

How clean is your kitchen? (10-20 mins)



Curriculum Links (KS1 & KS2):

Science: Working scientifically; Living things and their habitats

English: Reading and Comprehension

PSHE: Core Theme 1 - Health and Wellbeing

Design and technology: Cooking and nutrition

Learning Objectives for KS2:

All students will:

- understand that microbes can be found on our food and can transfer to humans.
- understand that cooking food properly can kill harmful microbes.
- understand that bacteria multiply very quickly.

Some students will:

- understand that refrigeration only stops microbes growing, it doesn't kill them.

Risk Assessment:

In the event of an outbreak of infection you may need to modify this activity to ensure social distancing or other criteria according to your school's policy. Please email the e-Bug team at e-Bug@phe.gov.uk if you wish to discuss ideas or modifications to this activity that are needed to follow guidelines in your setting.

This is a practical demonstration or experiment that can be used to teach about cross-contamination, the danger zone, food hygiene and safety, as well as tool and hand hygiene. The participants make a chicken sandwich using play dough chicken, bread, salad and a toy oven. UV gel and a torch is used to show cross-contamination and how microbes have spread around the kitchen area.

This activity is suitable for KS1 and KS2 as well as community groups, and we have used the information in the Beat the Bugs community course to describe the activity below.

Click here to access the resources for this activity for [KS1 "How clean is your kitchen"](#), [KS2 "2.3 Spread of Infection Food Hygiene"](#) or [Beat the Bugs "Food Bugs"](#) section for community groups.

Before you begin will need:

- Background and lesson plans for ["2.3 Spread of Infection Food Hygiene"](#) (KS2 lesson pack) or ["Food Bugs"](#) section within Beat the Bugs
- Student worksheet 1 (SW1) for making observations and student handout 2 (SH2) for the instructions to make a chicken sandwich.
- Different coloured chopping boards
- Play dough /plasticine / modelling clay
- Paper plates
- Bread
- Bag of salad
- Plastic knives and forks
- Toy oven / microwaves

- Glo Gel UV gel
- UV torch

Advance preparation:

1. Prepare chicken fillets from play dough and cover in GloGel
2. Set out the food, chopping boards and toy ovens.

Use the introduction in the Beat the Bugs pack to discuss:

- What participants already know about food hygiene.
- Possible questions include:
 - Do you know what we mean by the term food hygiene, and have you ever had food poisoning? (This could be vomiting or diarrhoea)
 - Would you still work / go to school if your job included handling or preparing food and you had recently had food poisoning? (Answer: You should not work / go to school for two days after the diarrhoea or vomiting has stopped)
- What do you think causes food poisoning? (Answer: bacteria, viruses and toxins)
- What foods can cause food poisoning? (Answers: unwashed fruit and vegetables, raw meat, foods contaminated by a food handler)

Use the following steps as a guide to implement this activity:

1. Invite the participants to prepare a chicken sandwich using the play dough chicken fillet. Ask them to cut up the chicken with a plastic knife.
2. Encourage the participants to cook the chicken in the toy oven / microwave and encourage them to assemble a sandwich using the bread and salad provided.
3. Afterwards ask them what they forgot to do whilst making their food: wash their hands.
4. Point out that they should have used different coloured chopping boards for cutting up the chicken and preparing the salad to go into the sandwich. In a professional kitchen they use different coloured chopping boards for different groups of food.
5. Say you can see where the microbes from the chicken fillet have spread using the special “microbe detector” UV light.

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6. Float the UV light over their hands and kitchen equipment to show where the microbes have spread.
 7. Explain what types of harmful bacteria (e.g. *Salmonella*, *Campylobacter*, *E. coli*) can be found in raw meat and the importance of hand washing whilst cooking and before eating a meal.
 8. Ask them if they think that harmful microbes can be found on other types of food as well.
 9. Explain that harmful microbes can be found on other foods too, so for instance it is important to wash salad, vegetables and fruit thoroughly before eating.

Use the plenary or discussion questions to check participant's understanding after the activity is completed. Then complete action plan (Beat the Bugs).