of this unit).

We can finish this phase by proposing some questions to check the students' interest:

- 1. Do you like knowing/searching for different food products in the supermarket and check/compare their composition by reading the nutritional labels?
- 2. Do you understand the meaning of the information about fat indicated in the nutritional labels?
- 3. Would you like to learn to determine/understand better the fat content in foods?

Phase 2. – In the classroom, and with the help of the teachers, the students will prepare a <u>List of Foods</u> including the foods and ingredients they used in their <u>initial recipe</u>. This list should also include further alternative foods/ingredients. As examples, they may include: oils, butter, margarine, vegetables and fruits,





potatoes, legumes and nuts, meat, fish, sweets, snacks, etc. To introduce ART in this phase, the students will prepare <u>drawings</u>/pictures of the different foods/ingredients (class/homework). Next, and <u>according to their</u> <u>own knowledge/opinion</u>, they will rank the foods in order from those they think have the highest fat content to the lowest one, and will create in the class a **FAT MAP** (e.g. <u>paper poster</u> or a power-point poster, see example below) (≈30-40 minutes?).



Conceptualization

Duration: ≈30 min. School subjects involved: English, Biology. Where the activity takes place: classroom. Method (how the students have to work): in groups. Equipment / materials: notebooks, pens, board.

Description:

The hypotheses to investigate within this Learning Unit will be formulated/discussed in class by the students working in groups. They will then be refined in plenary by the whole class with the help of the teachers. Based on the Orientation phase, the questions will focus on finding out about the differences between the fat content in different foods and how to measure them. The students will include the foods/ingredients present in <u>the recipe they have initially prepared/selected</u>. They should also include additional foods from the previous List of Foods examined during the orientation phase and (or) other foods suggested by the teachers/students. The more choices they have, the better they will be able to compare and differentiate the fats in different foods and to select alternative foods and ingredients that may be used in the preparation of a second healthier recipe.





Hypotheses (examples).

- What is the fat composition/what differences in the fat quantity/quality I find between the different foods/ingredients examined/selected, i.e. those that are part of the initial recipe, other additional ingredients?
- What changes can I make to prepare a recipe/meal with a healthier fat composition than the one in our initial recipe?

Investigation

Core concept: A high intake of fat has been associated with the risk of developing obesity and associated cardiovascular and metabolic disorders. It is important that we learn to choose the right foods/meals with adequate fat quantity and quality. During this investigation, the groups of students will choose, plan and carry out a specific activity to learn/understand:

How to estimate the fat composition in different foods? – Activity 1

How to measure in the laboratory the fat content in different foods? – Activity 2

How to estimate the amount of daily fat we should eat? - Activity 3

Understanding the meaning of BMI and blood lipid levels – Activity 4

Activity 1. – Learning about how to know the fat quantity/quality of foods.

Description:

In this activity, the students will improve their <u>understanding of the nutritional labels</u> as well as learn to use some <u>digital tools</u> to know more about <u>the fat composition of different foods</u>.

Duration: ≈2-3 h.

School subjects involved: Biology, Chemistry, Mathematics, English.

Where the activity takes place: In the classroom and (or) as homework.

Method (how the students have to work): In groups of several students with the help of the teachers/researchers.

> <u>1. Planning the investigation activities.</u>

- Selection of the foods/ingredients that will be investigated including the initial recipe ingredients and/or some alternative ones (from the initial List/Poster).
- o Computers/Mobile phones with Internet connection and Excel program.
- Access to databases and Apps where you can search for the fat composition of foods (List with recommended tools included at the end of the Learning Unit and available through the website).
- > <u>2. Performing the investigation activities.</u>





For the analysis and comparison of the fat composition:

- The students will <u>go to a (super)market</u> and search for as many as possible of all those different foods from the initial List/Map of Foods. They can take pictures/notes of the products and of the <u>nutritional</u> <u>labels</u>, specifically, of <u>the QUANTITY and TYPE of FAT</u> (saturated, unsaturated, polyunsaturated, omegas). In addition, they will also try a <u>mobile App</u> such as YUKA, and note down the results of fat indicated by this App (if they do this task outside the school time, this can take for as long as they like/can; if they go from school, it can take around 50-60 minutes).
- Back in class, the students will <u>use and compare some of the different digital tools (websites)</u> to further investigate the fat content and composition of the foods/ingredients selected (for example, they can use and compare the USA (e.g. FoodData Central) databases against the ones available in their own country/language (e.g. BEDCA for Spain).

> <u>3. Analysis of results and main findings.</u>

The students will organise the results of all the investigations in a **Table of Results – Activity 1** (see Excel file 1 provided to start with) where they will include all the information on the fat composition collected from the different foods/ingredients examined. Importantly, they should <u>check the units</u> in which the fat values are expressed and will convert and present everything in the same units for comparisons between foods and ingredients (g of fat per 100 g of product). They will produce a final list with the fat composition in the ingredients/foods of their recipe as well as that of alternative products. They will also have data from different sources: supermarket nutritional labels, different databases/apps.

According to the information collected in the Table, the students will rank the foods from the highest to the lowest levels of fat, and will check how much of these results agreed with those of the previous FAT MAP, and will reorganise the FAT-MAP accordingly (\approx 30-40 minutes).

An additional suggestion is that searching for and using specific information found in specific websites and the scientific literature, they will try to find out which type of fat is considered healthy/unhealthy (see websites at the end of the unit). Considering this information, they will try to mark out which foods from the Table of results they consider healthier or unhealthier (for example, with a kind of colour code like a traffic light).

The students will prepare a final report of the activity explaining the work done and presenting the results attained with the different approaches. They can also prepare a list of inferences about the use of the different tools: problems encountered, best informative source, etc. These issues will be later presented and discussed during the CONCLUSION and DISCUSSION sections of the project.

Activity 2. – Experimental approach to estimate and differentiate the fat quantity/quality of foods.

Description:

The students will explore some of the differences between the fat present in different foods/ ingredients, and will learn a basic experimental protocol to estimate the fat quantity.

Duration: ≈2-3 h.

School subjects involved: Biology, Chemistry, Mathematics, English.





Where the activity takes place: Laboratory hands-on experience (in the school lab). Method (how the students have to work): in groups of several students with the help of the teachers/researchers.

> <u>1. Planning the investigation activities.</u>

- The students will select and buy the foods that will be used in this experiment. They can work with two or three products. They can use, if possible, some of the foods/ingredients used in the initial recipe and potential alternative foods. But, it is interesting that they can see and compare different foods (i.e. foods that contain visible or invisible fat, different food texture, the fat is liquid or solid at room temperature, and whether they think they are good or bad for your health). Suggestion: crisps, sausage (e.g. salchichón or mortadela in Spain), almonds.
- Prepare the lab material for the experiment: Flasks (20 mL) and measuring cylinders (20 mL), markers, timer, safety goggles and gloves, digital scale, blender, extraction solvent (Acetone), extraction hood or open air/ventilated working area.



> <u>2. Performing the investigation activities.</u>

For the comparison of the fat composition, the students shall follow the next protocol:

- Sample preparation is indicated for <u>each food sample</u> (total material and samples to extract will depend on the number of foods analysed and the repetitions per sample, normally 3 replicates):
- <u>Sample grinding</u>: the sample must be grinded to the smallest particle size possible to get a most homogenous mixture. This can be done, for example, using a kitchen blender or grinder. Keep the final sample in a container and use it as soon as possible. If needed, they can be kept in a fridge at low temperature (e.g. a meat sample or a fruit sample).
- Using the digital <u>scale</u>, weigh a certain amount of the grinded sample (e.g. ≈5 g) into a <u>glass laboratory</u> <u>flask</u> or a 50 mL Falcon tube (marked with the name of your food sample Flask 1). First, weigh the Flask 1 empty, and then weight the Flask 1 with the added grinded sample. Note down the results in the <u>Table of Results 2</u> (Excel file 2).





• Next step is the extraction (make sure you work in a properly ventilated area, outdoors or in an extraction hood if available; IMPORTANT! wear safety goggles and gloves). Pour a certain volume of the organic solvent (acetone), e.g. ≈20-25 mL (you can measure this volume with a glass cylinder) into the Flask 1 with the weighted grinded sample. Agitate thoroughly the sample in the solvent for several minutes (e.g. 10 min) to extract and dissolve the fat in the acetone. Let the solution settle for a while. Weight a second clean empty flask (Flask 2 also marked with the same name of your food sample) and write down the result in the Table of Results 2. Carefully pour the solvent into this new clean weighed Flask 2 covered with a filter so that it retains any solid particles (e.g. fluted paper filter; you can see how to prepare it in the following video <u>https://www.youtube.com/watch?v=caXpfoVqqXo</u>). Only the solvent with the dissolved fat will go through into Flask 2. Apply the extraction protocol to as many food samples as you may have selected (suggestion: for a better extraction, you may like to repeat the protocol with a second additional 10 mL of acetone and collect all the solvent into the same Flask 2).



 <u>Evaporation step</u>. Once you have completed the extraction of your samples, put all the Flasks 2 from the different samples in a ventilated

area. Allow the acetone to evaporate until there is no acetone left. It may take a couple of days (suggestion: cover the flasks with a piece of gauze to avoid small particles or insects getting into the flask; see picture below).

 Weigh the dried Flasks 2 in the digital scale and note down the results in your Table. Calculate the % of fat extracted from the initial sample. Observe the results of the extracted fat in each Flask 2 from the different food samples. Write down your observations (colour, solid or liquid, smell, etc). Saturated fats tend to be solid at room temperature and from animal sources, while unsaturated fats are usually liquid and from plant sources.









> <u>3. Analysis of results and main findings</u>

Include and revise all the data and information collected in a **Table of Results – Activity 2** (Excel file 2). Revise and make sure all the units are the same. Present the results in g of fat per 100 g of product.

Prepare a report of the activity and of the results. These results can be compared with those of the Activity 1 during the Conclusion and Discussion sessions. For this purpose, the students performing the Activity 1 can include in their search the foods that are experimentally extracted. Alternatively, the students doing Activity 2 can also search for the experimental food composition using the databases. The idea is to combine and compare the experimental results with the digital information.

Activity 3. - Search for information about daily fat recommendations.

Description:

The students will estimate *via* Internet and/or Apps how much fat is recommended for them to eat on a daily basis. They will also estimate from the fat content in the selected foods/ingredients how much they are consuming of the daily recommendations.

Duration: ≈1-2 h.

School subjects involved: Biology, Chemistry, Mathematics, English.

Where the activity takes place: In the classroom and (or) as homework.

Method (how the students have to work): in groups of several students with the help of the teachers/researchers.

1. Planning the investigation activities.

- Computers/Mobile phones with Internet connection.
- Digital tools where you can search for the daily fat recommendations and calculations (List with recommended tools included at the end of the Learning unit).

> <u>2. Performing the investigation activities.</u>

To find out how much fat is needed daily:

- The students will determine and compare the <u>daily quantity of fat needed</u> in different people (e.g. some of the participant students, friends, relatives, teachers, etc) using the specific recommended <u>personal nutrients calculator</u> (indicated at the end of the Unit). Try to include very different people in terms of age, sex, body weight and level of activity to find out if there are differences in the recommendations.
- The students will also estimate the habitual <u>serving size</u> of the foods/ingredients in the initial recipe and/or for the alternative additional foods investigated. This can be done by looking at the food label or measuring the quantities using a scale (school, home). Alternatively, they can estimate the quantity using specific guides (see suggested book at the end of the unit). (Suggestion: it may be an interesting activity that the students create their own serving size guide with their selected





food/ingredients (i.e. preparing photographs of the plates and a table with the relationship photo (serving size) and real weight (using a bench scale).

- Using the information acquired from the fat composition of the selected foods/ingredient (they can attain this information with/from their colleagues working in Activity 1), as well as from the daily fat recommendations they have annotated, the students can calculate the percentage of the daily fat recommendations that they are consuming in a serving of the initial recipe/ingredients, or of the alternative ingredients/recipe.
- > <u>3. Analysis of results and main findings.</u>

Inspect and note down the results found using the specific tools and Apps into the **Table of results -Activity 3** (Excel file 3). Prepare a report of the main findings. List of the main problems encountered.

Activity 4. - Search for information about the BMI and levels of lipids in blood and the meaning of these variables.

Description:

The students can explore what is the BMI (Body Mass Index) and the levels of the main circulatory lipids among a number of volunteers and will try to understand the meaning of these values. They will be initiated in the search for scientific information about these issues. They may also investigate which foods are or are not recommended to battle these metabolic alterations.

Duration: ≈2-3 h.

School subjects involved: Biology, English.

Where the activity takes place: In the classroom and (or) as homework.

Method (how the students have to work): in groups of several students with the help of the teachers/researchers.

1. Planning the investigation activities.

- \circ $\;$ Computers/Mobile phones with Internet connection.
- Measuring tape, bathroom scale
- Reliable scientific websites/articles where they can find information about body mass index (BMI), blood lipid levels and the values that are currently accepted as healthy, risk, or unhealthy. (see at the end of the Unit some links to specific databases with cardiovascular information, links to recent scientific articles or, links to scientific databases like PubMed or Google scholar).
- > <u>2. Performing the investigation activities.</u>

The students will:

Estimate the BMI values of as many volunteers as possible (they can include their own BMI values, and the values from members of their family, close relatives, friends, teachers, other classmates). Measure height (m) and body weight (Kg). Importantly, the data must be collected **ANONYMOUSLY**. This means that the students will work using a scientific approach and will give to each volunteer a





reference code (i.e. volunteer 1, volunteer 2, etc). All the values will be included in **Table of results** – **Activity 4** to calculate the BMI using the formula (BMI = Weight (Kg)/Height² (m)). (Suggestion: the students can also try an internet calculator; see links at the end of the Unit).

- Also investigate whether any of those volunteers have a blood analytical report from the doctors indicating the levels of plasma lipids (total cholesterol, LDL, HDL, triglycerides) and will get an ANONYMOUS copy of the report (no name should be included). All the values will also be included in the Table of results Activity 4. If it is not possible to get the medical reports from the volunteers, the student will try to find some examples from internet.
- Will find out from specific websites what are the low/normal/high/ values of BMI and lipid levels and what do they mean (see at the end of the Unit).

Note: If the students get the BMI and the cholesterol report from the same volunteer, this should be indicated in the Tables using the same reference code of the volunteer so that we can know which BMI and cholesterol levels belong to the same participant.

> <u>3. Analysis of results and main findings.</u>

The students will collect all the information in the **Table of results – Activity 4 (Excel file 4)**. Using the information collected, the students:

- will interpret the meaning of the results of the BMI; they will indicate whether the values are considered low/normal/high in the Table of results 4. If they gather information from sufficient volunteers, they can also examine whether they find differences in BMI depending on age or sex (e.g. by means of a figure, comparing mean values, etc).
- 2) will also interpret the values of cholesterol, etc, and indicate whether they are normal or high. If they gather sufficient data, they can also try to find differences between sexes or between ages (e.g. by means of a correlation figure, comparing mean values, etc).



3) Only if the results include a sufficient number of volunteers with both BMI and cholesterol values, the students may want to see whether there is any relationship between the BMI and the cholesterol levels (e.g. by means of a correlation figure).







Conclusions

Duration: \approx 1-2 h.

School subjects involved: Maths, English, Biology.

Where the activity takes place: classroom.

Method (how the students have to work): in groups of several students with the help and collaboration of teachers of different subjects.

Equipment / materials: Notebooks, pens, foods (or photographs of foods/nutrition labels), computers, mobile phones.

Description:

With the results acquired:

- <u>Reporting</u>: the different groups of students will present/explain their report, main findings and conclusions to their colleagues. For this, the students can produce a poster and/or make a presentation (PowerPoint, videos, any other tools they may like, etc).
- <u>Brainstorm</u>: the different groups of students will try to come up with some general common ideas/conclusions with regards to:
 - ✓ How to read and understand the nutritional labels.
 - \checkmark Which digital tools to use to investigate the fat composition of foods.
 - ✓ What general recommendations should be followed in our daily food choices regarding fat.
 - ✓ Which methods can be easily used to estimate the fat composition of different foods and choose the right foods for your recipe.
 - ✓ What the healthier levels of blood lipids and body weight are.
 - ✓ ...

Discussion

Duration: \approx 1-2 h.

School subjects involved: Maths, English, Biology, Chemistry, Art.

Where the activity takes place: classroom.

Method (how the students have to work): in groups with all the students that have participated in the different activities, always with the help and collaboration of teachers of different subjects.





Equipment / materials: Notebooks, pens, foods (or photographs of foods/nutrition labels), computers, mobile phones

Description: In this phase the students will discuss further their own findings by talking about the whole experience and indicating what were the main difficulties they found, what things they did not understand so well, or what phases they found more difficult to perform, what they liked most, what they did not like, what they have learned about fat and its relationship with health, etc

With the knowledge acquired, the students can:

- Propose alternative foods/ingredients that may be used to prepare an improved recipe taking into account these changes/recommendations: "healthier recipe".
- How much has that second recipe been improved? How much have they reduced/changed the intake of fat? Work out the new fat values and the % of daily recommendations that these changes promote.
- Propose general changes/recommendations in their food habits concerning the fat content/composition to try to change to healthier foods.
- Propose a simple label/advertisement/video (?) with the information <u>about fat</u> that they would consider important to help the consumers make a healthier choice (for example, something like a traffic light system: red colour for unhealthy, orange colour for moderately unhealthy, green colour for healthy in a similar manner to the NutriScore system).
- Ask and discuss in a <u>forum</u> questions like:
 - Has the whole experience changed their thoughts about eating certain fatty foods?
 - Do they think they will change some of their habits?
 - Have they eliminated some of the fattiest foods they normally ate?
 - Do they think they will like to go shopping in the supermarket more often and check the food they buy?
 - Have they noticed any modification of their shopping/eating habits?
 - Have they shared this knowledge/experience with their parents or other relatives? Did they understand the experience and were motivated to make some changes?

Link and Worksheets Templates

Kahoot about the Fat in Foods:

https://drive.google.com/file/d/1uIsZy_OazbOnIMHjuC6N4Ns_3IQYeNR_/view

Table of Results – Activity 1 (Excel file 1):

https://docs.google.com/spreadsheets/d/1x4VmdsxsLM6IFkoAtBOKYi3A9ElvkOPr/edit#gid=535691890





Table of Results – Activity 2 (Excel file 2):

https://docs.google.com/spreadsheets/d/1Cx78kB2zZZsBXwBjALc5eleSJdNx0zca/edit#gid=520788022

Table of results - Activity 3 (Excel file 3):

https://docs.google.com/spreadsheets/d/1sdtRArgKEB44Pffp1p7ZiTxKnjxKW9DM/edit#gid=1158783858

Table of results – Activity 4 (Excel file 4):

https://docs.google.com/spreadsheets/d/1lhlvoSfUJ6CJjeddSiQsOPRVPFrt6cJu/edit#gid=871429897

Recommended Digital Tools and informative websites

Databases for Fat Composition

FoodData Central*: <u>https://fdc.nal.usda.gov/</u> - Integrated data system that provides expanded nutrient profile data and links to related agricultural and experimental research. English - <u>USA</u>.

FOODB: <u>https://foodb.ca/</u> - The world's largest and most comprehensive resource on food constituents, chemistry and biology. It provides information on both macronutrients and micronutrients, including many of the constituents that give foods their flavour, colour, taste, texture and aroma. FooDB is offered to the public as a freely available resource. English - <u>Canada</u>.

SPAIN

BEDCA*: <u>https://www.bedca.net/bdpub/index.php</u> - Spanish Food Composition Database. Spanish - Spain

BADALI: <u>http://badali.umh.es/home</u> - Spanish Nutrition Database with general composition of many foods as well as information on many nutritional and health issues. Spanish - Spain

ITALY

Italy BDA: <u>https://bda.ieo.it/</u> Banca Dati di Composizione degli Alimenti per Studi Epidemiologici (Italian and English).

Italy AlimentiNutrizione: <u>https://www.alimentinutrizione.it/</u> - CREA Centro di ricerca Alimenti e Nutrizione (Italian).

GREECE

FAO Food-based dietary guidelines:

https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/greece/en/





Nutritional Apps

MYFOODDATA*: <u>https://www.myfooddata.com/</u> (A very complete and easy to use application with many different tools to work on nutrients, food composition, calories, etc. Based on USDA Food Data Central. Recommended App but it has information mainly on USA foods and may not contain specific foods from other countries).

YUKA: https://yuka.io/es/aplicacion/

Fat needs and recommendations

Personal Nutrients Calculator: <u>https://www.nal.usda.gov/human-nutrition-and-food-safety/dri-calculator</u> - Calculator of your own recommendations based on your sex, age and BMI. English – USA.

Websites for rapid and useful conversions

Potent calculator with many different conversions for multiple variables

https://www.omnicalculator.com

Examples:

Conversion from grams of fat to calories:

https://www.omnicalculator.com/conversion/grams-to-calories

Conversion for cholesterol levels

https://www.omnicalculator.com/health/cholesterol-units

Conversion between pounds and grams:

https://www.omnicalculator.com/conversion/g-to-oz

https://www.rapidtables.com/convert/weight/pound-to-gram.html

Serving size guides

Spanish guide (Copy at CEBAS): <u>https://www.finut.org/guia-fotografica-de-porciones-de-alimentos-consumidos-en-espana/</u>

Websites for checking the levels of blood lipids and BMI

John Hopkins Institute (English): <u>https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/lipid-</u>panel#:~:text=Normal%3A%20Less%20than%20200%20mg,or%20above%20240%20mg%2FdL

Medline (Spanish): https://medlineplus.gov/spanish/cholesterollevelswhatyouneedtoknow.html





BMI Tables and calculator: <u>https://www.cdc.gov/obesity/basics/adult-</u> defining.html#:~:text=If%20your%20BMI%20is%20less,falls%20within%20the%20obesity%20range

Websites for checking information about fats in foods and their effect on health

Harvard school of Public Health – The Nutrition Source:

https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/fats-andcholesterol/#:~:text=Choose%20foods%20with%20%E2%80%9Cgood%E2%80%9D%20unsaturated,nuts%2 C%20seeds%2C%20and%20fish.

WHO Healthy diet: https://www.who.int/news-room/fact-sheets/detail/healthy-diet

Health partners: https://www.healthpartners.com/blog/unhealthy-vs-healthy-fats/

The students may search for related scientific papers at:

GOOGLE scholar: https://scholar.google.es/

Example: search for 'fats health review'. The students will find many different articles. I include here some specific references that may be interesting for them to read/check:

Trans fats—sources, health risks and alternative approach - A review (https://link.springer.com/article/10.1007/s13197-010-0225-8).

Dietary Fats and Health: Dietary Recommendations in the Context of Scientific Evidence (https://academic.oup.com/advances/article/4/3/294/4591609?login=false).

Saturated Fats and Health: A Reassessment and Proposal for Food-Based Recommendations: JACC State-of-the-Art Review (<u>https://www.jacc.org/doi/abs/10.1016/j.jacc.2020.05.077</u>).