

Microbes

Key Stage 4 CFA Hygiene Lesson

Suggested presenter	Someone with a level of technical knowledge specifically around hygiene with training skills that include presenting/facilitating a group
Lesson Information	This session is aimed at Key Stage 4 pupils (Year 10 and 11 – age range 14-16 years)
Duration	1 Hour excluding breaks
Aim	The purpose is to introduce pupils to typical bugs and bacteria that can be found in and around food products.
Learning Outcomes	<p>The students will be able to;</p> <ul style="list-style-type: none"> • name some microbes of particular importance in foods • understand the importance of hand washing and food hygiene • understand how easy it is to contaminate food • describe briefly some of the important processes food companies go through to meet the high standards set
Key Points	This lesson plan is a guide only. As the person delivering the lesson you are encouraged to adapt it to suit the class you are teaching. It is important to remember that the main point is to inspire and introduce young people to the food sector.

Please refer to the notes on the preparation of this lesson.

Lesson Format

1. Introduction
2. Microbes
 - a. Discussion
 - b. Demonstration
 - c. Activity
 - d. Plenary
3. Finish

Resources Required

- ✓ Pictures of insects
- ✓ Pictures of bacteria
- ✓ Protective clothing from a factory
- ✓ Glo Germ Gel
- ✓ Hand wash
- ✓ UV Scanner
- ✓ Paper and pens
- ✓ Hand wash poster
- ✓ Any company products for demonstration or gifts

Introduction (10 minutes)

Most students like to have an overview of what they are about to participate in, so spend a minute explaining the session you are about to deliver, the activities and key points they will be learning.

Aim to spend about 8 minutes talking about yourself, your role and the company you work for. Consider using some pictures to show the place you work, or bringing in some produce that the students may have seen before.

This introduction is the opportune time to demonstrate real enthusiasm for your role and sector; enthusiasm is infectious.

NOTE: Pupils you work with will be of different abilities. Key Stage 3 pupils range between the ages of 14 to 16 but you will need to gauge their ability and possibly adapt how technical/scientific you make each session.

NOTES

Microbes

Bugs and Bacteria (10 minutes)

In this section you will discuss with the students the range of microbes that can be most commonly found in food products.

- Explain why some microbes are a concern for your industry, the students will appreciate an example of a “gross” story; don’t frighten them about eating fresh produce though!
- Ask the students what microbes they already know anything about (have pictures ready to put up as the students name each type)
- Find out what the students know about microbes and what illnesses they can cause. Be sure to put up the pictures as you talk about each one and the results of having them.
- Explain that there are thousands of different microbes which we call bacteria and viruses that can’t be seen without a microscope and that some are good and some are bad and that some are only bad if there are too many in one place or the wrong place.
- Ask the students to give examples of good bacteria
- Ask the students to name conditions that bacteria need to grow (warmth, water, food, time)
- If the Salmonella, Campylobacter etc. get into our food they can give us nasty and sometimes fatal bouts of sickness and diarrhoea so it’s really important that we make sure our hands are clean before we touch food.
- In all factories, especially where chilled food is prepared, hands must be washed really well to make sure no bugs get into the food and special protective clothing is worn to make sure germs are not brought in on the clothes that staff wear outside.
- How else could microbes get into a factory? What other protection is in place?

Demonstration (5 minutes)

- Ask for volunteers to help you.
- Have protective clothes ready and dress up a volunteer explaining the different garments as you put them on him/her. Also explain the order this happens in a factory and why this is important.
- Choose another to put on the Glo Germ gel
- Scan to show amount of contamination
- Get him/her to wash his/her hands as they normally would – scan again to show how much they missed!

Activity (20 minutes)

Contamination :

Explain to the students that once they have dirty hands everything they touch becomes contaminated and from there it would not take long for someone else to come along and pick up the contamination.

Ask the students to think of a surface that is touched by most people in their school, how long do they think it would take before the microbes on that surface spreads throughout the school (do they think most pupils and teachers wash their hands?).

When you have discussed this and you feel they understand the ways and speed that contamination can take place ask them to design a poster that tells other people about the dangers of contamination.

Plenary (15 minutes)

- Bring the students back together, ask one or two students to talk you through Rotten Robbie's day, how many times did he put himself at risk, did he touch food other people may eat?
- Explain briefly the food standards your company has to adhere to, in order to ensure the food you produce is safe for human consumption.
- Demonstrate how to wash hands properly yourself and get the pupils to do it with you – they will have dry hands whilst you do it for real. Scan yourself to show how much cleaner they are when you have washed them properly.
- Leave the pupils with the hand washing poster. What notices do they have around school telling people how to wash their hands properly? Do students think a "student friendly" poster in school would be a good idea? If students wish suggest that that they could design one and your teacher could send them to you to review.

Finish (5 minutes)

- Ask for any questions - be prepared for some in the younger year groups (especially Year 7) to ask irrelevant questions and don't feel you have to answer them. If you are not comfortable with a question or don't have time, tell them you'll come back to them. (Do try to remember to ask them again if you can.)
- Thank the pupils for working so hard and listening well and if possible leave them something that reminds them of you, your company and your products.

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