

Food Hygiene & Safety

Outbreak Investigation: Outbreak at a dinner party

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 education on. This activity shows an outbreak at a dinner party, and the events that unfold, as a result of not following food hygiene and food safety rules.

National curriculum links:

KS3: RSHE; Health and prevention.

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 identify harmful microbes that are commonly found in food
2. To identify conditions that promote the growth of harmful microbes and how to prevent this
3. To understand how to safely transport, store and prepare food
4. To understand risks and consequences of food poisoning

Resources:

- Outbreak investigation: Outbreak at a dinner party PowerPoint
- Student worksheet: Outbreak investigation: Outbreak at a dinner party
- Student answer sheet: Outbreak investigation: Outbreak at a dinner party

Lesson plan

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

Introduction

1. Go through each of the slides within the **Outbreak investigation: Outbreak at a dinner party PowerPoint**.
2. There are questions associated with each part of the preparation of food at the dinner party, e.g. preparation of vegetables, and grilling and serving.



3. This activity may be done as a class, or students may work in pairs or small groups to discuss each of the questions within the presentation.
 4. Encourage students to write down notes for each question on the **Student Worksheet: Outbreak investigation: Outbreak at a dinner party.**
 5. Encourage students to share feedback on each of the questions in turn, with the rest of the class, and discuss their answers.
- The **Student Answer Sheet: Outbreak investigation: Outbreak at a dinner party** can be used as a guide for discussion, to check all points have been raised.



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Outbreak Investigation: Outbreak at a dinner party

Student answer sheet

1. Cross-contamination

a. To prevent cross-contamination, what should John's mum remember to do when preparing the salad and the chicken?

b. Why do you need to be careful when you have a plate of raw chicken next to your vegetables?

2. Cooking meat

a. What happens to the bacteria on the raw meat when cooked?

b. What can you do to cook meat properly on a barbecue?

c. How do you check that meat is cooked?

d. Why is it important to put meat on a clean plate, once cooked?



3. Food poisoning

a. What microbe(s) do you think made John and his guests ill and how?

b. Why was the elderly guest more at risk of becoming ill?

c. Why didn't all of the guests become sick?

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Student answer sheet

1. Cross-contamination

- a. To prevent cross-contamination, what should John's mum remember to do when preparing the salad and the chicken?

John's mum should remember to:

- wash her hands before preparing any food and after handling the raw chicken
If possible, use separate chopping boards and knives for raw chicken and salad. If she doesn't have more than one chopping board or knife, she should clean the chopping board and knife thoroughly after preparing the raw chicken.

- b. Why do you need to be careful when you have a plate of raw chicken next to your vegetables?

Raw chicken can naturally have bacteria such as *Campylobacter* or *Salmonella* on it. You need to be careful that the bacteria from the raw chicken does not transfer to the vegetables or other ready to eat food, as it can make you ill.

2. Cooking meat

- a. What happens to the bacteria on the raw meat when cooked?

The bacteria on the raw meat are killed by the heat, when cooking.

- b. What can you do to cook meat properly on a barbecue?

When cooking on a barbecue, heat will not be evenly distributed, therefore some parts of the meat will be cooked before other parts. It is important to turn the meat on the barbecue so that all of the sides and the middle get cooked.

- c. How do you check that meat is cooked?

Before you serve pork, poultry (eg. chicken) and minced meat, make sure it is steaming hot and cooked all the way through. When you cut into the thickest part of the meat, check that none of the meat is pink and that any juices run clear.

You could also use a temperature probe (if you have one) to check the temperature of the thickest part of the meat. The temperature needs to reach one of the following combinations to make sure it has been cooked properly:

- 60°C for 45 minutes
- 65°C for 10 minutes
- 70°C for 2 minutes
- 75°C for 30 seconds
- 80°C for 6 seconds



d. Why is it important to put meat on a clean plate, once cooked?

It is important to put meat on a clean plate, once cooked to avoid cross-contamination of bacteria from raw meat.

3. Food poisoning

a. What microbe(s) do you think made John and his guests ill and how?

It is likely that John and his guests that eat the chicken were infected by *Salmonella* or *Campylobacter*, which are commonly found on raw chicken. The illness could have been caused by the cooked chicken being returned to the same plate the raw chicken had been on. The pescatarian could have been infected by *Listeria monocytogenes* that had multiplied to harmful levels on the salmon whilst it was out of the fridge when John was playing football and left out on the table after the starter had been prepared.

b. Why was the elderly guest more at risk of becoming ill?

This guest was elderly and diabetic which are two risk factors as their bodies' ability to fight harmful microbes and sickness is not as effective.

Older adults and people with diabetes tend to have weakened immune systems that don't get rid of harmful microbes as effectively.

c. Why didn't all of the guests become sick?

Whether the guests got sick or not could have been due to whether / how much they eat of the food with harmful microbes, and their immune system's ability to fight infection. For example, some people could have been infected but didn't show symptoms, as infections affect us all differently. Those who are at greater risk of getting sick and having a more serious illness are over 65s, under 5s, pregnant women, and those with weakened immune systems eg due to diabetes, liver or kidney disease, alcoholism, and HIV/AIDS; or receiving chemotherapy or radiation therapy.