

# B Student resources

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# 1

## Food fit to eat – a food safety angle

Student resource 1 name:

In this unit of work you will examine your personal behaviours, as well as those portrayed in the media (television), with respect to preventing food poisoning. You will identify and explore factors that influence food poisoning and develop an understanding of how to minimise its risk — no ‘tummy troubles’ for you!



|  | Estimated date of completion | Actual date of completion |
|--|------------------------------|---------------------------|
| <p><b>You are to:</b></p> <ul style="list-style-type: none"> <li>■ Identify and explore types, symptoms and incidence of food poisoning.</li> <li>■ Identify and explore the factors that influence food poisoning:               <ul style="list-style-type: none"> <li>• foods that are likely to cause food poisoning</li> <li>• behaviours and conditions that promote unsafe food</li> <li>• ways to minimise contamination of food</li> <li>• ways to kill or minimise growth of micro-organisms.</li> </ul> </li> </ul> |                              |                           |
| <ul style="list-style-type: none"> <li>■ Evaluate food safety behaviours portrayed in the media.</li> </ul>  |                              |                           |
| <ul style="list-style-type: none"> <li>■ Evaluate personal food safety behaviours.</li> </ul>  |                              |                           |

Some of the things you might do:

- Swab the school kitchen benches to see how clean they really are.
- Watch your favourite TV ‘soap’ to see how ‘food safe’ the characters are.
- Evaluate your own food safety behaviours.
- Watch the video ‘A case for Con Tamination’.

*Fact: Food is contaminated through lack of personal hygiene by the people who prepare and serve it.*

*Fact: Food can make us sick*

Quote: A child’s lower weight probably means it requires a smaller number of pathogens to make a child sick than it would a healthy adult.  
Source: [www.foodscience.afisc.csiro.au](http://www.foodscience.afisc.csiro.au)

# 2

## Food fit to eat: Planner

Student resource 2 name:

### Purpose

To plan the dates for completing each action required in the unit 'Food fit to eat — a food safety angle'.

### You will need

Student resource 1: Food fit to eat — a food safety angle

### Tasks

1. Identify any words in Student resource 1 that you do not understand and discuss their meaning with your teacher.
2. Highlight the verbs that indicate actions that you have to take to complete the work.
3. Complete the planner below. To do this:
  - i. Check that all the actions required are included in the left-hand column.
  - ii. Add any that are missing, those that you have negotiated with your teacher or those that you wish to do.
  - iii. Negotiate with your teacher dates for completion of the actions and record the dates in the table.

| Action  | Questions to consider   | Resources   | Date for completion |
|---|---|---|---------------------|
| <ul style="list-style-type: none"><li>Identify types, symptoms and incidence of food poisoning.</li></ul>           | <ul style="list-style-type: none"><li>What is food poisoning?</li><li>What are the most common types and symptoms of food poisoning?</li><li>How many people are affected by food poisoning in Australia each year?</li><li>What does 'incidence' mean?</li><li>Are some groups more susceptible to food poisoning than others? If so, why?</li></ul> | <i>Food safety matters</i><br>Student guide, pp. 2–3, 10, 20  |                     |
| <ul style="list-style-type: none"><li>Identify and explore foods that are likely to cause food poisoning.</li></ul> | <ul style="list-style-type: none"><li>Which foods are 'high-risk' foods if not stored, prepared and/or cooked properly?</li><li>Why are these foods 'high-risk'?</li><li>What is the impact of leaving residues of these foods on kitchen benches?</li></ul>  | <i>Food safety matters</i><br>Student guide, pp.16–17<br>Student resources<br>4. Horror stories<br>Swab 'n' Check kit (may not be available at all schools) |                     |

| Action   | Questions to consider   | Resources  | Date for completion |
|--|---|--|---------------------|
| <ul style="list-style-type: none"> <li>■ Identify and explore behaviours and conditions that promote unsafe food.</li> </ul>   | <ul style="list-style-type: none"> <li>■ What causes food to be unsafe?</li> <li>■ In what way is the safety of food affected by:               <ul style="list-style-type: none"> <li>• personal hygiene</li> <li>• pests (e.g. cockroaches) and pets</li> <li>• handling of food</li> <li>• cooking of food</li> <li>• storage of food</li> <li>• temperature?</li> </ul> </li> </ul> | <p><i>Food safety matters</i><br/>Student guide, pp. 6–7, 10–12, 14, 16– 17</p> <p>A case for 'Contamination' (video)</p> <p>Student resources</p> <p>5. Help 'Contamination' solve the mystery</p> <p>6. Where to store the food?</p> |                     |
| <ul style="list-style-type: none"> <li>■ Identify:               <ul style="list-style-type: none"> <li>• ways to minimise contamination of food</li> <li>• ways to kill or minimise growth of micro-organisms.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>■ What are the food safety practices that need to be used in:               <ul style="list-style-type: none"> <li>• selecting food</li> <li>• storing food</li> <li>• preparing food</li> <li>• cooking food</li> <li>• serving food?</li> </ul> </li> </ul>  | <p><i>Food safety matters</i><br/>Student guide, pp. 10–12, 14, 16</p> <p>Student resources</p> <p>7. Food safety: Developing a concept map</p> <p>8. Food safety in the kitchen</p>   |                     |
| <ul style="list-style-type: none"> <li>■ Evaluate food safety behaviours portrayed in the media.</li> </ul>  | <ul style="list-style-type: none"> <li>■ Which television programs often show people handling and cooking food?</li> <li>■ Which programs are and which are not promoting good food safety practice?</li> <li>■ What are the presenters or actors doing/not doing correctly?</li> <li>■ What actions could/should you take on the matter?</li> </ul>                                    | <p>Student resource</p> <p>11. Soaps, foodies and safety</p>   |                     |
| <ul style="list-style-type: none"> <li>■ Evaluate personal food safety behaviours.</li> </ul>  | <ul style="list-style-type: none"> <li>■ Which of your behaviours will reduce the risk of food poisoning?</li> <li>■ Which need improving?</li> </ul>   | <p>Student resources</p> <p>3. Personal food safety questionnaire</p> <p>12. Personal food safety: Then and now</p>  |                     |
| Other  |   |  |                     |

# 3

## Personal food safety questionnaire

Student resource 3

name:

### Purpose

To identify personal behaviours related to food safety.

At a later date you will use the completed questionnaire to determine if you should change any of your food safety behaviours, or recommend that your family make changes.

### Tasks

1. Complete the questionnaire by ticking the box that matches your response.
2. If you wish, you may ask a member of your family to complete the questionnaire also.
3. Keep the completed questionnaire in a safe place for when you complete Student resource 12.

### Personal hygiene

RARELY MOSTLY

#### 1. Do you wash your hands:

##### Before:

- Eating  RARELY  MOSTLY
- Making a sandwich etc  RARELY  MOSTLY

##### After:

- Going to the toilet  RARELY  MOSTLY
- Touching pets or other animals  RARELY  MOSTLY
- Touching pimples or sores  RARELY  MOSTLY
- Coughing or sneezing  RARELY  MOSTLY
- Handling the rubbish  RARELY  MOSTLY
- Biting your nails  RARELY  MOSTLY

#### 2. Do you:

- Wash hands using soap and running water  RARELY  MOSTLY
- Dry hands thoroughly  RARELY  MOSTLY
- Cover cuts and infections on your hands  RARELY  MOSTLY

### Kitchen hygiene

RARELY MOSTLY

#### (a) Washing the dishes

##### 3. Are the dishes and utensils in your home:

- Washed in a sink of hot soapy water or a dishwasher  RARELY  MOSTLY
- Rinsed  RARELY  MOSTLY
- Dried with a clean tea towel  RARELY  MOSTLY
- Dried with a used tea towel  RARELY  MOSTLY
- Left on the drainer to dry  RARELY  MOSTLY

##### (b) Pest and animal control

#### 4. Do you:

- Leave food or dirty dishes on the benches  RARELY  MOSTLY
- Use fly screens  RARELY  MOSTLY
- Use food covers  RARELY  MOSTLY
- Allow pet(s) in the kitchen  RARELY  MOSTLY
- Ensure pets have their own feeding bowls  RARELY  MOSTLY

## Selecting and purchasing food

RARELY MOSTLY

### 5. Do you or your family:

- Check the cleanliness of food outlets before purchasing food
- Check use-by dates on food labels
- Ensure cold items are packed together
- Take cold groceries home to the refrigerator as quickly as possible
- Go home immediately after buying groceries
- Use an esky or similar to carry home cold goods, e.g meat, chicken, milk, cheese
- Ensure cold items are put away first

### Storing food

### 6. Do you or your family:

- Keep food covered when on the bench
- Keep food covered when in the fridge
- Store cold food in the refrigerator as much as possible
- Leave milk out on the bench
- Thaw frozen food in the refrigerator or microwave
- Regularly check the temperature of the refrigerator

## Food preparation

RARELY MOSTLY

### 7. Do you or your family:

- Wash fruit before eating
- Wash the chopping board or use a clean one between preparing raw meat or poultry and preparing other foods
- Use forks or tongs to pick up food rather than hands
- Wear clean clothes or a clean overall/apron when preparing food

### Cooking

### 8. Do you ensure the following are cooked thoroughly:

- Fish
- Burger patties
- Rolled, stuffed roasts
- Chicken

### 9. If food is cooked in advance or in bulk to provide leftovers for another meal, is it:

- Placed in the refrigerator as soon as it stops steaming
- Divided into smaller quantities while cooling (if cooked in bulk)
- Reheated until steaming hot
- Reheated until it is just right to eat

# 4

## Horror stories

Student resource 4

name:

### Purpose

To identify foods that are high-risk foods if not stored, prepared and/or cooked correctly.



### High-risk foods

#### 1. Food that must be kept out of the temperature danger zone

Bacteria just love certain foods! These foods need to be kept out of the temperature danger zone (that is, below 5°C or above 60°C) so that bacteria cannot grow.

#### Tasks

1. List in the right-hand column foods that you know have to be kept at below 5°C (that is, in the refrigerator) in order to stop them 'going off'.  
Remember that sometimes we store foods in the refrigerator just because we like them cold, not because they will deteriorate if left out on the bench — for example, soft drinks. A good guide to where a food item should be stored at home is where it is stored in the supermarket.
2. Share your list with a partner. Add to your list any new ideas that your partner suggests. Swap stories of foods that you have seen that have 'gone off' through being left out of the refrigerator.
3. Share with another pair and identify the 'worst' case of food deterioration that one of your group has seen.
4. Share this experience with the rest of the class. Add other foods to your list as you share experiences.
5. Make a class list of the high-risk foods that should be stored in the refrigerator.

Food that needs to stay cold:





# 5

## Help 'Con Tamination' solve the mystery

Student resource 5

name:

### Purpose

To help 'Con Tamination', a character in the video 'A case for Con Tamination', solve a problem. Sal Monella's husband has food poisoning and it is Con's job to find the possible causes.

### Task

Watch the video 'A case for Con Tamination' and answer the following questions:

1. Identify the foods that Sal Monella purchased from the supermarket that would have a high risk of causing food poisoning if not handled properly.

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2. List possible actions that may have contributed to Mr Monella's poisoning.

Purchasing food:

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Transporting food:

i. -----

ii. -----

iii. -----

Storing food:

i. -----

ii. -----

iii. -----

iv. -----

v. -----

Preparing food:

i. -----

ii. -----

iii. -----

iv. -----

v. -----

vi. -----

Serving food:

i. -----

ii. -----

iii. -----

iv. -----

3. What advice would you give Sal Monella about food safety in order to avoid a repeat of the food poisoning? Use the five food safety messages listed below to help you. Record your responses in the table below.

| Food safety message                   | Advice 1   | Advice 2 | Advice 3 |
|---------------------------------------|--|----------|----------|
| Keep hands and nails clean.           | <p><b>EXAMPLE</b></p> <p>Wash hands before preparing food.</p> |          |          |
| Keep the kitchen clean.               |  |          |          |
| Handle food safely.                   |  |          |          |
| Cook high-risk foods thoroughly.      |  |          |          |
| Keep hot food hot and cold food cold. |  |          |          |

# 6

## Where to store the food?

Student resource 6

name:

### Purpose

To determine if changes are needed to where you store some foods at home.

### Tasks

1. Look at where foods are stored in your home.
2. In the table below, list five examples of each of the following found in your home:
  - perishable (will spoil in a couple of days—for example, raw meat, chicken, ham, fish, milk)
  - semi-perishable (will spoil in a week or two — for example, fruit, vegetables, bread)
  - long-life foods with a use-by date or best-before date — for example, canned or packaged foods.
3. Next to each food, record where the food is stored.
4. Decide if the storage place for that food is suitable or unsuitable.
5. If you have decided that the storage place is unsuitable for some foods, make recommendations based on your decisions.
6. Negotiate with your family for your recommendations to be implemented.

| Foods in my home kitchen  |                            | Where is the food stored? | Is the storage place suitable (✓) or unsuitable (X)? |
|---|----------------------------|---------------------------|--|
| <b>Perishable —</b><br>for example, raw meat, chicken, ham, fish, milk  | 1.<br>2.<br>3.<br>4.<br>5. |                           |  |
| <b>Semi-perishable foods —</b><br>for example, fruit, vegetables, bread | 1.<br>2.<br>3.<br>4.<br>5. |                           |  |
| <b>Long-life foods —</b><br>for example, canned or packaged foods       | 1.<br>2.<br>3.<br>4.<br>5. |                           |  |

Recommendations to improve how foods are stored in my home:

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# 7

## Food safety: Developing a concept map

Student resource 7

name:

### Purpose

To group actions related to food safety into five major concepts.

The diagram illustrates the start of a concept map related to food safety. It shows five ways of preventing food poisoning in the home:

1. **Keep hands and nails clean.**
2. **Keep the kitchen clean.**
3. **Handle food safely.**
4. **Cook high-risk foods thoroughly.**
5. **Keep hot food hot and cold food cold.**

### Tasks

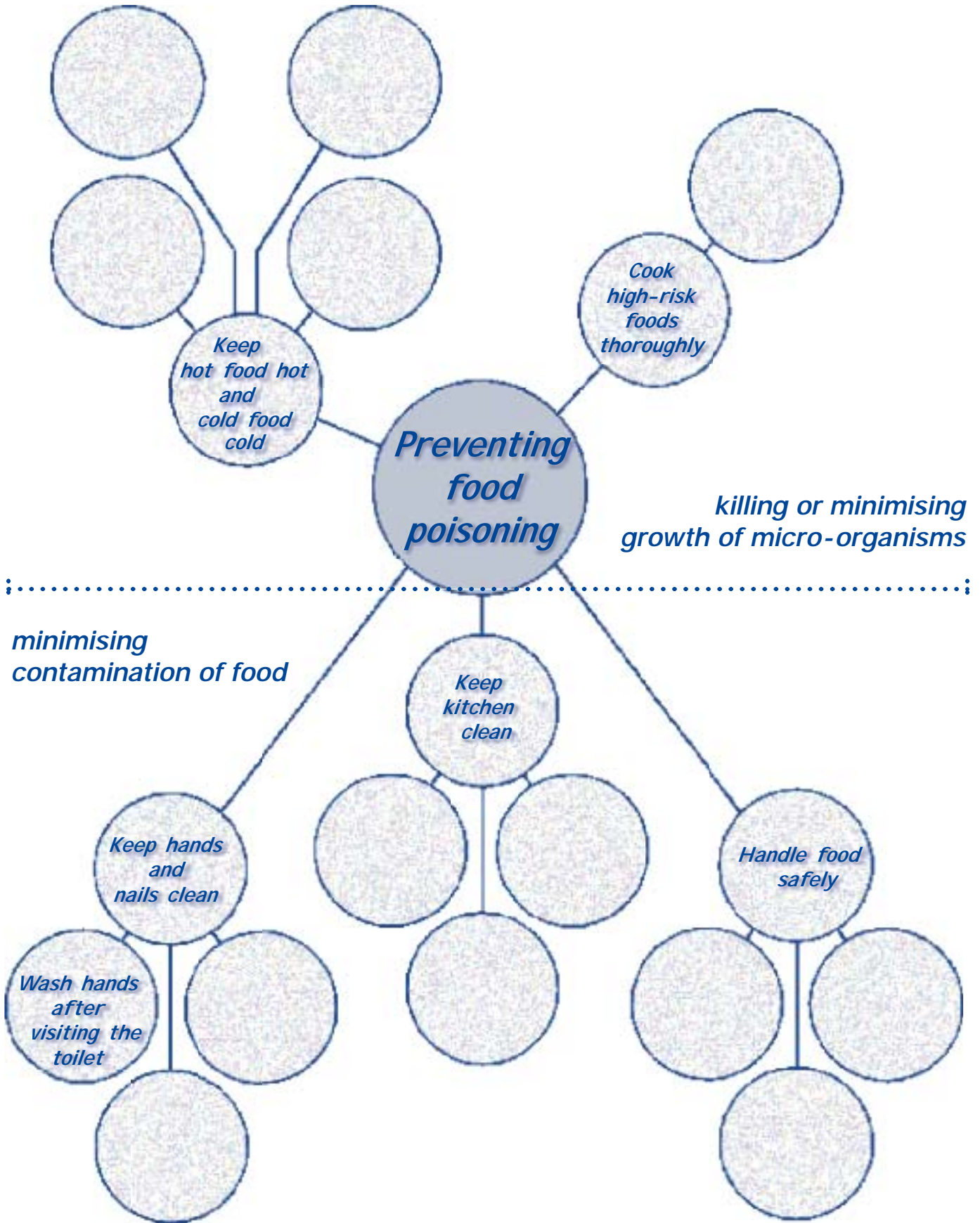
#### Work with a partner.

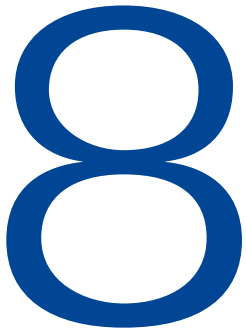
1. Below is a list of positive actions to take to minimise food poisoning. Read each action carefully.
2. Examine the diagram and decide where each action fits best in the diagram. For example, the action 'Wash hands after using the toilet' fits with 'Keep hands and nails clean'. If you need help, refer to *Food safety matters* Student guide, pp. 10–17.
3. Write the action in one of the bubbles linked to the matching concept for food poisoning.
4. Add other positive actions to the concept map to make it uniquely yours.
5. Indicate (for example, with a highlighter pen) those positive actions that you/your family do regularly.

#### Positive actions

- Cover cuts and infections on hands.
- Discourage pests by keeping kitchen clean.
- Wash hands in running water and soap.
- Use clean equipment not hands to pick up food.
- Store cold foods in the refrigerator.
- Let dishes air dry where possible.
- Avoid preparing food when sick.
- Reheat leftovers until steaming hot.
- Cook sausages thoroughly.
- Thaw frozen food in the refrigerator.
- Wash dirty dishes in hot, soapy water.
- Store cold foods at 5°C or less.
- Keep raw meat separate from cooked food.

# A food safety concept map





# Food safety in the kitchen

Student resource 8 name:

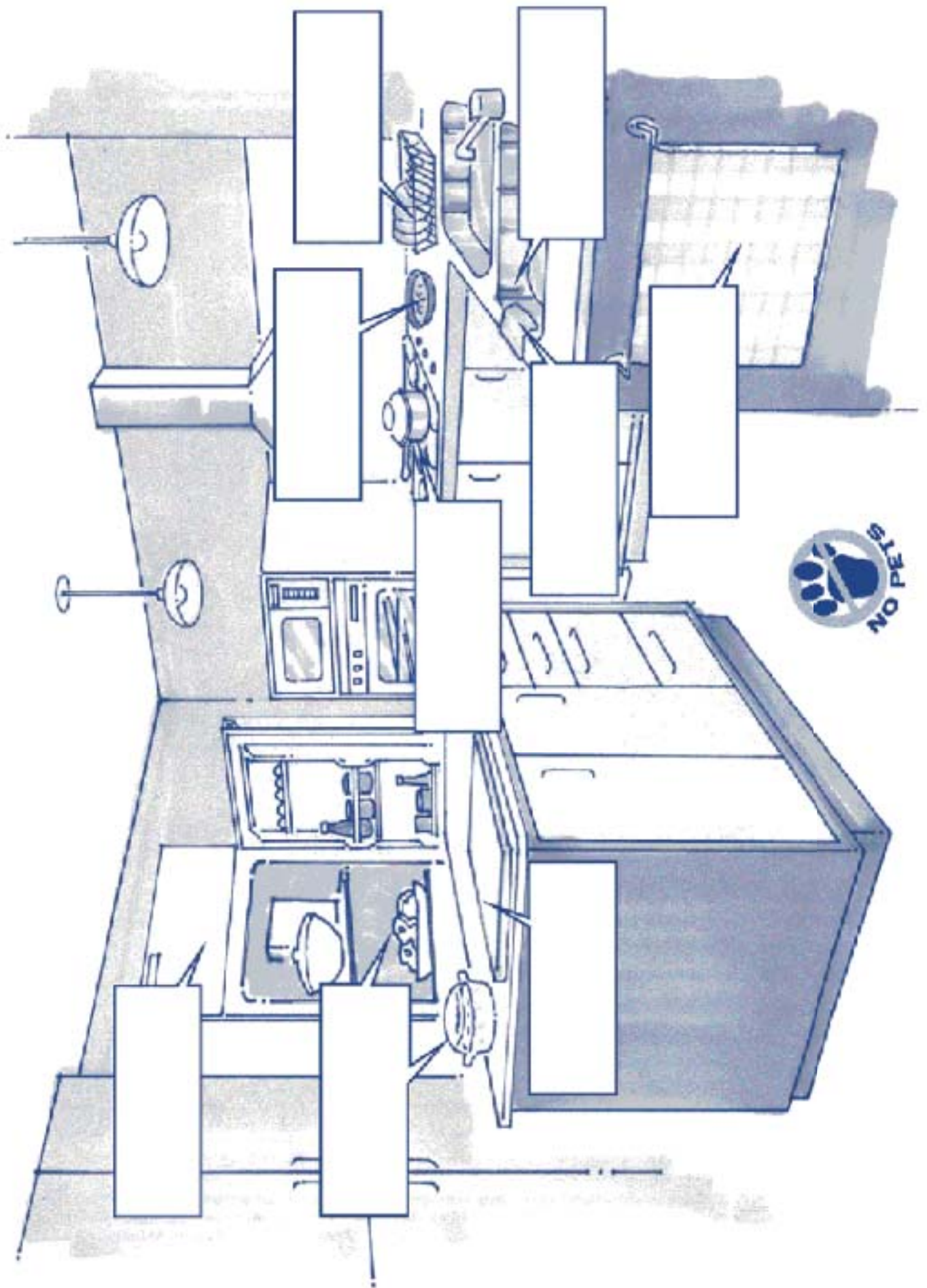
## Purpose

To link tips for food safety with kitchen appliances and equipment.

## Tasks

In the diagram of the food safety kitchen, insert the following tips in the most appropriate box.

- A Use separate boards for raw and cooked foods
- B Keep temperature at or below 5°C
- C Refrigerate hot food once it has stopped steaming
- D Reheat leftovers until steaming hot
- E Rinse dishcloths clean and hang to dry
- F Do not wipe hands, benches or floors with tea towels
- G Wash dishes in clean hot, soapy water
- H Air-dry dishes
- I Do not leave door open
- J Keep foods covered
- K Store raw foods below cooked foods
- L Defrost food in refrigerator over 24 hours
- M Do not place cooked food on plates contaminated by raw meat, seafood or poultry



# 9 Preventing food poisoning

Student resource 9

name:

## Purpose

To complete a summary of ways to prevent food poisoning.

## Task

Choose from the words or numbers in the list provided to complete each sentence. You may use words or numbers more than once.

*5°, 60°, animals, apron, clean, cleaning, cold, covered, cuts, dishes, micro-organisms, food, hands, hot, poultry, raw, safely, sausages, sick, small, sneezing, soap, steaming, thoroughly, toilet*

■ To minimise the risk of food poisoning, we need to ensure that:

- food does not become contaminated
- \_\_\_\_\_ are killed or their growth stopped or slowed down.

■ We need to:

1. Keep hands and nails \_\_\_\_\_
2. Keep the kitchen \_\_\_\_\_
3. Prepare food \_\_\_\_\_
4. Cook high-risk foods \_\_\_\_\_
5. Keep hot food \_\_\_\_\_ and cold food \_\_\_\_\_



## MINIMISING CONTAMINATION OF FOOD

### 1. Keeping hands and nails clean

■ We need to:

- wash hands and nails thoroughly with warm, running water and \_\_\_\_\_
- dry hands thoroughly
- cover \_\_\_\_\_ and infections on hands.



### Washing hands and nails thoroughly in warm, running water and soap

■ We should wash our hands:

- before eating
- before preparing \_\_\_\_\_
- between handling raw meat, \_\_\_\_\_ and seafood, and handling cooked food or food to be eaten raw
- after coughing and \_\_\_\_\_
- after going to the \_\_\_\_\_
- after handling rubbish
- after touching \_\_\_\_\_
- after handling chemicals, e.g. \_\_\_\_\_ materials
- before eating.

## 2. Keeping the kitchen clean

### Cleaning

- When washing plates and equipment, we need to:
  - scrape and rinse off surface food
  - wash in clean, \_\_\_\_\_, soapy water
  - rinse in \_\_\_\_\_ water
  - let dishes air dry where possible
  - if drying immediately, use only a \_\_\_\_\_, dry towel.

### Pest control

- We need to:
  - stop pests coming into the area where \_\_\_\_\_ is kept
  - discourage pests by not leaving \_\_\_\_\_ or dirty \_\_\_\_\_ out on the benches
  - keep animals out of the kitchen.



## 3. Handling food safely

- We need to:
  - avoid handling food when \_\_\_\_\_ or feeling unwell
  - keep raw meats, poultry and seafood separate from cooked food, or food to be eaten \_\_\_\_\_
  - protect food in the refrigerator by placing in \_\_\_\_\_ containers or covering with plastic wrap
  - use clean equipment, plates or containers to prevent contamination of cooked food (or food that will be eaten raw) with traces of raw food
  - use clean equipment rather than \_\_\_\_\_ to pick up food
  - wear clean clothes or a clean \_\_\_\_\_ or overall.
  - wash fruit and vegetables to be eaten raw under running water.

## KILLING OR MINIMISING GROWTH OF MICRO-ORGANISMS

### 4. Cooking high-risk foods thoroughly

- We need to:
  - cook thoroughly food such as mince, burger patties, \_\_\_\_\_, rolled roasts, stuffed meats, rabbit, seafood and poultry.

### 5. Keeping hot food hot and cold food cold

#### Keeping hot food steaming hot

- We need to:
  - keep hot food at \_\_\_\_ °C or above
  - refrigerate or freeze food that is to be prepared well in advance and reheat to steaming hot before serving:
    - ◆ Place hot food in the refrigerator once it has stopped \_\_\_\_\_.
    - ◆ Divide large quantities of food into \_\_\_\_\_, shallow containers for faster cooling.
    - ◆ Reheat as quickly as possible until steaming hot.
    - ◆ Cook or reheat packaged food strictly in accordance with instructions on the packet.

#### Keeping cold food cold — that is, in the refrigerator or freezer

- We need to:
  - take cold groceries home to the refrigerator as quickly as possible
  - store cold food at \_\_ °C or below
  - keep cold food in the refrigerator as much as possible
  - thaw frozen food in the refrigerator or microwave, not on the kitchen bench
  - check the temperature of the refrigerator regularly.



# 10 Applying the facts

Student resource 10 name:

## Purpose

To apply what you have learnt to a range of new situations.

## Task

Use what you have learnt to answer the questions below. If necessary refer to the *Food safety matters* Student guide.

### Keeping hands and nails clean

1. Children may participate in activities that increase the risk of getting bacteria on their hands and then on to their food if their hands are not washed.

List three of these activities.

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_

### Keeping the kitchen clean

2. Why is it recommended to let dishes air dry?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Why is it important to wash the breakfast dishes before leaving the house for the day?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Handling food safely

4. Imagine that you are having chicken and salad for lunch. After chopping raw chicken into pieces in readiness for cooking, why should you use a clean chopping board and knife to prepare the salad?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Imagine that you are having a barbecue and you have bought some raw steak and some cooked chicken. There is room on the middle shelf of the refrigerator for one item, and room on the bottom shelf for the other. Where would you put the steak and why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Cooking high-risk foods thoroughly

6. Why do beef sausages and minced beef need to be cooked thoroughly, whereas a beef steak can be served 'rare'?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Why are chicken and seafood considered 'high risk' foods?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Keeping hot food steaming hot and cold food cold

8. Imagine that you left a hot casserole to cool on a kitchen bench and find it still there in the morning. Why could this food give you food poisoning even if you reheat it to piping hot?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Why is it good practice to refrigerate a large batch of cooked food in a number of small containers rather than one big container?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# 11

## Soaps, foodies and safety

Student resource 11 name:

### Purpose

To evaluate behaviours portrayed in the media (television) with respect to preventing food poisoning.

### Tasks

#### Work in groups of two to four.

1. Select a television program that typically shows people handling food — for example, 'Home and Away', 'Neighbours' or cooking programs.

Program: \_\_\_\_\_ Date: \_\_\_\_\_

2. Watch at least one episode of the program. Group members can watch different episodes. As you watch the program, identify good food safety practices and poor food safety practices being demonstrated. Record your responses in the table below.

| Good food safety practices | Poor food safety practices |
|----------------------------|----------------------------|
|                            |                            |

3. As a group, discuss your observations. Add any new ideas from other group members to your own list.
4. Draw conclusions about the extent to which the program promotes good food safety practices.

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5. Is there anything you can/want to do in relation to what you have found out? If so, what action might you, as a viewer, take?

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# 12

## Personal food safety: Then and now

Student resource 12

name:

### Purpose

To evaluate behaviours that influence personal safety with respect to food.

### You will need

- your completed copy of Student resource 3 (Personal food safety questionnaire)
- a blank copy of Student resource 3.

### Tasks

#### Work in groups of two to four

1. Complete a blank copy of the Student resource 3 for Ms or Mr Perfect Food Safety — that is, someone who always follows each of the good food safety practices. By now you should know what these are.
2. Individually, use Mr or Ms Perfect’s response sheet as a guide to marking your own personal food safety questionnaire.
3. How did you go? Of the behaviours identified, how many of your behaviours promoted food safety? \_\_\_\_\_
4. Identify up to five behaviours that posed a threat to your personal safety:
  - i. \_\_\_\_\_
  - ii. \_\_\_\_\_
  - iii. \_\_\_\_\_
  - iv. \_\_\_\_\_
  - v. \_\_\_\_\_
5. Highlight those behaviours that you have changed since completing the questionnaire.

6. What influenced you to make the change(s)?

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7. In your small group, list all behaviours that have changed. Tally the number of people in the group who have changed each behaviour.

| Behaviour | No. who changed |
|-----------|-----------------|
|-----------|-----------------|

|       |       |
|-------|-------|
| ----- | ----- |
| ----- | ----- |
| ----- | ----- |
| ----- | ----- |
| ----- | ----- |

8. List the three most common behaviours changed in your group.

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9. Draw some conclusions from your findings to identify the risk factors for the selection and preparation of food in the home.

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# 13

## Design challenge A: Food safety checklist

Student resource 13

name:

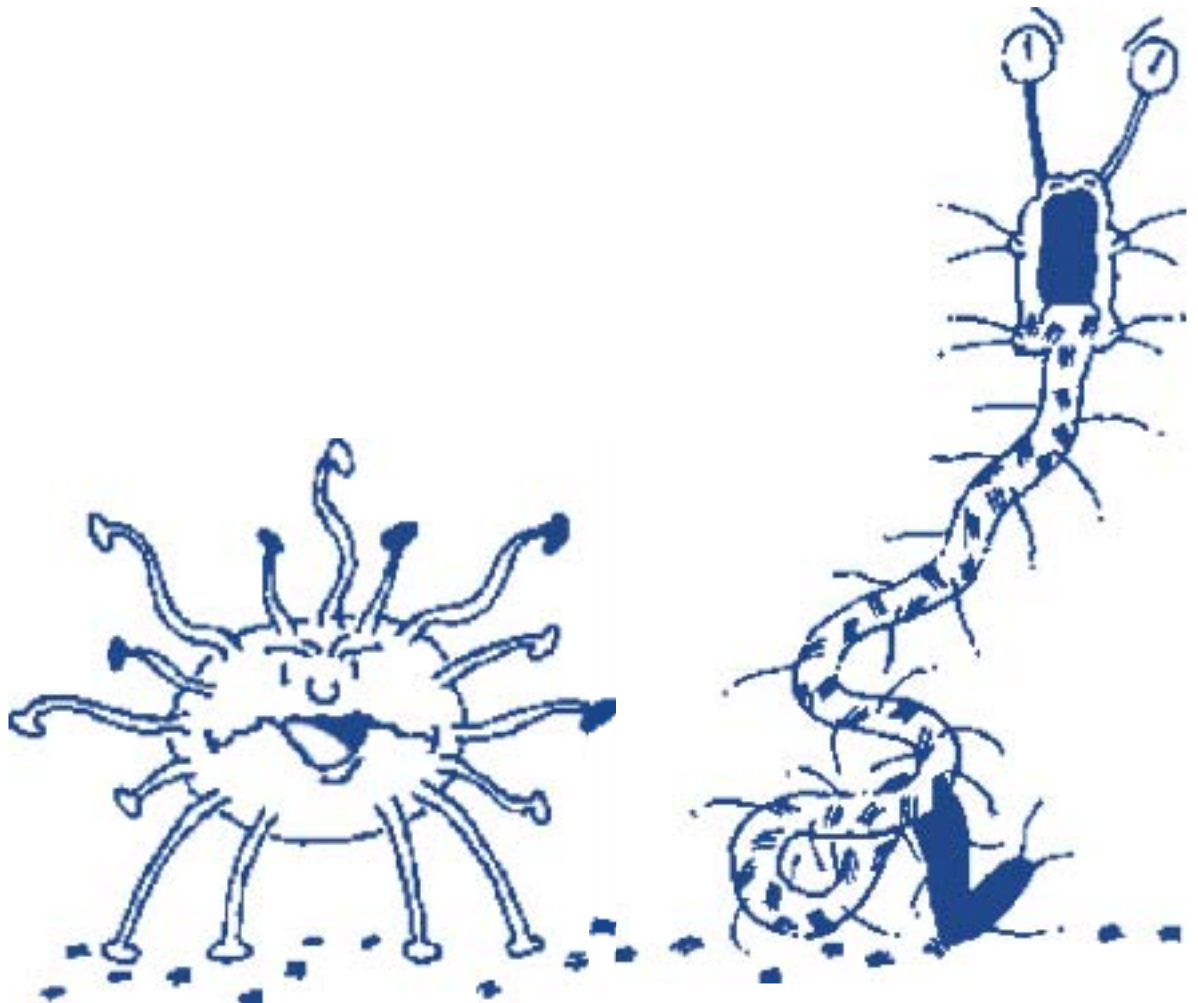
### Design situation

It is estimated that at least 5.4 million\* people in Australia become ill every year as a result of food they have eaten. It is estimated that one in five of these occurs from incorrect food handling in the home. Common symptoms include abdominal pain, vomiting, diarrhoea and fever. Nearly always, food-borne illness can be easily prevented.

*\* Based on research by OzFoodNet, released by the Australian Government Department of Health and Ageing in 2003.*

### Design challenge

The challenge is for you to design, make and use a food safety checklist to promote good practice related to personal hygiene, food storage, food preparation and cooking in the home. This checklist will be used to assess your own and others' food safety behaviours.



## Design challenge A: Food safety checklist



### Tasks:

|  | Estimated date of completion | Actual date of completion |
|--|------------------------------|---------------------------|
| <ul style="list-style-type: none"> <li>• Complete the Introductory unit: Food fit to eat — a food safety angle</li> </ul>  |                              |                           |
| <ul style="list-style-type: none"> <li>■ Analyse Student resource 5: Help 'Con Tamination' solve the mystery or Student resource 9: Preventing food poisoning' to identify the checks to include in a food safety checklist.</li> <li>■ Investigate different ways of presenting a food safety checklist.</li> <li>■ Investigate the requirements in the checklist, including where and how the checklist will be used, and functional, aesthetic, social and environmental factors.</li> <li>■ Investigate appropriate materials for the preferred way of presenting the checklist, and skills and equipment required to produce the checklist.</li> <li>■ Identify style features to make the checklist effective — for example, clarity of messages, size and style of text, colours, graphics, white space.</li> </ul> |                              |                           |
| <ul style="list-style-type: none"> <li>■ Develop and evaluate alternatives for the checklist, taking into account family requirements and results of testing materials and style features.</li> <li>■ Test materials and style features to determine the best alternative for the checklist.</li> <li>■ Sketch a design proposal for the chosen checklist, including product specifications.</li> <li>■ Justify the final design.</li> <li>■ Annotate the proposal to explain how the design meets functional, aesthetic, social and environmental considerations identified by the family.</li> </ul>   |                              |                           |
| <ul style="list-style-type: none"> <li>■ Prepare a detailed production plan for the production of the food safety checklist.</li> <li>■ Produce a food safety checklist, following the production plan.</li> </ul>   |                              |                           |
| <ul style="list-style-type: none"> <li>■ Test the checklist by using it to evaluate your own work space and behaviours either at home or at school.</li> <li>■ Evaluate the checklist in terms of:                             <ul style="list-style-type: none"> <li>• its effectiveness in promoting food safety</li> <li>• whether it matches your design ideas, and if not, why changes were made</li> <li>• your family's satisfaction with the product</li> <li>• how it compares with checklists used in the food industry.</li> </ul> </li> <li>■ Evaluate the processes you used to meet the design challenge</li> </ul>  |                              |                           |

### Looking for more?

- Complete an interactive web-based quiz to evaluate your knowledge on food safety.
- Promote the food safety checklist to the school community in the form of a brochure or workshop presentation.

# 14

## A food safety checklist: My design ideas

Student resource 14 name:

### Purpose

To generate ideas for presenting a food safety checklist.

### Tasks

1. Identify the way that you intend to present your food safety checklist — for example, as a fridge magnet, apron, CD. \_\_\_\_\_
2. Make a list of all the attributes (characteristics) to be consider when making your food safety checklist — for example, the material to be used, colour, text, graphics, image.  
\_\_\_\_\_  
\_\_\_\_\_
3. Using Table 2 (My attribute analysis), write these attributes as headings for the columns.
4. Under each heading, list some suitable possibilities for that attribute — for example, under 'Text' style, consider the use of block letters, italics, cursive or 3-D text.
5. Read across the columns and combine different words from each column to create new ideas. Use a different coloured pen for each new idea.

Although the example in Table 1 shows a very small number of possibilities for each attribute, it demonstrates how many different ideas can be generated using this method. The example shows that the design is made out of a laminated material and has a patterned background; block, fluorescent text; cartoon characters; and a fun theme.

**Table 1. Example of attribute analysis**

| Background       | Text                 | Colour             | Material               | Graphics        | Theme       |
|------------------|----------------------|--------------------|------------------------|-----------------|-------------|
| Plain – white    | 3-D                  | Bright             | Fabric                 | <b>Cartoons</b> | Groovy      |
| Plain – coloured | <b>Block letters</b> | <b>Fluorescent</b> | Plastic                | Photographs     | Serious     |
| <b>Patterned</b> | Italics              | Pastel             | Fridge magnet material | Stencils        | <b>Fun</b>  |
| Textured         | Cursive              | Contrasting        | <b>Laminate</b>        | Applique        | Educational |

**Table 2: My attribute analysis**

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

6. Choose your best two ideas and give each idea a name.

Idea 1 \_\_\_\_\_ Idea 2 \_\_\_\_\_

7. Sketch and annotate your best two ideas. The annotations should indicate how the attributes would be effective for a food safety checklist.

8. Did this strategy of listing attributes of the checklist help you think of new ideas? If so, how?

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9. How could you use this strategy again? (Think of times when you want or are required to come up with new ideas.)

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# 15

## Reflecting on the challenge

Student resource 15 name:

### Purpose

To reflect on what you have learnt about food safety and yourself and others, how you went in meeting the challenge, and changes you would make to the procedure next time you complete a design challenge.

### Tasks

Reflect on how you responded to the design challenge. To do this, complete the questions below.

#### About the impact of the challenge

1. List three things that you learnt about food safety.

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_

2. List any aspects of food safety that you still do not understand.

\_\_\_\_\_

3. What impact did the challenge have on your own or your family's practice with respect to food safety?

\_\_\_\_\_

#### About what you did

4. **What** went well?

\_\_\_\_\_

5. **Why** did it go well?

\_\_\_\_\_

6. **What** did not go as planned?

\_\_\_\_\_

7. **Why** did it not go as planned?

\_\_\_\_\_

#### About next time

8. If you did the project again, what would you do differently?

\_\_\_\_\_

9. If you did the project again, what would you recommend that your teacher do differently?

#### About people

10. What have you learnt about yourself?

\_\_\_\_\_

11. What have you learnt about others?

\_\_\_\_\_

# 16

## Design challenge B: The 'clean team'

Student resource 16 name:

### Design situation

Many Australians prepare and pack their lunch at home, and then transport and store it until lunch time. Students often select, prepare and pack their own lunches. In many cases, particularly in schools, there are no refrigerators in which to store the lunches. It is critical that lunch box foods brought from home are selected, prepared and packed with due consideration of food safety. Failure to do this can result in food poisoning. It is also critical that young people, who are becoming independent in preparing and cooking food, develop food habits that do not put them at risk of food poisoning.

### Design challenge

The challenge is to work with a partner to support each other in developing food safety behaviours that do not put you at risk of food poisoning — that is, you become a 'clean team'. (You will think of a better term.) You will provide constructive feedback on each other's food safety practices when you prepare lunch box foods that are to be eaten outdoors in the summer months. You will consider safe methods of selection, storage, preparation and presentation of your food choices.



#### Fact:

**Food-borne illness is a real risk when eating outdoors, particularly in warmer months.**

#### Fact:

**Children's immune systems are not fully developed increasing the risk of illness including food-borne illness.**

Source: [www.foodscience.afisc.csiro.au](http://www.foodscience.afisc.csiro.au)



## Design challenge B: The 'clean team'

|  | Estimated date of completion | Actual date of completion |
|--|------------------------------|---------------------------|
| <b>Tasks:</b>  |                              |                           |
| Complete the introductory unit: Food fit to eat – a food safety angle.   |                              |                           |
| <ul style="list-style-type: none"> <li>■ Investigate the food preferences of a target market.</li> <li>■ Design for the target market a menu of healthy lunch box foods, incorporating two or more high-risk foods*.</li> </ul>  |                              |                           |
| <ul style="list-style-type: none"> <li>■ Investigate:                             <ul style="list-style-type: none"> <li>• food safety factors that need to be considered when serving and storing packed lunches</li> <li>• food safety factors that need to be considered when serving food outdoors.</li> </ul> </li> </ul> |                              |                           |
| <ul style="list-style-type: none"> <li>■ Work with a partner to devise an evaluation sheet that enables you to provide feedback to each other on food preparation and cooking practices with respect to food safety.</li> </ul>  |                              |                           |
| <ul style="list-style-type: none"> <li>■ Develop a management plan for preparing lunch box foods, highlighting the actions that will be taken to maximise food safety.</li> </ul>  |                              |                           |
| <ul style="list-style-type: none"> <li>■ <b>Implement the management plan to produce</b> the lunch box foods, while your partner observes and uses the evaluation sheet to note and provide feedback on the demonstration of appropriate/inappropriate behaviours.</li> </ul>  |                              |                           |
| <ul style="list-style-type: none"> <li>■ <b>Evaluate</b> processes used for helping each other become the 'clean team'.</li> </ul>   |                              |                           |

Note: The context for the foods being prepared could be changed.

For example:

- breakfast
- snack foods for a party
- foods for a camp

\* High-risk foods are those that are potentially dangerous if not stored, prepared and cooked properly. (See Student resource 4: Horror stories.)

### Looking for more?

- Conduct a survey of the target market on the ways in which they carry their lunches to school or work (for example, paper or plastic bag, esky, insulated lunch box), collate the results, and design and implement strategies to promote more appropriate methods for transporting lunches.
- Produce an information brochure to be distributed to other students outlining safe storage and selection of lunch box choices.

# 17 Popular foods

Student resource 17

name:

## Purpose

To identify for a target market:

- popular lunch box foods
- popular lunch box foods that are high risk\*.

\* High-risk foods are those that are potentially dangerous if not stored, prepared and cooked properly. (See Student resource 4: Horror stories.)

## Tasks

### Work in groups of three or four

All group members should be investigating the same target market.

1. Choose your target market: \_\_\_\_\_
2. Develop an interview schedule to collect the information on foods that are popular with the target market. You could use Student resource 18 Interview schedule: Foods you eat, as a guide.
3. Each member of the group should interview three or four people that fit the target market, recording their responses on the interview schedule.
4. Collate the responses gathered by the three or four people in your group, using the table provided.
5. Which five food items scored the highest number of ticks?

\_\_\_\_\_

You might like to use this information when deciding which foods to prepare as part of the design challenge.

6. Highlight on the table provided all the high-risk foods.
7. Of these high-risk foods, which three food items scored the most ticks?

\_\_\_\_\_

You might like to use this information when deciding which high-risk foods to use in meeting the design challenge.



# 18

## Interview schedule: Foods you eat

Student resource 18 name:

### Purpose

To collect, for a target market, information about the foods they like in their lunch boxes.

### Tasks

1. Read to the interviewee:

*I am conducting a survey to find out the kinds of foods that people in your age group like.*

*I would appreciate it if you could help me by answering the following questions:*

*i. Do you go to work or to school? \_\_\_\_\_*

*ii. If school, what year level are you in? \_\_\_\_\_*

*iii. As I read each of the following foods, please indicate if you have that food regularly in your lunch box. (Read the list of foods.)*

2. Tick the appropriate box for positive responses.

3. As the interviewee responds to the questions, record in the 'Comments' section anything of particular interest to you.

