

Food Hygiene & Safety

The Food Journey– Teacher sheet

Background

These resources have been funded by the European Union's SafeConsume project, which is an EU-wide project to reduce illness caused by foodborne pathogens. Find out more information at <http://safeconsume.eu/>.

These resources have been developed following research with students and teachers from across Europe and have been tested with schools during development. Following research with consumers across Europe several food related risk behaviours have been identified which we seek to improve knowledge about.

This activity covers the journey of food and the various food safety and cross-contamination risks from buying, to preparing, cooking and consuming food, and managing leftovers.

National curriculum links:

KS3: RSHE; Health and prevention, Healthy eating

KS3: Science; Living things and their habitats

KS4: Food preparation and nutrition GCSE; Cooking and food preparation - The scientific principles underlying the preparation and cooking of food.

Lesson learning outcomes:

1. To understand that there are harmful microbes in food that can cause food poisoning, where they can be found, and risks and consequences of food poisoning.
2. To understand cross-contamination and how it occurs and develop and normalise skills for good hand and food hygiene and preparation in everyday life to remain in good health
3. To understand the chain of infection and critical points for food hygiene.

Resources:

- The Food Journey PowerPoint presentation
- The Food Journey Student worksheet
- SafeConsume Food Journey animation

Lesson plan

Designed for 11-14 year olds, but could be adapted for 15-18 year olds,

Introduction

1. Use the introductory slides to discuss foodborne illness, common symptoms, and how you may not be able to tell which food caused the illness.

SAFE CONSUME



2. Using the SafeConsume Food Journey animation introduce the class to the concept of cross-contamination and good food hygiene and practice in the home by showing the animation.
3. Introduce the concept of the Food Journey to students and how microbes can multiply at each step of this journey, and various risks for cross-contamination.
4. Explain to students that they will be looking at the Food Journey in more detail for the remainder of the lesson.
5. Use the slides to discuss **food safety risks**, and **solutions** to reduce these risks for each step of the Food Journey (planning and shopping; packing and transporting; storing; food preparation; cooking food; storing leftovers). Students can complete the corresponding worksheet, whilst they carry this activity out in pairs, small groups, or as part of a class discussion.
6. Optional: Use the slides to act out the 'distractions in the kitchen' activity. Following the activity discuss with student's the impact distractions could have on food safety (e.g. you could forget to wash hands or use the same knife to cut vegetables as used to cut raw meat).
7. Then discuss with students how they could avoid or limit the impact of distractions, for instance by putting dirty knives straight in the sink after use, finish what you are doing before addressing the distraction (e.g. finish washing your hands before answering the phone to reduce contamination of phone).



Food Hygiene & Safety

The Food Journey

For each step of the food journey, write down the risks and solutions

Planning and shopping - Risks

Planning and shopping - Solutions

Packing and transporting - Risks

Packing and transporting - Solutions



Storing - Risks

Storing - Solutions

Food preparation - Risks

Food preparation - Solutions



Storing leftovers - Risks

Storing leftovers - Solutions

Food Hygiene & Safety

The Food Journey

For each step of the food journey, write down the risks and solutions

Planning and shopping - Risks

- Only eggs labelled with the British Lion mark are certified *Salmonella* free. Eggs from other sources could contain *Salmonella*.
- Fruit and vegetables may be contaminated with harmful microbes from the ground.
- Juices from meat could contaminate other food and items in the shopping cart.
- If you don't check the use-by dates of perishable foods, you may end up buying items close to their use-by date and risk harmful microbes growing

Planning and shopping - Solutions

- Check your eggs have the British Lion Mark - this guarantees that all hens are vaccinated against *Salmonella*. If buying locally, check that the eggs are *Salmonella*-free and ask if unsure.
- Wash fruit and vegetables to take off any loose dirt or soil which may contain harmful microbes.
- Place risky food in separate compartments in a trolley e.g. meat and vegetables should be kept separate to avoid cross-contamination in the trolley.
- Timing - buy chilled foods and high-risk foods towards the end of the shopping trip. This reduces the time they are spent out of the fridge.
- Plan what you are going to cook - to avoid wasting foods and buying foods that are close to their use by date.

Packing and transporting - Risks

- Cross-contamination from raw meat/fish to other foods such as vegetables might happen in shopping trolley/bags - could any objects pierce the packaging?
- Food may be out the fridge for a long time if travelling or not going straight home.
- Chilled food may warm up during transportation. Microbes can grow very quickly in the warm environment of the car.
- contamination in the trolley.
- Timing - buy chilled foods and high-risk foods towards the end of the shopping trip. This reduces the time they are spent out of the fridge.
- Plan what you are going to cook - to avoid wasting foods and buying foods

Packing and transporting - Solutions

- Pack meat and vegetables in separate bags to prevent cross-contamination.
- Use cool bags to keep chilled or frozen food cold - this may help to reduce the growth of microbes in risky foods like chicken, but do not rely on this to fully stop microbes growing.
- Wash your reusable bags - this is because microbes may be present on them and have the potential to spread to other foods next time you use them.
- Take food home immediately if possible - this reduces the time harmful microbes may be growing on food before it is refrigerated.
- the time they are spent out of the fridge.
- Plan what you are going to cook - to avoid wasting foods and buying foods that are close to their use by date.



Storing - Risks

- The fridge may not be set to the correct temperature to limit microbial growth.
- Cross-contamination can occur between different types of food in the fridge, i.e. meat placed above vegetables could lead to meat juices dripping down onto the vegetables.
- Salmonella may grow in non-British Lion marked eggs, if stored at room temperature.
- A full fridge or lack of planning could lead to food going out of date and if this food is eaten it may lead to foodborne illness.

Storing - Solutions

- Set the fridge to 4°C or below to reduce microbial growth.
- Remove out of date items from the fridge regularly, or anything growing mould, such as cheese.
- Avoid filling the fridge with items that do not need to be there, e.g. large bottles of water. Items that need to be kept refrigerated include meat and dairy products, and some foods that have been opened, e.g. jars of jam, and sauces.
- Stick to use-by dates - these indicate food safety.
- Store eggs in the fridge to keep them fresh for longer. Eggs that are not labelled with the British Lion mark must be kept in the fridge to prevent the growth of Salmonella.
- Cover raw meat or keep in a well-sealed package to prevent spillage and cross-contamination in the fridge.
- Freeze ready to eat foods if you won't be eating them in the next few days. Although this hits the pause button on microbial growth, bacteria are not killed,

Food preparation - Risks

- If you have an infection (e.g. Norovirus or a cold) you could contaminate the food or kitchen surfaces with the infectious microbes and pass the infection on to other people.
- If the same knife or chopping board is used to prepare meat and vegetables, this can cause cross-contamination.
- If you don't wash your hands before cooking and after handling raw meat, you could spread harmful microbes to surfaces and other food.
- Raw food, such as fruits and vegetables, meat and seafood, could be covered in harmful microbes, and therefore pose a risk in food preparation.
- Contaminated cloths and sponges can spread harmful microbes to hands and surfaces.
- Washing chicken in the sink could spread harmful microbes over kitchen

Food preparation - Solutions

Do NOT prepare food or cook for others if you are ill, to prevent the spread of infection.

To avoid cross-contamination:

- Use separate chopping boards and knives for meat and vegetables or wash thoroughly with warm soapy water after using it for meat.
- Wash hands with soap and water and clean surfaces thoroughly.
- Use separate cloths / dish brushes for washing dishes, cleaning surfaces, and drying hands. Make sure to dry them after use and replace regularly.
- Do NOT wash chicken or other meat.
- Do wash raw fruits and vegetables.

Storing leftovers - Risks

- Food left for extended periods of time sitting out of the fridge to cool down can encourage the growth of microbes, which grow at room temperature.
- Food may not have been defrosted properly in the fridge, i.e. chicken may have been left out next to the sink to defrost, which can be a problem for the growth of Campylobacter.
- Leftovers may not have been stored in the fridge if they are to be eaten quickly, or the freezer if they will be eaten later.
- Leftovers may have been heated more than once which can encourage the growth of microbes as food moves up and down heating and cooling stages.

Storing leftovers - Solutions

- Cool and place leftovers in the fridge as quickly as possible - this should be within two hours of cooking. This is especially important for rice which can contain *Bacillus cereus* whose spores can survive heat. *Bacillus cereus* can then multiply at low temperatures of 4 to 6°C.
- Reheat leftovers thoroughly until piping hot throughout to kill any bacteria that may be present.
- Use chilled leftovers within two days to limit microbial growth. If in doubt, freeze leftovers as this pauses microbial growth.
- Defrost food (especially meat) in the fridge, not at room temperature.
- Put labels and dates on leftovers, especially if they are going in the freezer so that you know when they were cooked, food should be kept in the freezer for no more than three to six months, after which time it will deteriorate in quality.

