

Revision Checklist – Food For Thought

	Revised for homework? (1)	Revised for homework? (2)	Revised in lesson?
Food insecurity.			
Distribution of food insecurity.			
Causes of food insecurity.			
Effects of the food system.			
Sustainably producing food.			
Geographical skills.			



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Are we feeding everyone properly? (1 / 2)

Core Knowledge

Key terms

- **The food system:** all of the steps a food goes through from being produced (made) to being consumed (eaten). For example, packaging & transporting.
- **Crop yield:** the amount of crop grown per area of land.
- **Undernutrition:** when people do not consume (eat) enough calories to be healthy.
- **Obesity:** when people have an excess amount of body fat that may impair their health.
- **Food security:** having reliable access to enough safe, nutritious food to maintain a healthy and active life.
- **Food insecurity:** being without reliable access to enough safe or nutritious food to maintain a healthy and active life. Undernutrition and obesity are both examples of food insecurity.
- The NHS recommends 2,000 calories per day for women and 2,500 for men.

Revision Questions

What is the food system?

What is crop yield?

What is undernutrition?

What is obesity?

What does food security mean?

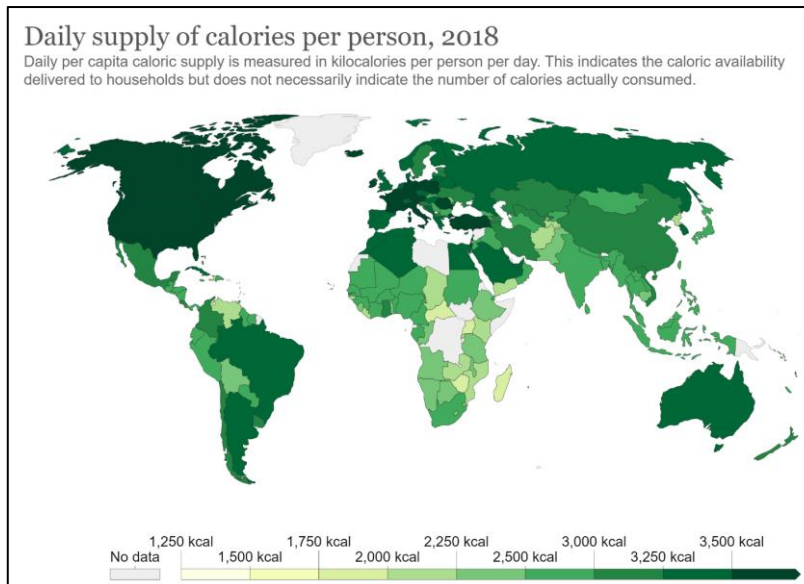
What is food insecurity?

Give two examples of types of food insecurity

Are we feeding everyone properly? (2 / 2)

Core Knowledge

Overall, most countries around the world have access to enough food. On average, sub-Saharan Africa has the lowest daily calorie intake. For example, Central African Republic and Madagascar consume less than 2,000 calories per day. On average, Europe and North America consume too many calories (3,250 per day). Therefore, we are not feeding everyone properly as not everyone has access to enough calories and some people have too many calories.



Revision Questions

Describe the global distribution of food insecurity

Are we feeding everyone properly?

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Why are we not feeding everyone properly? (1 / 2)

Core Knowledge

Lack of technology

- Farmers can use different types of technology to increase food supply. For example, fertilisers can be added to the soil to help plants grow faster and taller. Pesticides can be sprayed on fields to kill pests that could eat crops.
- LICs may not be able to afford these technologies. As a result, less food is grown.

Climate change

- Climate change is causing more extreme weather around the world. Rainfall is increasing in some places but decreasing in others. Higher temperatures and unreliable rainfall make growing crops difficult. This means that farmers may have lower yields and there may not be enough food to go round. As a result, people may be food insecure.

Conflict

- Conflict can affect food supply because it can lead to the destruction of crops and livestock. War can also force farmers to flee their land or to fight in conflict. Food can be used as a weapon, with enemies cutting off food supplies in order to gain power. As a result, people do not have access to enough food.

Revision Questions

How can poor access to technology cause food insecurity?

How can climate change cause food insecurity?

How can conflict cause food insecurity?

Give three causes of food insecurity.

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Why are we not feeding everyone properly? (2 / 2)

Core Knowledge

Revision Questions

Poverty

- In both HICs and LICs, people with low incomes will often have to spend a large proportion of their money on food. This means that if food prices change, people may no longer be able to afford enough safe, nutritious food. Alternatively, people might switch to lower-priced food that does not meet their nutritional needs.

How can poverty cause food insecurity?

Poor Infrastructure

- Infrastructure includes roads. LICs may not have enough money to build roads or to maintain them properly. This makes it difficult to transport food to places where there are food shortages. As a result, farmers' crops may go to waste and people may not have access to enough food.

How can poor infrastructure cause food insecurity?

Obesogenic environments

- Other factors cause there to be too much food supply. Obesogenic environments are places that encourage people to eat unhealthily and not do enough exercise. Shops may sell mostly high-fat food, sweets and sugary drinks with little fresh produce. These unhealthy foods may be on promotion and cheaper than healthier options. If people cannot travel to find healthier food, they are forced to rely on unhealthy food. As a result, people may consume too much food.

What are obesogenic environments?

How can places encourage people to eat too much food?

What are the effects of the food system? (1 / 3)

Core Knowledge

Every food goes through multiple steps to arrive at our plate. Each step of the food system has an effect on people and the environment at both local and global scales.

Deforestation

- In order to grow crops or keep livestock, land has to be cleared of trees. This means that habitats are lost and biodiversity decreases.
- Furthermore, trees absorb carbon dioxide for photosynthesis. When trees are removed, less carbon dioxide can be removed from the atmosphere. Therefore, the greenhouse effect is enhanced.
- Much of this deforestation is happening in tropical rainforests which are home to a huge variety of plants and animals. 25% of modern medicines use ingredients from rainforest plant and animals. Therefore, deforestation could mean that future medical discoveries might not happen again.
- Indigenous communities such as the Awá tribe live in the Amazon. Their way of life is threatened by deforestation.

Revision Questions

Identify a local environmental effect of deforesting trees for agriculture.

Identify a global environmental effect of deforesting trees for agriculture.

Identify a global social effect of deforesting trees for agriculture.

What are the effects of the food system? (2 / 3)

Core Knowledge

Cattle ranching

- 80% of the cleared land is used to rear cattle and other livestock.
- Cows release **methane** when they burp. Methane is a **greenhouse gas** which reflects solar heat energy back towards the Earth. As a result, the climate warms.

Fertilisers

- **Fertilisers** are added to the soil to help plants to grow faster and larger. Fertilisers can be natural (e.g. horse manure) or artificial (human made). When it rains, toxins from artificial fertilisers are washed into rivers. This is called **runoff**. Eventually, these toxins build up in oceans. This creates 'algae blooms' that suck oxygen out of the water. As a result, fish die because of the lack of oxygen. These are called 'dead zones'.
- Fish deaths mean that local fishermen are not able to earn an income. As a result, their standard of living may decrease as they are not able to afford necessities such as food or clothes.
- Furthermore, fertilisers break down to release **nitrous oxides** (NOX). Nitrous oxides are **greenhouse gases** which reflect solar heat energy back towards the Earth.

Revision Questions

How does rearing cattle contribute to climate change?

Identify a local environmental effect of using artificial fertilisers to grow crops
Identify a local social effect of using artificial fertilisers to grow crops.

How does using fertilisers to grow crops contribute to climate change?

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What are the effects of the food system? (3 / 3)

Core Knowledge

Food miles

- **Food miles** measure the distance from where a food is grown (produced) and where it is eaten (consumed). Transport **releases carbon dioxide** into the atmosphere. Carbon dioxide is a greenhouse gas which reflects solar heat energy back towards the Earth. As a result, the greenhouse effect is enhanced and the climate warms.

Packaging

- Food is often packaged in **plastic** which is a cheap, resistant material used to keep food fresh and undamaged. However, almost a third of plastic packaging used by UK supermarkets is either non-recyclable or difficult to recycle. If plastic waste ends up in the sea, animals often become entangled with it.
- Tiny, microscopic pieces of plastic called microplastics were found in human blood in March 2022. Scientists fear this will have negative impacts on human health.

Revision Questions

What are food miles?
How do food miles contribute to climate change?

Identify environmental effects of using plastic to package food.

Identify a social effect of using plastic to package food.

How can we reduce the effects of the food system? (1 / 3)

Core Knowledge

Reducing the effects of the global food system is essential to mitigating climate change, preserving the health of ecosystems and ensuring that everyone is food secure. There are multiple ways to reduce the effects of the global food system.

Education

- Educating people about the effects of the food system can help people to make more environmental choices about what they eat. For example, carbon labelling is when food packaging displays the carbon emissions involved in producing the food item. This means that people can compare different products and choose items which release less greenhouse gas emissions.
- Education also involves teaching people ways to reduce food waste. For example, turning fridge temperatures lower than 5°C can stop food going off to quickly or helping people to meal plan means that they buy only the food that they need. As a result, there is more food available to feed who are food insecure, reducing the social effects of the food system. Furthermore, less food needs to be produced, meaning that less land has to be deforested and fewer greenhouse gas emissions are released.
- However, it is challenging to change people's diets and eating habits.

Revision Questions

Give two examples of ways that people can reduce the effect of the food system.

How can education reduce the effects of the food system?

How can we reduce the effects of the food system? (2 / 3)

Core Knowledge

Revision Questions

Lab grown meat

- Meat is grown in a laboratory using stem cells which are taken from a live animal.
- This reduces the effects of deforestation because land does not need to be cleared to rear cattle or grow feed. Less methane is emitted because fewer cattle are reared. Food miles are reduced because meat can be grown in a lab close to where it is consumed. As a result, less greenhouse gas emissions are released and the enhanced greenhouse effect is reduced.
- However, lab grown meat is currently incredibly expensive and may not be popular due to it being thought of as 'unnatural'.

What is lab grown meat?
How can lab grown meat reduce the effects of the food system?

Insect protein

- Producing insect protein releases significantly less greenhouse gas emissions than other types of protein. Unlike cows, insects do not release methane. Therefore, the enhanced greenhouse effect is reduced.
- Rearing insects uses much less land than traditional meat production. This means that there is less need to deforest land. As a result, trees can absorb more carbon. Therefore, less solar heat energy is reflected back towards the Earth and the enhanced greenhouse effect is reduced.
- However, insect protein may not be popular because some people may be unwilling to change their diets.

How can insect protein reduce the effects of the food system?

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How can we reduce the effects of the food system? (3 / 3)

Core Knowledge

Urban farming

- Urban means “city”. Urban farming is when food is produced in urban areas.
- Urban farming reduces food miles because food can be produced close to where it is consumed. As a result, less greenhouse gas emissions are released and the enhanced greenhouse effect is reduced.
- Urban farming can also be organic. This means that no chemical fertilisers are used to grow crops. As a result, toxins from fertilisers do not build up in oceans. This means that fewer fish may die from ‘dead zones’.
- However, urban farming is often very small-scale.

Drought tolerant crops

- Drought tolerant crops are varieties of plants which are developed by scientists to survive with low levels of water. They can also grow faster when there is low rainfall.
- This is important as climate change is increasing the likelihood of extreme weather. This means that farmers can increase their crop yields rather than importing expensive food from elsewhere. This is particularly important in LICs who often cannot afford technology like fertilisers or greenhouses. As a result, more food is produced and fewer people will be food insecure.
- However, drought tolerant seeds have to be bought new every year, this is very expensive for farmers.

Revision Questions

What is urban farming?

How can urban farming reduce the effects of the food system?

What are drought tolerant crops?

How can drought tolerant crops reduce the effects of the food system?