



Sustainable Consumption

Food in a globalised world

 13-16

 4 x 45 min.

 board/flip chart; buttons; dice; blank flashcards; smartphones/computer with internet access for students; mounting material (magnets / tape / push pins); moderation cards; sewing needles; blank note cards; colored A4 printing paper; pens; computer with internet access and attached projector; mobile phone or other recording device; writing utensils (as needed); white board; scraps of wool and fabric; computer workstations or mobile terminals; world map;

 The topic of food encompasses issues from development policy relating to labour, responsibility, the environment, and the global use of resources.

 [Biology](#) [Communication](#) [Cosmopolitan issues](#) [Dialogue](#) [Diversity](#) [English](#) [Ethics/Religion](#) [Geography](#) [History](#) [IT](#)
[Language](#) [Media Education](#) [Political Studies](#) [Signs](#) [Social Studies/Civic Education](#) [Social Learning](#) [Symbols](#)



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Introduction

Background information and didactical perspective

There are few topics that illustrate the divided state of our world as starkly as does that of food. Approximately 800 million people worldwide without enough to eat contrast with the unprecedented levels of food waste in industrialised states. The UN Sustainable Development Goals (SDGs) include ending hunger, achieving food security and improving nutrition as well as promoting sustainable farming. This module's purpose is to support teachers across subjects in incorporating global perspectives and participatory methods into their classroom practice when teaching on the topic of food. In accordance with its pupil-oriented approach, it takes learners' own lives and experiences as the starting point of the learning process.

Learning outcomes

Competencies

Changing perspective; handling complexity; understanding diversity; making connections between local and global contexts

Topics / National curriculum

Ability to exercise critical judgement on political processes and act in the political sphere; the economy; globalisation; diversity

Lesson plan

Abbreviations:

A = Activity

D = Discussion

GW = Group work

IW = Individual work

HW = Homework

PW = Partnerwork

PTS = Previous Teacher's Study

PO = Pupils opinions

PP = Pupil's presentations

TP = Teacher's presentation

Lesson No 1 : The fish for my Sushi

In this lesson, pupils learn about various fishing methods and their impact on the environment and on fishers' lives, as well as about sustainable fishing methods. Pupils reflect upon their feelings about the content.

Phase	Content	Media, Material
Introduction (5 min.) TP	<p>This lesson encourages pupils to think about sustainable fishing. Most of this unit takes place in small-group work. The lesson ends with a whole-group discussion. The activity is designed for 8-30 pupils.</p> <h3>Objective</h3> <ul style="list-style-type: none">• By the end of the lesson, the pupils will have learned about various fishing methods and their impact on marine flora and fauna.• Pupils will have explored the impact of non-sustainable fishing on people and the environment. <h3>Preparation</h3> <ul style="list-style-type: none">• Copy the handout on <i>Fishing</i> for each small group. Make one copy of the discussion cards on 'Fishing' and cut them out so that each group can be given one card. <h3>Execution</h3> <p>Step 1 Read out the paragraph headed 'Fish' from the <i>background information on sushi</i>.</p>	M1 Background information "Sushi"

Main section
(35 min.)

A GW
PO PP

Execution

Step 1 Divide the pupils into four small groups. Give each group the handout detailing fishing methods.

Note: The first five fishing techniques listed on the handout are regarded as sustainable in the English-speaking world. However, other countries (e.g. Germany and Austria) do NOT consider purse seining and gillnetting to be sustainable. Selective fishing methods are generally preferable to non-selective ones, because they are targeted at specific species or individuals and do not produce bycatch. Such methods include handlines, rods, fishing lines, or baskets for catching shellfish. Check regulations for your own country!

Step 2 After reading the information about fishing methods to one another in their small groups, pupils should divide the techniques into sustainable and non-sustainable methods.

Step 3 Get two posters or flip chart sheets ready, one each for sustainable and non-sustainable methods. Get the whole group back together and ask the small groups to report back on their categorisations.

- Are the groups in agreement?
- What is the impact of the methods described on marine fauna?
- Which are the most frequently used methods?
- How can you tell whether a fishing method is sustainable?
- What are the advantages of sustainable fishing methods for people and planet?

Step 4 Now move on to the discussion cards. Each small group should be given a card to discuss, and should consider the relevant impact on the environment and marine life and on people. Ask the groups to note down their thoughts on a poster or large sheet of paper (discussion results).

M2
Handout "Fishing"

M3
Cards "Fishing"

Discussion
(10 min.)

D PO

Step 1 Display all the posters together, each one with its discussion card. The pupils should now move from poster to poster and read them all.

Step 2 After this, bring the whole group together and give them the following instructions for the discussion:

- Describe the aspects of fishing you have found out about today
- Mention any facts that shocked or surprised you
- Compare and contrast your newly acquired knowledge with what you knew about the subject beforehand. What has changed?
- Tell the group whether there is anything you would like to change about the situation you have been learning about.

Lesson No 2 : Your global pizza

This lesson will encourage pupils to think about global challenges in the context of food. The use of pizza as an example for discussion of these challenges creates a direct link to pupils' daily lives and makes this abstract topic more accessible.

Phase	Content	Media, Material
Introduction (10 min.) PO	<p>The pupils will think about global challenges in the context of food. Most of this unit takes place in small-group work. The lesson ends with a whole-group discussion. The activity is designed for 5 to 30 pupils.</p> <h3>Objective</h3> <ul style="list-style-type: none">• By the end of the lesson, the pupils will be able to identify connections between food consumption and global challenges.• Pupils will have learned about the potential impact of their and others' eating habits.• Pupils will have become aware of the close interconnections between the food industry and the environment. <h3>Preparation</h3> <ul style="list-style-type: none">• Make enough copies of each activity sheet (<i>Pizza.Part I</i> and <i>Pizza.Part II</i>) for each small group to have one copy of each to work with. <p>Step 1 Ask the pupils which issues they perceive as 'global challenges'. In other words, ask them to name problems which affect all (or a large number of) people around the world and which need to be solved by people working together.</p> <p>Step 2 Write up their views and suggestions on the board (discussion results).</p>	Additional material <ul style="list-style-type: none">• pens
Main section (30 min.) A PO GW PP D	<p>Step 1 Each small group of up to 5 pupils will now work with the <i>Pizza.Part I</i> activity sheet. The pupils should read the list of global challenges on the activity sheet and select the eight challenges which they consider to have the closest connection to pizza production and write them down in the eight pizza slices. Each small group should discuss the reasons for their choice. Make sure all pupils understand the terms and concepts in the list on the activity sheet and give explanations where necessary.</p> <p>Step 2 Are all the challenges equally important? <i>Pizza.Part II</i> of the activity requires the pupils to discuss and decide on the importance, in their view, of their eight selected challenges. Their task is to divide a 'pizza' into eight slices, whose size can vary according to the importance they ascribe to each challenge. The bigger a slice, the more important the group considers tackling the challenge to be. The pupils should also think of arguments and reasons to justify their choice and their ranking of the challenges.</p> <p>Step 3 Now the small groups should discuss and decide the extent to which they, as consumers, can exert their influence over the eight challenges on their pizza. To illustrate this, they should shade in, using coloured pencils, the proportion of each pizza slice which represents the extent to which they believe they can influence the challenge.</p> <p>Step 4 Ask the pupils to present their results to the whole class and explain how and why they chose the 'toppings' for their pizza. Discuss the similarities and differences in the groups' results.</p>	M4 Worksheet "Pizza, Part 1" M5 Worksheet "Pizza, Part 2"

Discussion
(10 min.)

Now it is time to have a whole-class discussion of the exercise so that pupils can reflect on it and make links between their pre-existing knowledge and experience and the things they have learned during the activity. Give the following instructions to the class:

D **PO**

- What did you think of this activity? Mention things you found difficult.
- Summarise the new things you have learned from the activity.
- Discuss the responsibility and influence we have as consumers.

Lesson No 3 : Hot chocolate – organic and fair

The aim of this lesson is for pupils to learn about fair trade, organic products and locally sourced food.

Phase	Content	Media, Material
Introduction (5 min.)	<p>In this lesson, pupils learn about fair trade, organic products and regionally sourced food. Most of this unit takes place in small-group work, with a period of internet research. The lesson ends with a whole-group discussion. The activity is designed for a maximum class size of 30.</p> <h3>Objective</h3> <ul style="list-style-type: none">• Pupils will gain awareness of issues around fairly traded and organic products and regional produce.• They will learn about the differences between various ways of producing food and growing produce. <h3>Preparation</h3> <ul style="list-style-type: none">• Collect at least 5 examples of packaging for each of the following products: cocoa, vanilla, milk and sugar.• Shortly before the activity begins, place the packaging samples on four tables (one for each of four small groups), with one product (cocoa, vanilla, milk, sugar) per table. <h3>Execution</h3> <ul style="list-style-type: none">• Divide pupils into 4 small groups. Each group is assigned to a particular product (for instance, group A gets milk, group B sugar, and so on). The groups sit down at the appropriate tables.• Tell the students that they are now going to take a closer look at the ingredients of a typical cup of drinking chocolate, with each group focusing on one ingredient.	

Main
section
(30 min.)

Step 1

Give the pupils the task of categorising the examples of product packaging on their table as follows:

GW A

- Fairly traded
- Conventionally farmed/produced
- Organic
- Regional produce

You might want to supply the pupils with Post-It notes or plain labels which they can stick onto the packaging, or give them the cards from the *Categories* worksheet and get them to place the relevant packaging around each category card. Pupils should be able to assign a product to more than one category.

Step 2

Then ask the groups to go from table to table and look at the products and categories on each table.

Once all pupils are sitting down again, ask them how they assigned the products to the correct categories. Lead a brief discussion, noting any important points on the board or a flip chart.

Step 3

The pupils will now find out more about the ingredients of a typical cup of drinking chocolate by researching them online. You can copy the worksheet for them to note down results.

M6
Cards

M7
Worksheet "Internet
research"

Additional material

- smartphones/computer with internet access for students

Discussion
(10 min.)

D PO

Now it is time to have a whole-class discussion of the exercise so that pupils can reflect on it and make links between their pre-existing knowledge and experience and the things they have learned during the activity. Give the following instructions to the class:

- Tell us what additional information you found online.
- Tell us what you found out during the activity that you didn't know before.
- Talk about how you might be able to find out where a food product comes from and how it was produced and traded.

Lesson No 4 : Your daily products

The sequence concludes with pupils exploring products they encounter in their day-to-day lives. This will help them appreciate that they, like all other people, are global citizens, as well as raising awareness of ways in which they might take action to initiate change.

Phase	Content	Media, Material
Introduction (45 min.) A GW PO PP D	<p>To conclude the sequence, pupils explore products they encounter in their day-to-day lives. This helps them appreciate that they, like all other people, are global citizens, and raises awareness of ways in which they can take action to initiate change. Most of this unit takes place in small-group work. The lesson ends with a whole-group discussion. The activity is designed for 6 to 30 pupils.</p> <h3>Objective</h3> <ul style="list-style-type: none">• At the end of the lesson, pupils will feel encouraged and inspired to get involved in campaigning for change.• Pupils will have learned how to discuss potential solutions to environmental and societal challenges.• The lesson will have laid the foundations for pupils' continued interest in food issues and potential involvement in action for change. <h3>Preparation</h3> <ul style="list-style-type: none">• Provide each small group with a set of 11 laminated A5 cards giving ideas for action. <h3>Execution</h3> <p>Step 1 Ask the pupils: 'What can I do to make my food more eco-friendly and fair on its producers?' Write the question on a poster or flip chart sheet, a PowerPoint slide, or the blackboard or whiteboard. Give the pupils 20 seconds to think about the question by themselves. Tell them they can close their eyes while they think if they want to. Then give the pupils one minute to share their ideas with a partner.</p> <p>Step 2 Divide the pupils into 3-5 small groups of 2-5 people. Explain that each group will now be given a set of 11 cards. Explain that nine of the cards have pre-prepared ideas on them, that two of them are for creating a rank order of ideas ('Lowest impact' and 'Highest impact'), and that there will be a twelfth, blank card for ideas of their own. Read out the ideas on the nine pre-prepared cards and give the groups the task of ranking the cards in accordance with the degree of positive impact they think each idea could have. They should put the card with the – in their view – highest-impact idea furthest to the left (or at the top), and the one they think would have the lowest impact furthest to the right (or at the bottom), arranging the others in between in descending order of impact. Give each group a set of cards, reminding them that there is a twelfth, blank card for their own ideas. Now allow the groups 15 minutes to agree on a rank order. Go round and make sure that everyone has understood the task.</p> <p>Step 3 Ask each group to present their ranking and their own ideas to the others.</p>	M8 Cards "Ideas for action"

Discussion (10 min.) The aim of the subsequent discussion is to reflect on the activity or share thoughts on the pupils' rankings and their own ideas. You should decide on the appropriate amount of time for the discussion in accordance with your judgement and your specific aims in teaching the session.

You might give pupils instructions such as these:

- Working in your group, make notes about how you reached your ranking decision and note down which positionings were particularly unanimous and those which took a lot longer for you to agree on.
- Tell one another what you learned from the activity that you didn't know before.
- Discuss and agree on some feedback on the activity.

M1 Background information “Sushi”

Sushi in its original form comes from south-east Asia and was known as narezushi. It was salted fish wrapped in fermented rice and stored for several months. The fermented rice stopped the fish from going bad. Only the fish was eaten; the rice was thrown away. The word sushi is an old grammatical form which has fallen out of use in other contexts and literally means ‘sour’, a reference to the food’s fermented origin. Today’s sushi has little in common with the way it was prepared originally.

The sushi made and eaten today consists of rice, raw fish, seaweed and vegetables. It has become popular throughout Europe and there are sushi restaurants in almost every town and city. But how eco-friendly is the sushi we enjoy so much, and how fairly is it produced? This activity will focus on one of the main ingredients of sushi: fish (such as salmon or tuna). This background information also contains a brief overview about rice and on the certification of fish.

Rice

Rice is the basic staple in the diet of almost half the world’s population. Rice has been cultivated for around 10,000 years. Today, around 144 million rice farms grow this crop, most of them on an area of less than one hectare. There are about 40,000 varieties of rice in the world, with differences in shape, colour and nutritional content. Although rice production is one of the world’s most important industries, only 7 % of the world’s rice yield is exported from its countries of origin.

Predictions of population growth issued by the United Nations and projections on income development drawn up by the Food and Agricultural Policy Research Institute (FAPRI) estimate that global demand for rice will increase from 439 million tons (white rice) in 2010 to 496 million tons in 2020 and 555 million tons in 2035. In order to cope with this rising demand, scientists have developed various high-yield varieties of rice to provide higher yields per hectare and enable several harvests each year. However, these developments present new challenges, such as the greater toll they take on the ecosystem and shorter recovery cycles for the soil, the loss of original varieties, changes in nutritional content, and new structures of seed ownership which may mean farmers have to pay licence fees for seed to big corporations.

Fish

Sushi can be prepared using various different types of fish. The ones we are most familiar with are salmon and tuna. The activities in this unit revolve around fish in general and take a look at the challenges associated with the fish industry. Millions of families across the globe depend on fishing for their livelihoods. However, increasing demand for fish and industrial fishing methods now pose a threat to marine flora and fauna and to those working in fishing. Every year, 93 million tons of fish and seafood are caught in the world’s seas and oceans. On average, each of us consumes 14 kg of fish and seafood per year, and for around 2 billion people these foods make up the main part of their daily diet. Population growth is pushing up demand for fish and seafood.

So they can make bigger catches, the trawlers (fishing boats using nets called trawls which are dragged through the water) used by commercial fishing operations are getting larger and larger, as are the nets themselves. The nets literally plough the sea bed in order to increase catch; this destroys the vegetation and the sea life which support and sustain marine ecosystems. Another effect of modern industrial fishing methods is that young fish are caught before they have had an opportunity to reproduce, which means that fish populations cannot replenish themselves. Large amounts of by catch make the problem worse. The increasing overfishing of the world’s seas means that making a living is ever more challenging for small-scale fishers, many of whom are at risk of poverty.

Fewer and fewer fish are caught in the wild these days; fish farms, an industry also known as aquaculture, meet consumer demand for fresh fish. Pollution-free and environmentally responsible fish farms do not pose a problem for marine life, but most fish farms use chemicals and antibiotics which contribute to polluting oceans and seas.

Certification

The best-known certifications for sustainable fisheries are the MSC label for wild fish and the ASC label for aquaculture produce. These are internationally recognised certification systems. Products meeting these certification criteria have been available in supermarkets for many years. These types of certification and labelling programmes monitor the way in which products are produced and issue strict criteria to protect the health and continued existence of fish stocks and entire

ecosystems. Other relevant principles include minimising impact on the environment, responsible and efficient management of fisheries, only fishing in permitted waters, and adherence to regulations on fish feed and hygiene.

M2 Handout “Fishing”

Gathering by hand

This highly selective method involves divers harvesting fish and seafood such as shellfish and lobster by hand, usually with the aid of tongs or rakes.

Angling/handlining

These techniques are similar to traditional fishing. Fishers in boats use one or several fishing lines with hooks and bait attached. This fishing technique does not damage the environment and is considered relatively selective.

Purse seining

Purse seines are nets 120 to 250 metres wide and up to 2 kilometres long which are set in a ring shape, like a bag, around a shoal of fish. Purse seining is relatively selective and has no negative impact on the environment. The bottom part of the net is drawn together, imprisoning the fish as if in a gigantic bag or pouch. Catches are boosted by means of what are known as Fish Aggregation Devices (FADs), objects that swim in the water and exploit the natural instinct of many species of fish to form groups around such objects. They attract small fish which are then followed by larger fish. The use of FADs produces large amounts of bycatch.

Gillnetting

With the aid of floats and weights, rectangular nets are set up vertically in the water. Fish swim into this ‘wall of nets’ and become entangled in the fine netting. This method usually produces small amounts of bycatch and minimal impact on the environment.

Harpooning

A highly selective technique involving the targeted spearing of individual fish.

Beam trawling

Beam trawls are nets held open by a beam and dragged across the sea bed, causing damage there. It is a non-selective fishing method.

Trawling: Bottom trawling

In this kind of trawling, the net is held open by floats (a floating object made of light plastic, cork or wood and attached to a fishing line). As a general term, trawling refers to fishing using nets dragged (trawled) behind a ship or boat. Trawls are the most important fishing devices used in deep sea fishing today. The dragging of the nets across the sea bed destroys it. This is a non-selective method.

Bottom longlining

A longline (up to 150 km long) with baited hooks attached is sunk using weights and anchored to the sea bed. Longlining produces high amounts of bycatch and can be destructive to the environment when the lines are hauled in.

Trawling: Pelagic trawls

Unlike bottom trawls, pelagic trawls are not dragged across the sea bed, but through the water. This means that the sea bed is not destroyed, but bycatch rates are high, so this is a very non-selective method.

Pelagic longlines

This technique uses a longline with a large number of baited hooks attached to fish at the water surface. It does not damage the environment, but produces high bycatch rates and is very hazardous to sharks and marine turtles.

Trawling: Bottom trawls with otter boards

These are bottom trawls held open, not by a beam as in beam trawling or a float as in conventional bottom trawls, but by boards known as otter boards attached at the sides to spread the net’s opening.

Mussel dredging

In this technique, a sack-shaped net or metal basket fixed to a frame is dragged across the sea bed, taking with it everything that is in its way. This is another method with high bycatch and environmental impact.

M3 Cards “Fishing”

The depletion of fish stocks

Overfishing in our seas and oceans means that fish stocks are continuously shrinking. Fish are caught in large numbers, often before they have had a chance to reproduce, meaning stocks are not replenished.

Many fish which are not part of the target catch fall victim to fishing practices as ‘bycatch’. Worldwide, up to 40% of catches can be bycatch; in Senegal the figure is up to 75%.

Bycatch is usually thrown back into the water, but by this time it is already dead.

- What do you think about these facts? What do you feel as you read them? Can you think of any potential solutions? Imagine you worked in wildlife protection. Which arguments would you put forward to try and change things? What if you were conservationists, concerned with protecting the environment in general? How would you argue for change then?

International trawlers versus local fishing boats

Our seas and oceans have become the scene of intense competition, with international trawlers catching all the fish and leaving very few or no fish for local small-scale fishers to catch.

This forces fishers to travel further and further from the coast to find fish, as the waters near the coast are depleted.

Overfishing has led to an unemployment rate of 80% in the fishing sector in Senegal.

Many fish factories in Senegal have had to close down.

- What do you think about these facts? What do you feel as you read them? Can you think of any potential solutions?
- Imagine you are the children of a fisher in Senegal. How do you think you would feel about the situation? What impact might these facts have on your life?

Illegal fishing

Illegal fishing practices include catching fish using banned fishing devices, during periods when fishing is prohibited or in conservation areas. Other instances involve catching species of fish for which the fisher does not hold a licence or catching too many fish.

Not all states strictly monitor their fishing fleets. International maritime law contains enough loopholes for those operating illegal fishing vessels to escape detection and punishment.

Estimates have put the proportion of illegal catches in West Africa at 37%.

Senegal loses 300 million US dollars per year due to international trawlers fishing illegally.

- What do you think about these facts? What do you feel as you read them? Which do you think are the key problems here?

Fisheries agreements with the EU

In 1979, Senegal became the first country in sub-Saharan Africa to sign a fisheries agreement with the EU (then European Community). Its fishing industry collapsed due to overfishing and the agreement was not renewed in 2006.

In 2015, the EU and Senegal entered into a new agreement which permitted the EU to fish (mostly for tuna) in Senegalese waters using up to 38 fishing vessels in return for payment of 8.69 million euro.

Local fishers were not involved in the negotiations leading up to this agreement.

- What do you think about these facts? What do you feel as you read them? Do you think it is acceptable to leave local fishers out of negotiations of this kind, or not? Why do you hold this view?
- Imagine you are fishers from Senegal. How do you think you would feel about this situation?

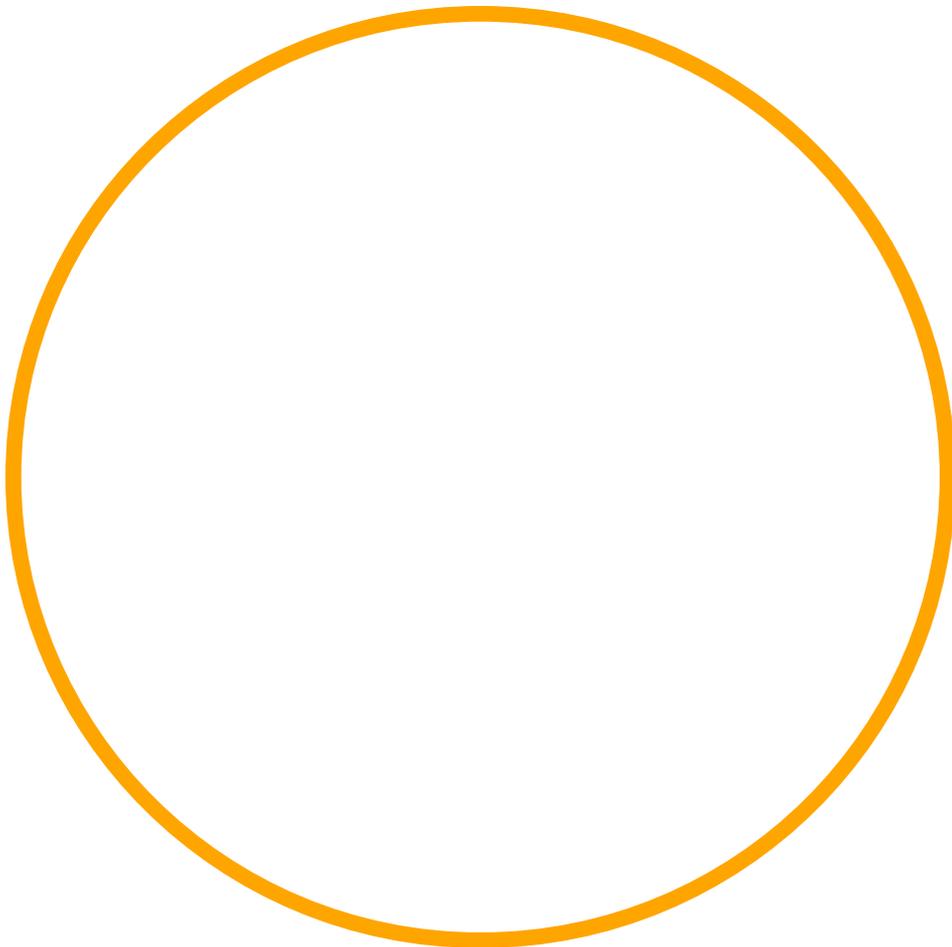
M4 Worksheet “Pizza, Part 1”

Here is a list of global challenges. Pick out eight of them which you think are closely related to the production and consumption of pizza. Write one of these eight challenges in each of the pizza slices on the sheet. Prepare arguments to explain your choice.

Global challenges:

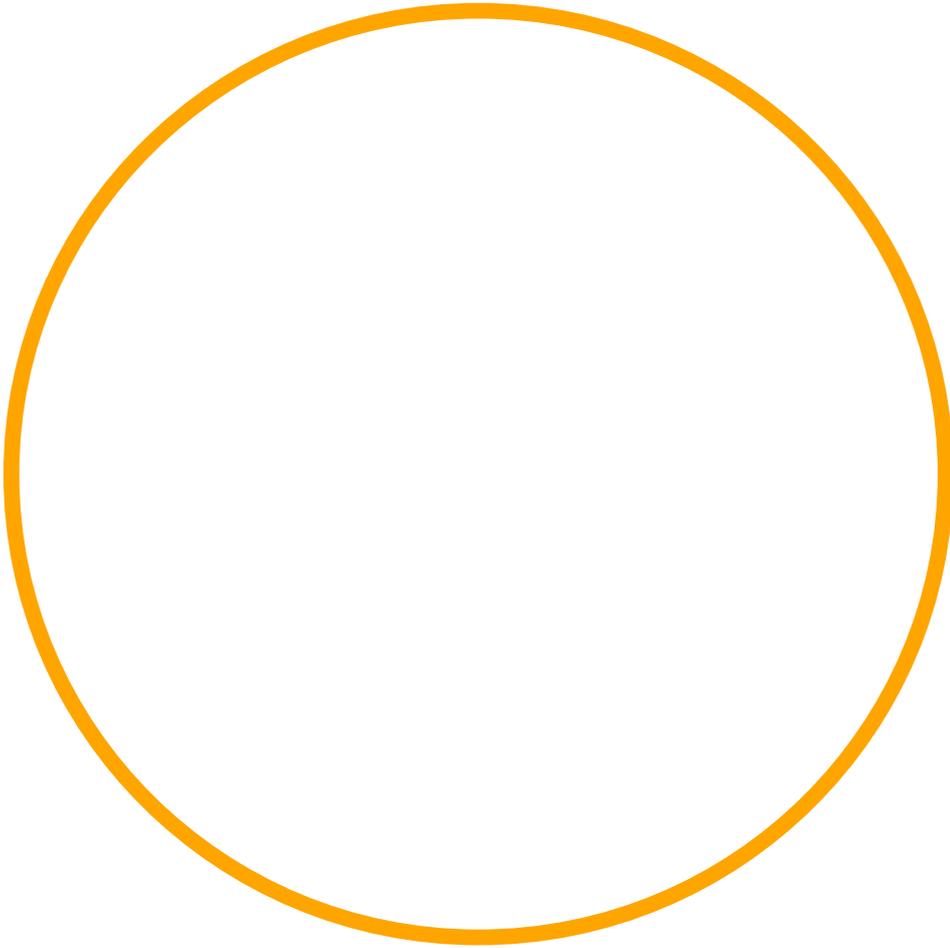
Environmental pollution
Depletion of natural resources
Sustainable development
Biodiversity
Human rights
Employee rights
Animal rights
Food security
Poverty and hunger
Sustainable agriculture

Health
Trade
Active citizenship
Intercultural dialogue
Social justice
Our consumer society
Food waste
Equality between the sexes
Cultural adaptation



M5 Worksheet “Pizza, Part 2”

Divide the pizza into 8 slices, one for each of your selected challenges. Choose the size of each slice to reflect how important you think each challenge is. The bigger the slice, the more important the challenge.



M6 Cards

fairly traded

conventionally farmed
/ produced

organic

regional produce

M7 Worksheet “Internet research”

The product I am researching is:

important facts about the product that I didn't know until I started researching it:

I found information on this website/these websites:

Who published the information? Who runs the website or websites?

What points of criticism about the product or its production process did I find?

In my view, the most interesting fact I have found is:

I think the biggest problem related to the product is:

M8 Cards “Ideas for action”

Persuade your family and friends to buy fairly traded products in future.

Find out about the food you eat. You could use the internet or contact organisations involved in campaigning about food issues.

Sign an online petition protesting against unfair trading practices (e.g. TTIP).

Become a vegetarian or a vegan.

Donate food to your local food bank.

Your idea

Grow your own food.

Donate food to your local food bank.

A food bank is an organisation which collects donated food, some of which might otherwise be thrown away, and distributes it to people in need.

Take part in a demonstration for food justice.

Contact politicians and talk to them about your concerns.

Lowest impact

Highest impact