



CHAPTER 3

Discovering design

ACCESS PRIOR KNOWLEDGE

- 1 Create three possible design solutions to solve the problem of what to put in your lunchbox tomorrow.
- 2 Name and outline the stages used when creating design solutions.
- 3 State three pieces of information that you would usually find in a design brief.
- 4 Describe how you can investigate options for a solution to a challenge in a design brief.
- 5 Explain why evaluating is so important after producing a food item. (Consider the processes and the actual food item in your response.)

3.1 Designing: the basics

All around you are items designed to solve a problem, need or opportunity. **Design** is a part of everyday life, and it is primarily about problem solving. Small

design An activity that translates an idea into something useful, making it better and improving quality of life; it fulfils a need.

design process A process that typically involves investigating, generating, producing, evaluating, planning and managing to create a design solution that considers social, cultural and environmental factors.

items, such as the pen you use, or much larger items, such as the roundabout you went through on your way to school, have all gone through a **design process**. What we grow, eat, make, wear or build, our health and safety, and how we travel and spend our spare time are all related to design.

What does this have to do with food? Every day, food presents people with the chance to create **designed solutions** through problem solving and decision making.

The process of planning and preparing a meal or snack – for example, Boost designing a new juice or

smoothie – is no different from the process that other designers go through.

When designing at home or school, this process is simplified, but it is always fundamentally the same. The problem of what to eat, the options available and the solution you find are part of working through the design process in order to find design solutions.

The information in Chapters 1 and 2 developed your knowledge to help you make good safety and equipment decisions. The chapters that follow will build your knowledge to enable you to make decisions about food options. Knowledge of food, equipment and processes is critical in the design process so you can develop a quality final **product** solution.

designed solutions

The products, services or environments that have been created for a specific purpose or intention as a result of design thinking, design processes and production processes.

product One of the outputs of the design and production processes. Products are the tangible end results of natural, human, mechanical, manufacturing, electronic or digital processes to meet a need or want.



Figure 3.1 All these items passed through a design process.

DESIGN THINKING

Members of your family are going to a football game and would like a quick, healthy and tasty meal beforehand because the snacks at the venue are too expensive and the queues too long. The problem becomes your **design brief**. Consider your options. In all aspects of design, knowledge is required about the material with which you are working and the best ways to achieve your final solution, together with evaluation to think about what worked well and possible changes for next time. A recipe will give you part of a solution to a problem. With knowledge of food and food preparation processes, you can alter the recipe to meet needs or other challenges. Sometimes creating the recipe can be part of creating the meal.

design brief A concise statement clarifying the project task and defining the need or opportunity to be resolved after some analysis, investigation and research. It usually identifies the users, criteria for success, constraints, available resources and timeframe for the project, and may include some possible consequences and impacts.



Figure 3.2 These are all possible solutions for the problem of producing a quick meal before going to a football game.



Figure 3.3 These new product innovations were responses to the needs and wants of consumers.



3.1 ACTIVITY

Designing dinner

The Club Sandwich recipe on pp.67–8 could be a possible solution for the family meal. This product requires minimal skill and includes ingredients that are likely to be readily available – both things that have to be considered in meal planning in response to the needs of the design brief.

- 1 Explain how this meal suits the requirements of the meal before the football game.
- 2 Generate three other variations that could be added or adapted for the filling.
- 3 Compare your selection with that of your partner. Note how the variations will vary depending on your tastes, foods with which you are familiar, and your knowledge of food and what goes together. These decisions are all part of the design process.

Club Sandwich



USA

Main tools and equipment

Grill, vegetable knife, chopping board, measuring spoons, butter knife, frying pan, tongs

Production processes

Measuring, slicing

Cooking processes

Frying, toasting

Ingredients

				
1 chicken breast	1 teaspoon oil	2 bacon rashers	6 slices bread	1 Roma tomato, thinly sliced
				
4 butter lettuce leaves, washed	2 tablespoons mayonnaise	2 teaspoons Dijon mustard	8 toothpicks	

Method

- 1 Slice chicken breast into two thin pieces.
- 2 Heat oil in a frying pan. Cook both pieces of chicken.
- 3 Remove chicken from pan when cooked all the way through. Drain on paper towel.
- 4 Cook bacon in frying pan. Remove when cooked.
- 5 Toast bread, either on the grill or using an electric toaster.
- 6 Spread mustard onto two slices of toast. Spread mayonnaise on remaining slices of bread.
- 7 Place mustard toast on a plate. Top with cooked chicken, then lettuce.
- 8 Place a mayonnaise toast on top of your lettuce, then layer with half the tomato and one slice of bacon. Place another slice of mustard toast on top.

MAKES 2



Preparation time: 15 minutes



Cooking time: 20–25 minutes



Serving and presentation: 5 minutes



Total time: 40–45 minutes



Club Sandwich – continued

- 9 Place four toothpicks into each quarter of your triple-decker sandwich to stop it falling apart. Slice into triangles.
- 10 Serve your Club Sandwich triangles standing up on their crusts to show off your layering.

Evaluating

- 1 Develop a list of other ingredients that could be used.
- 2 Suggest how you might be able to modify this from a light snack/meal to a main meal.

- 3 Outline three safety considerations that you needed to be mindful of when making your sandwich.
- 4 Would you like to open up your lunchbox and find this sandwich inside? Discuss your reasons why or why not.
- 5 Research how the Club Sandwich got its name.
- 6 List any other types of sandwiches with which you are familiar. Here is one to get you started: the BLT.

3.2 Identifying a need or opportunity

The design process starts from a need or opportunity. In food preparation, problems or scenarios exist all the time. What will I have for lunch? This fried rice needs to be made for a vegan. I have sport in an hour, but I need to have a quick meal first. This savoury muffin would

taste better if it had some fresh herbs in it. In **design thinking**, these problems are written as a design brief.

In responding to each of these problems, you are actively identifying needs, wants, opportunities and areas for change or improvement, as well as considering restrictions or guidelines that may have been provided.

Really simple but very useful things have emerged as the result of critiquing needs or investigating opportunities – for example, paper clips, Post-it notes, matches, Velcro and safety pins. These items are all cleverly designed solutions that resulted from a design process, involving a design brief; investigating; generating; planning; managing; producing; and evaluating.

Since their initial production, all these products have continued to improve and transform to meet changing needs or use new materials as required.

Tasty Trivia

Some useful Australian inventions that were responses to a challenge are the Flow Hive (2015) for sustainable harvesting of honey, the Reading Machine for the blind (1990), the Victa lawnmower (1952) and the Hills Hoist rotary clothes line (1947).



Figure 3.4 The Flow Hive is a revolutionary Australian way of harvesting honey with hardly any disturbance to the bees.



Figure 3.5 Examples of created solutions to different design problems.

3.2 LET'S COLLABORATE

Select one of the items in Figure 3.5 and discuss the history of the design brief and the possible problem that existed, showing a need for each of these items. Where might ideas and solutions have been generated?

Tasty Trivia

The first teabags in 1904 were in fact samples of tea in little silk bags meant for the promotion of different teas. Commercial teabags did not appear on the market until the mid-1950s. Consumers wanted to be able to have a cup of tea without the need for implements such as a teapot and strainer, and without having to empty the teapot in between uses. A recent innovation is the pyramid tea bag, which allows large, higher-quality tea leaves to be inserted and has bigger holes in its mesh so that water comes into contact with more of the leaves' surface – all contributing to a better cup of tea.



Figure 3.6 The invention of pyramid-shaped bags has improved tea brewing.

3.3 Learning about design briefs

The design brief is the problem, need or opportunity written out. At home or in the canteen queue, the problem is just a part of a conversation. 'What will I have for lunch? It is hot today and I don't feel very hungry' or 'What will we have for dinner tonight? We have plenty of vegetables and some chicken.'

For each problem, barriers will exist that limit possible solutions. For example, 'What will I have for lunch?' may be influenced by how much money you have, whether you have food allergies, or any ethical or cultural considerations. These are referred to as **specifications**. The combination of the information related to the challenge and specifications becomes the design brief.

specifications Constraints and considerations or issues that will need to be thought about when you come up with a solution.

A design brief is a statement that contains:

- an opportunity, problem or need – what has to be solved
- background to the problem, usually written as a scenario
- specifications or guidelines that apply to the problem
- constraints (aspects that are 'fixed')
- considerations (aspects that have some flexibility).

The design brief provides the designer with a range of factors that must be considered when thinking of a solution or solutions to the problem – for example, who is it for (intended audience)? How is it to be used? What food is available? Are there any time or equipment considerations? A design brief never contains the solution to the problem; it is simply the problem, need or opportunity waiting to be solved.



3.3 ACTIVITY

Summer snacking

You are to design a tasty, filling snack for a quick meal in the summer holidays. The snack is to be made by a group of teenagers with limited cooking skills, although they can use a microwave and an oven. They would like a healthy, nutritious and tasty snack. They enjoy eating chips and don't mind spicy foods. It is a casual meal, so the snack will be finger food that is shared. One of them is allergic to onion.

Write down the constraints of and considerations for this brief.

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This is additional information.

This is consideration. It is more flexible. You will need to think about this in your planning, but there are different ways by which you can reach a solution.

A constraint when thinking of a solution.

Figure 3.7 A design brief for a quick snack showing the different parts of the brief.



3.4 ACTIVITY

What will I have for breakfast?

Imagine you are at home and that the problem is what you will have for breakfast. Make a list of all the possible specifications that may influence the final decision. Your specifications are like barriers or boundaries: they are issues that will limit your possible solutions when generating and designing ideas. Compare your list with that of a partner.

The list you developed in Activity 3.4 is like the specifications in a design brief. They are important when planning your solution.

In the commercial world, the design brief contains the important guidelines that a client gives to the designer. It communicates the need or opportunity and the issues that must be considered when you are creating designed solutions. In the brief, the guidelines or specifications for the problem are set out so that the designer knows what their limitations are when designing a solution to

'I have a problem. I need to make a quick breakfast to share with friends.'

'Why do you need the meal?'

'Whom is it for and how many people will there be?'

'Where will the meal occur?'

'When will the meal occur?'

'What does it need to include?'

Figure 3.8 Design briefs often include information about the 'Five W' questions.

3.5 LET'S COLLABORATE

Write a design brief for the breakfast outlined in Activity 3.4 on p.70 in your workbook and include responses to the 'Five Ws'. Fill in the gaps for the last four 'W' questions. For example:

- 1 Friends are coming over after swimming. Everyone will be hungry. (Why?)
- 2 The lunch is for ... (Whom?)
- 3 It will be held at ... (Where?)
- 4 During ... (When?)
- 5 One person who is coming likes ... (What?)

When these are put together in one paragraph, they form a design brief.

meet the problem. The style of a design brief may vary; minimal detail or a lot of detail can be documented during the design process.

Think about the clothes you are wearing or the pen you are using. Explain what some of the design specifications might be for each of these items. (*Hint:* would an outfit made from steel or a 30 cm-long pen be workable?)

Developing criteria for success

A design brief should allow for the identification of the most important part/s of the design. In a well-established design process, evaluation will occur when the solution to the design brief has been completed. The criteria used for evaluating the product will come out of the design brief. These are referred to as the **criteria for success**.

criteria for success

Questions developed to check whether you have made something to meet the requirements of the design brief. The criteria for success should come out of the design brief.

DESIGN THINKING

You have decided to have a burger party for 10 friends for your 13th birthday. You want variety in the burgers to satisfy a range of tastes, but it should be easy for everyone to put their own together. In the group, some people like red meat, but several do not and one is vegetarian. The hamburgers will be served with different salad ingredients and flavourings. You also want a simple, tasty dessert for afterwards.

- 1 How will the burgers be able to satisfy a range of tastes?
- 2 Are people able to put their own burgers together?
- 3 How are different salad ingredients incorporated?
- 4 What makes these burgers suitable for a vegetarian?

3.6 LET'S COLLABORATE

Using the design brief for the snack outlined in Figure 3.7 on p.70, generate three other criteria for success that you could use during the evaluating stage. Remember that the criteria are used to assess the success of your product solution – the completed snack – in meeting the brief. Remember that the criteria can only come from the design brief.



3.7 ACTIVITY

End-of-term party

Your class is having an end-of-term afternoon tea and everyone must bring a plate. You have decided to make cupcakes. You want variety in the cupcakes to satisfy a range of tastes. In the class of 25, some people like chocolate, but several do not and one cupcake needs to be gluten free. The cupcakes will need to have a variety of different flavourings. You also want to include a unique cupcake for your teacher.

- 1 Write down the constraints and considerations for this brief.
- 2 Generate three suitable criteria for success questions from this brief.



Figure 3.9 Once the criteria for success are established, it is time to start investigating options for solutions to the problem.

REFLECT ON LEARNING

- 1 Explain the role of a design brief.
- 2 Outline what is not included in a design brief.
- 3 Do you face any daily food problems? Explain the daily food needs and opportunities you experience and identify people who are involved in your food decisions.
- 4 Describe how criteria for success are generated.
- 5 Discuss why you need to evaluate your product using the criteria for success at the end of the design process.

3.4 Following the stages of the design process

investigating The problem is developed as a result of critiquing needs or investigating opportunities of designed solutions.

generating Developing and creating a number of ideas or solutions.

producing Actively realising (making) the designed solutions using appropriate resources and means of production.

The flow chart in Figure 3.10 makes it easier to see what happens at each stage in the design process. Designing and making a final product involves **investigating, generating, producing, evaluating and analysing, planning and managing products.**

evaluating and analysing The process used to assess how successful the solution to the challenge is and how the design process can be improved in the future.

3.5 Investigating

The first stages involve investigating, gathering information and building knowledge about the impact of the specifications, and the best way to design possible solutions. It means looking at possible alternatives that exist and solutions that have been applied to similar problems. It may also involve looking at areas for potential improvement of existing solutions or coming up with totally new and innovative ideas.

Sources of information (research) include:

- existing solutions – recipe books
- guiding information available – people, books, magazines, the internet, television, tablet and smartphone apps
- target market for the product – who the product is for, their general likes and dislikes that you know about.



Most people think children are the biggest consumers of ice-cream. Do you agree?
Yet research suggests that adult males are the largest consumers of ice-cream – particularly gourmet ice-cream.

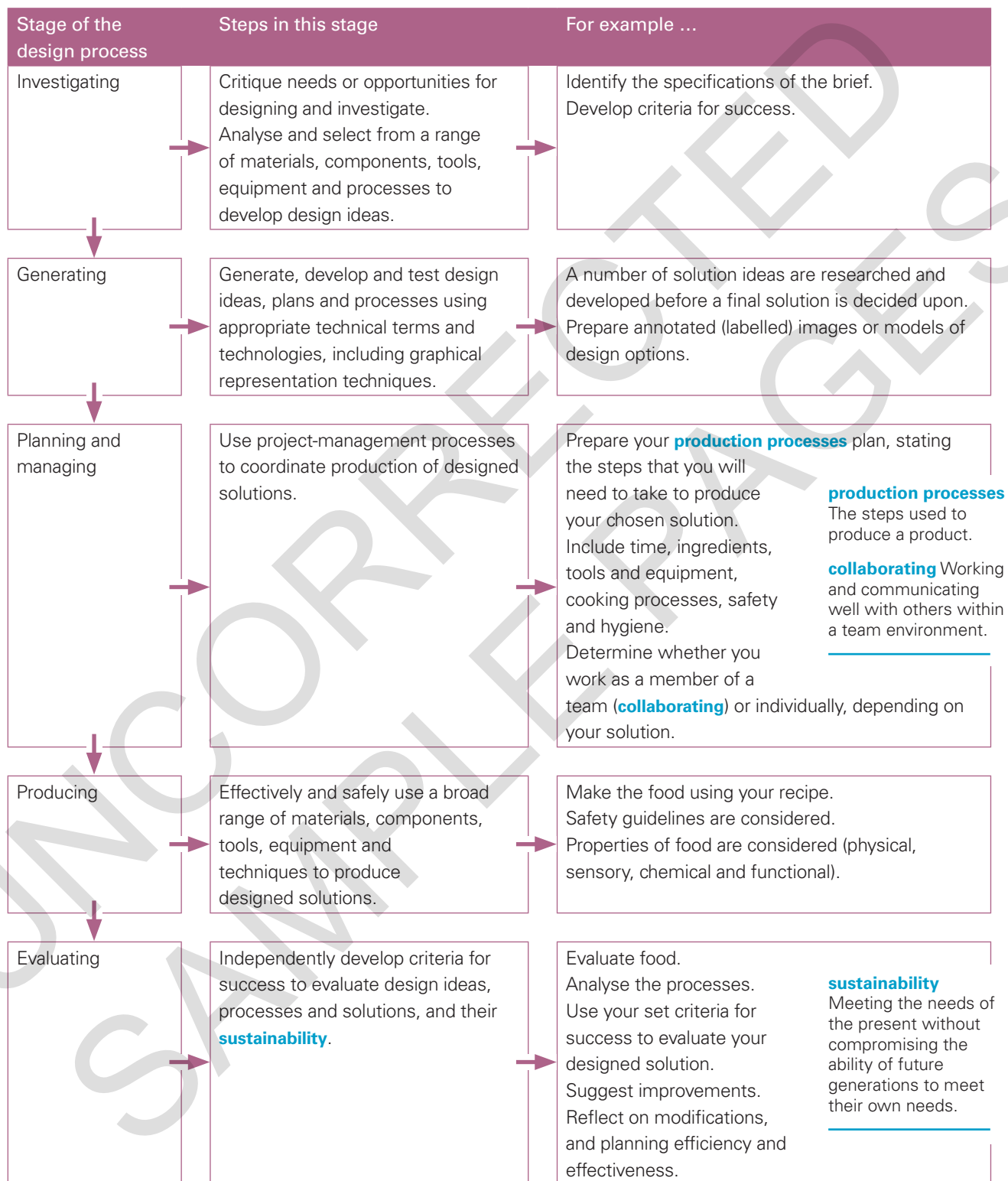


Figure 3.10 The five stages of the design process and how they can be put to practice.

3.8 LET'S COLLABORATE

Have you heard of the term 'target market'? You are part of a target market! Explain what the *target* for the product means. You need to check to see who the food is being prepared for.

Different groups will have different likes and dislikes regarding some food. In pairs, compare possible likes and dislikes for children and adults as though you were preparing a healthy snack. Research the names of the different target markets used in marketing.

Investigating also involves looking at the resources that currently exist. In food preparation, this includes all the issues discussed in Chapters 1 and 2, as well as other issues relating to health requirements; availability of resources such as money, time, knowledge, skills and equipment; and the properties of food – physical, sensory, chemical and functional.

In food preparation, the problem is often solved by finding a recipe that is suitable; when you are more experienced, you can design your own. Activity 3.9 is an example of a design brief for a snack food.

3.9 ACTIVITY

Feeding your friends

Several teenagers want a warm, tasty, filling winter snack to eat at the snow. The snack is to be made by them and they have limited cooking skills, although they can use a microwave and an oven. They all like vegetables, but one person is unable to eat tomatoes. To make the snack easier to eat, it needs to be in a wrap as it is a casual meal; therefore, the snack will be finger food that is shared. One person is a vegetarian, so there is no meat in the snack.

- 1 Prepare four criteria for success to evaluate your final product solution.
- 2 Use a digital graphic organiser to develop a mind map of your generated design solutions (options) for a suitable snack.

3.6 Generating

'What are suitable wraps that can be used for the snack?'

'What are suitable vegetables for a winter snack?'

'What are options for a tasty, filling snack?'

'What are suitable snacks that can be cooked in an oven and/or microwave?'

Figure 3.11 These questions could be asked while generating options for solutions to the design brief in Activity 3.9.

Here you generate possible options. This stage in the design process is an important step in transforming ideas into creative and practical realities by making the most of the different foods and pieces of equipment available.

Once you are aware of the options, it is time to make the final decision. This decision-making includes being able to justify your final choice, linking it directly back to the design brief. You also need to explore how your final product will look and be presented. This can be done by simply drawing a picture of how you would like your product to look and then labelling it or perhaps creating a model of your product using Web 2.0 tools.



Adapt that!

Adapting or making changes is an excellent way to try something new, or to improve a product solution. It can also help you to turn what may not meet the design brief into something that does.

Recipe adaptations might include:

- changing from using a dried to a fresh product, such as pasta (or vice versa)
- swapping the protein – for example, chicken to turkey

- changing the cooking method – for instance, roasting to grilling
- altering how the ingredients are prepared – such as crushing to dicing.

Making big or small changes to a recipe can alter the flavour, presentation and final properties of the product. Never be frightened to try something new or make a mistake; sometimes it is the mistakes that turn out the best.

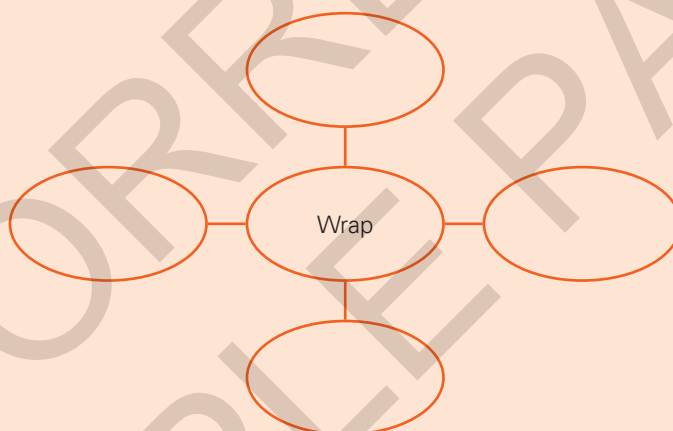
Once a recipe has been found or written, it is time to produce your solution to the design brief.

CREATE A SOLUTION

A search for a recipe will give you a quick solution or, if you are more skilled, a recipe may give you an idea that you can adapt to make your own solution. When generating and thinking of options for a design brief, use a graphic organiser such as a mind map. Let's look at some options for the questions asked in Figure 3.11.

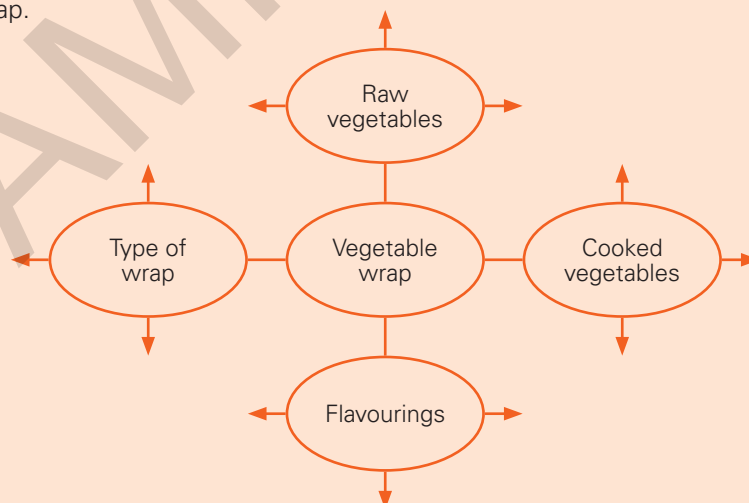
Identify suitable wraps that can be used for the snack, such as lavosh bread, rice-paper sheets and tortillas.

Develop a mind map like the one below and brainstorm wrap options.



Highlight or draw a box around the option you prefer. Justify your choice.

Complete a similar mind map for the other questions in Figure 3.11. The options can also be drawn as a much larger mind map.



3.10 INVESTIGATE IT

Investigate the adaptations or modifications required to ensure the Club Sandwich recipe on pp.67–8 is adapted to meet the needs of the following consumers: gluten free, vegan, fructose free.

Research each of the different requirements listed below. Provide a definition and then use your new knowledge to identify the ingredients that are not suitable for consumption and suggest an adaption to use instead.

Requirement	Definition	Ingredient changes needed	Adaptions
Gluten free			
Vegan			
Fructose free			

3.11 LET'S COLLABORATE

Try a fruity version. What are some options for a fruity wrap? One suggestion is mashed banana mixed with honey, sultanas and cinnamon. What does the class think?

can easily carry out the tasks required – especially if they have a plan in place. Catering for a large group of people or hosting a function may involve more than one person. There are often many tasks and problems to solve, and they can be tackled more effectively if a team of people is involved.

Working collaboratively as a member of a team ensures everything that needs to be completed in time gets done. When working in a team, planning and organisation are essential, as everyone needs to work towards the common goal and ensure that they know what they have to manage and that they are able to fit in with others. The key here is teamwork: good planning and effective communication.

3.7 Planning and managing

A successful solution is the result of successful **project management**. When you work through the design process and produce your final design solution, you will be responsible for a number of different tasks using a variety of skills and knowledge.

project management

The responsibility for planning, organising, controlling resources, monitoring timelines and activities, and completing a project to achieve a goal that meets identified criteria for judging success.

This part of the design process occurs throughout the different stages: planning solutions during generation; using the plan during production; and reviewing management skills during evaluation. At times, this will be done collaboratively as part of a

team; at others, it may be done individually, depending on the requirements of the problem or project.

Successfully carrying out the design process involves the development of considered plans, establishing sequences and applying the plan to produce the final product or food item solution.

When completing the design process, you may work individually or as a member of a team. When you are cooking for yourself or your family, usually one person

3.12 LET'S COLLABORATE

- 1 Think about a time when you had to work as a member of a team. Was it successful?
- 2 Discuss the factors that ensure a team works well. Discuss the factors that can stop a team working well. Explain the saying 'A team is only as strong as its weakest member.'



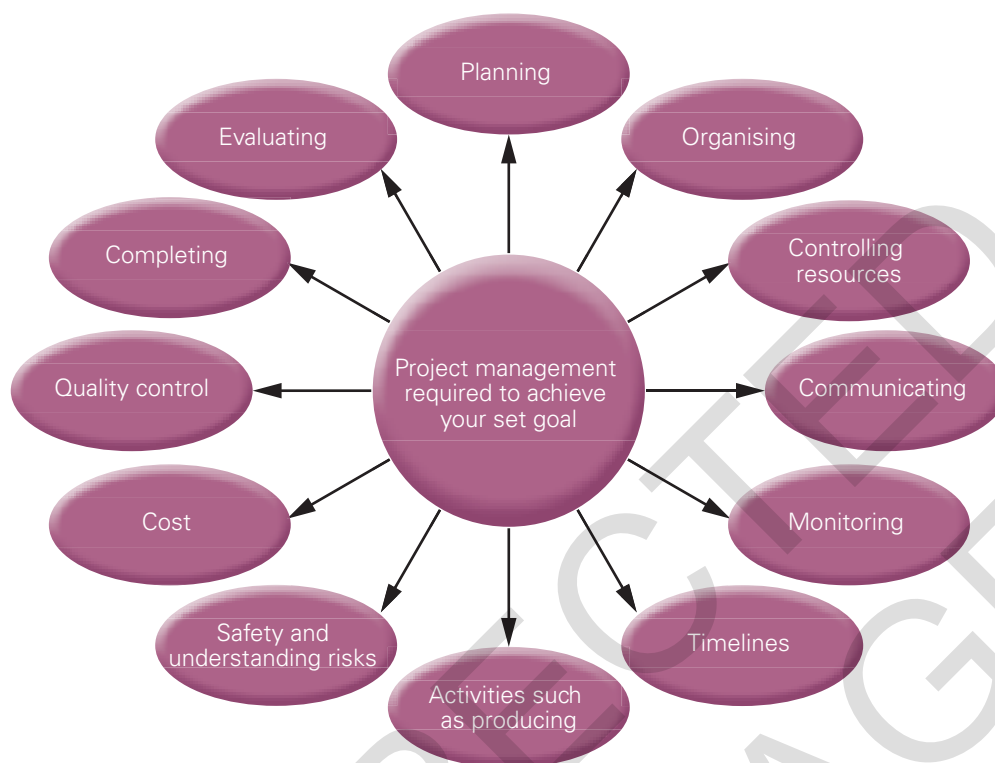


Figure 3.12 What is involved in project management?

3.13 LET'S COLLABORATE

Work collaboratively with a partner to find a recipe in this book that you might like to produce together.

Using the production plan template in Activity 3.15 on p.78, develop a production plan to help manage the cooking of the recipe.

If you get the chance, cook the recipe at home using only your plan. Then try to determine how effective your plan was.

3.8 Producing: Making the proposed solution

Once all the design options have been explored and the solution has been reached, it is time to make the food item. This is when you apply the skills and knowledge you have acquired about safety and hygiene, use tools and equipment appropriately and utilise correct techniques. You logically follow the steps of the recipe that you have developed or the one that has been produced for you. The aim is to make the highest quality product possible. The product must also meet the requirements of the design brief.

3.14 INVESTIGATE IT

Check out the websites for these car companies to see the design features of cars that have developed from a prototype:

- Ford Australia
- Holden
- Tesla.

The car industry may spend millions of dollars developing a prototype that never gets to the market. Suggest why you think this might occur.

Work plan for club sandwich

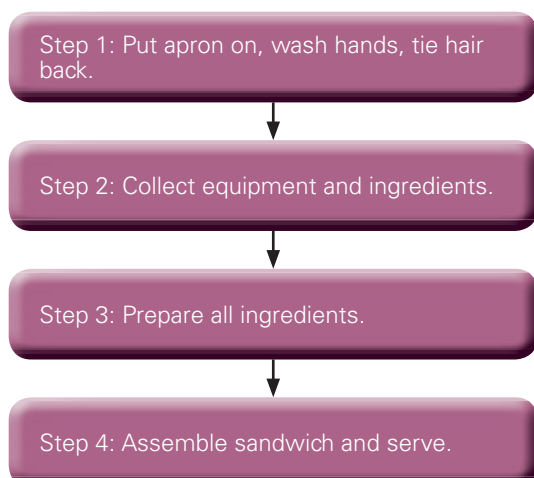


Figure 3.13 Design briefs often include information about the 'Five W' questions.

Developing a work plan or production plan helps you to think through all the steps of the production process, not just the steps in the recipe. It also helps to identify where management of health and safety, and of quality, is necessary. This helps you to effectively project manage your product. This will be discussed more in the managing projects and working collaboratively step of the design process.

If a trial food item is made, this is referred to as a **prototype**. In industry, prototypes are always made, as the manufacturer has to be sure that everything is going to work correctly; otherwise they can waste a lot of money. This applies to all aspects of the process, including the recipe, ingredients, preparation techniques, equipment to be used, taste, size and desired shape. When a food item is made at home, it is not an official prototype, but you will obviously change any part of the process or final product that does not work before you prepare it again or else not make it again.

prototype A trial item made to test an idea or process in order to inform further design development.

During production, you may make modifications or changes if it is apparent that something will not work as well as expected, or a piece of equipment is not available. In the school food-preparation area, modifications are made frequently – for example, if the microwave is not available to melt some chocolate, it is done in a basin over hot water on the stove.

Modifications need knowledge of equipment and ingredients to enable you to select suitable alternatives and continue to maintain the quality of a product.

3.15 LET'S COLLABORATE

Complete the production plan in Figure 3.13 for the Club Sandwich or another selected recipe. Use this template to help you. Record the parts of this task you found difficult.

Production plan

Recipe name:

Source:

Time (in 10 minute intervals)	Ingredients	Tools and equipment	Production processes	Safety and hygiene	Modifications

REFLECT ON LEARNING

- 1 Explain why you need to investigate different options for design solutions.
- 2 List three different sources of information that could be used to help generate ideas.
- 3 Describe the importance of planning and managing your production. Outline the potential benefits of being well prepared before you start producing.
- 4 If you make a trial food product solution, what is it called? Write the definition of this process.
- 5 Discuss when you might modify a step in the production process of a food item.

3.9 Evaluating: Checking the finished product and processes

The evaluation process occurs in order to ensure that the final product solution actually solves the problem stated in the design brief. For example, in making the Club Sandwich on pp.67–8, has the problem of making a tasty snack actually been resolved in the final product solution?

Using criteria for success

In food preparation at home, at the school canteen or in a restaurant, this step in the process may be informal, but it does occur. In a restaurant, when the chef introduces a new dish, if the plate comes back with a lot of leftovers, then the chef needs to question why. Evaluations assess the properties of food, the processes that occurred and whether the finished product meets specific requirements in the brief – for example, in the brief for Activity 3.9 on p.74, is the snack vegetarian?



3.16 ACTIVITY

Evaluate a food item you have made

Use the criteria for success you outlined in Activity 3.9 on p.74 and write a short paragraph responding to each criterion.

A good evaluation response has more than yes/no answers. If a criterion was 'Is the snack tasty and filling?', give your opinion and use examples to justify your answer – perhaps the type of cheese, how the amount of cheese added to the taste and how filling it was. If your response is negative, you need to suggest how the situation could have been improved or what modifications you would make in the future.

'This snack was easy to make. We only needed to use the oven and the preparation of the ingredients was simple.'

'This is a tasty, filling snack. It has a lot of different flavours and textures.'



Evaluating properties of food

Satisfying the senses is one of the key objectives of food preparation and processing. A lot of evaluation of food is **subjective**. It is based on opinions rather than facts, but opinions are very important when it comes to food. If it does not look, smell, taste and feel good, you will not eat it! At home, informal comments evaluate the food eaten, such as 'this taco is too hot, it has too much chilli in it' or 'the avocado in this salad gives it a tasty, smooth texture'. These are comments or **descriptive words** used to give impressions about the sensory properties of the food, particularly taste.

subjective A view about food that is based on opinion rather than facts – for example, based on taste, look, smell and feel.

descriptive words Words used to describe characteristics of food – for example, for appearance, translucent, watery, colourful, bright red; for texture, crunchy, crisp.

Figure 3.14 Responding to criteria for the design brief

3.17 LET'S COLLABORATE

- 1 List your favourite foods and explain why you like them. Provide a sensory description of each food in your response.
- 2 Identify any food allergies you have.
- 3 Name the foods that you dislike because of their taste.
- 4 Name the foods that you really enjoy eating due to their mouthfeel.
- 5 Compare your thoughts with those of others in the class.
- 6 Design an electronic survey to collect data on the tastes of others. Collect data from 10 different people, ranging in age, and compare and contrast your results with those of others in your class.
- 7 Identify any foods that you have in common with others.
- 8 Analyse the dislikes data. Perhaps you could design a recipe to help change the opinion of the number one food that is disliked according to your data.

Evaluation of properties can use descriptive words or other sensory tests. The simplest test used for evaluation is a *hedonic scale*. It can be used for an overall opinion about the properties, or a specific property such as taste. Another test used for evaluating food is *ranking*. This is when you make a decision about which food you prefer when you compare foods.

3.18 LET'S COLLABORATE

How many descriptive words can you think of to describe the properties of food?

- 1 Write down one word for each letter of the alphabet. Include words for sensory, physical and chemical properties.
- 2 Beside each word put an S for sensory, P for physical or C for chemical.

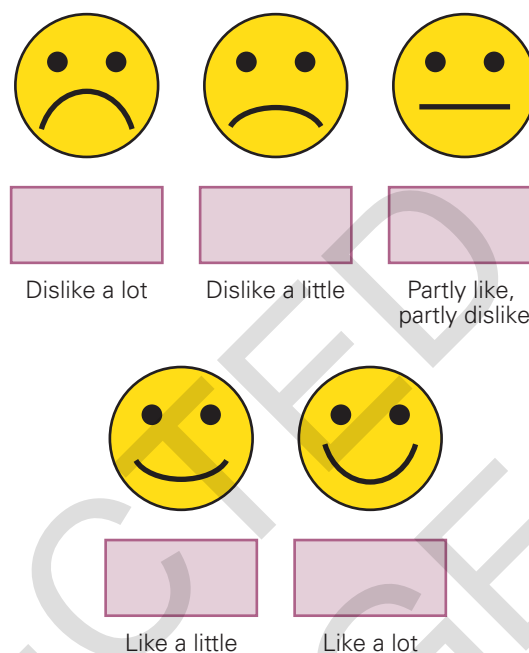


Figure 3.15 This is an example of the hedonic scale. The hedonic scale is a simple way to help you to evaluate food.

Looking at food

One of your first impressions of food is by sight. How does the food look? If a food looks good, you will be tempted to try it. It is very important that the final presentation of your product is the best that it can possibly be.

Appearance preferences in food can also vary and change with fashions. Compare the photographs in a very old recipe book with a more modern book. In the 1960s, a lot of food was served on a plate and the food was more complicated; today, less food is served and it is generally minimally prepared and fresher looking.



Figure 3.16 Does this look appetising?

3.19 LET'S COLLABORATE



- 1 For each of the dishes pictured, write a sentence describing the appearance of the product.
- 2 Compare your sentences with those of the person sitting next to you – how similar or dissimilar are they?
- 3 Discuss whether the sentences are linked to your personal likes and dislikes. For example, if the photograph was of cooked sheep's kidneys, would that influence your impressions?
- 4 Select the photograph with the most negative comments and write down two ideas for improving its appearance.

Analysing the processes and reflecting on your work

As well as responding to the criteria for success, it is also worth analysing the actual processes that have occurred. In analysing the final product solution, you should note the feedback from other students or the teacher. This section is also important for self-assessment.

REFLECT ON LEARNING

This worked	Areas for improvement	Next time I could try ...

'This time I grated the cheese; next time I will slice the cheese.'

'My partner did not like the look of my wrap because I folded it in half and it partly opened. I am not sure I completely agree with what they said.'

'This time I used a tomato and it made the filling watery. Next time I will ...'

'I was not very efficient when working today. I wasted too much time talking.'

Figure 3.17 Responding to criteria for the design brief

Your analysis of the process and use of equipment could be presented as a table. Write up what worked, areas for improvement and what you would do next time in a table like the one that follows.



Self-assessment

As well as assessing the food you have produced and the processes you have used, take time to think about how well what you have done has worked. Don't be disappointed if your product has not worked to your satisfaction, as long as you can identify what needs improving. There are several questions you can ask yourself to think about your progress. One simple way of doing this is called the 'feedback sandwich'. It is called a sandwich because the good news is the bread and the bad news or the things that can be improved make up the filling.

Other questions that can be asked or statements that can be made are:

- Today I learnt ...
- My strength today was ...
- I supported my friends in class today by ...
- One thing I was not sure about today was ...
- An area I can improve on was ...



Figure 3.18 The feedback sandwich is a handy tool for self-assessment.

Providing feedback and working collaboratively

Often your peers are a useful source of information on how well you worked or how well your product turned out. Remember, though, as was discussed earlier, evaluating food is subjective. Different people have different opinions, likes and dislikes.

When you are evaluating your food, what you think looks good may not be the same for someone else. If you criticise other students' food, you must be able to justify your decisions.

The feedback sandwich can also be used to provide feedback on your friends' work. Instead of using 'I' in each statement, change it to 'you'.



REFLECT ON LEARNING

- 1 Explain why it is important to evaluate a food item after you have produced it.
- 2 Explain what it means when you say the evaluation of food is subjective.
- 3 When people evaluate the same food they often come up with different responses. Outline why this occurs.
- 4 Describe how project managing your proposed design solution and ensuring you have a carefully considered plan help to ensure the success of a design brief.
- 5 Discuss why the 'feedback sandwich' is useful when giving feedback to your peers.
- 6 Explain why it is necessary to analyse and reflect on your own work and how well you carried out the production.

LOOKING BACK

Figure 3.19 shows the steps in the design process.

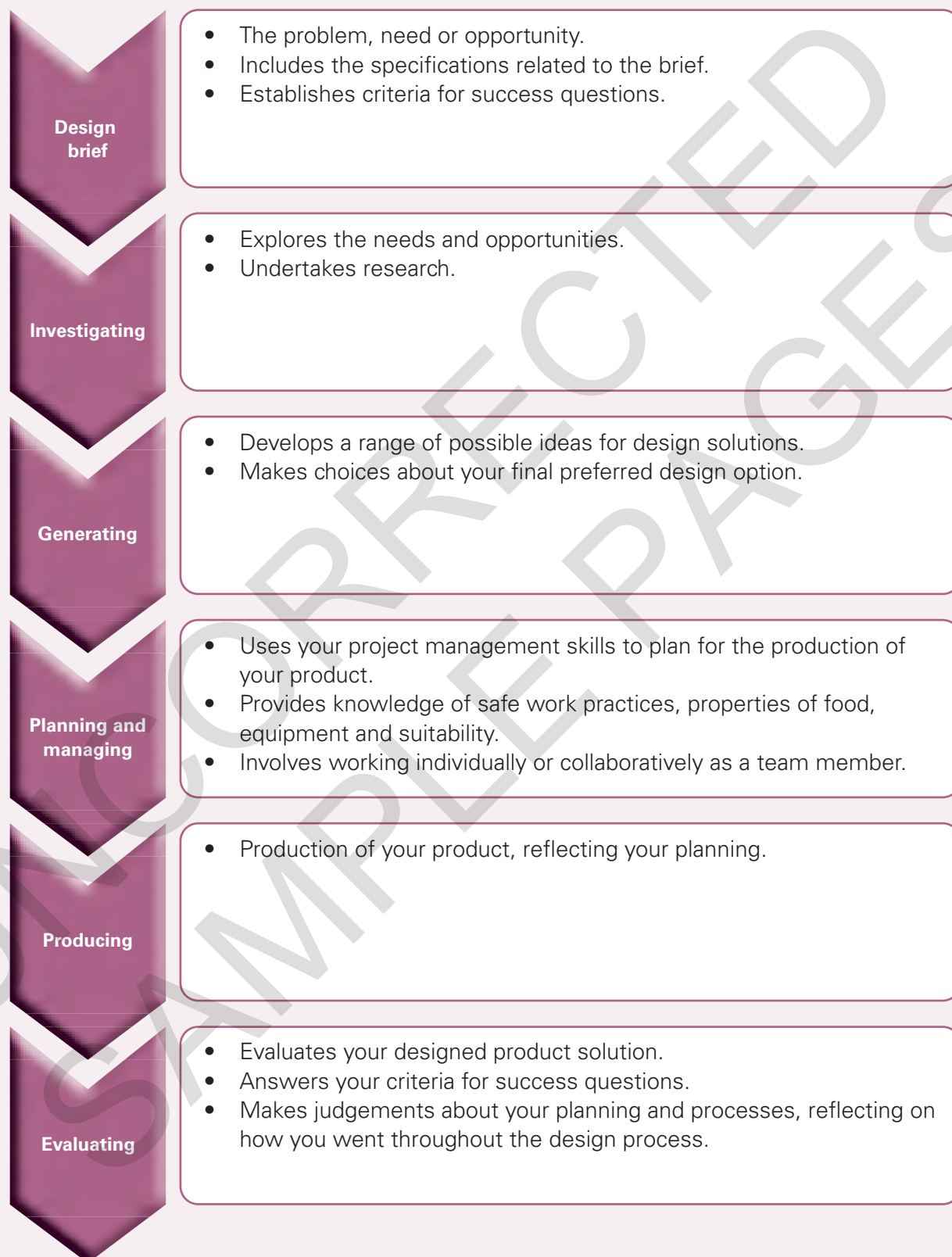


Figure 3.19 The different stages in the design process.

TEST YOUR KNOWLEDGE

Multiple choice

- 1 In a design brief, a consideration is:
 - a the flexible parts of the brief
 - b the scenario or challenge
 - c the non-flexible parts of the brief – that is, things you cannot change
 - d a solution to the brief.
- 2 Criteria are used to evaluate the food you make. The criteria for success come from:
 - a ideas that your friends have about what you should cook
 - b consideration in the design brief
 - c the background or scenario in the brief
 - d any part of the brief.
- 3 Successful collaboration involves:
 - a working as an effective member of your team and communicating well
 - b cooperating with everyone
 - c working independently but within a team
 - d doing everything together.

Short answer

- 1 Sometimes when students complain about the food available at a school canteen, they do not think about the considerations and constraints that influence the range of food available. List three considerations and three constraints that are important when planning food suitable for a school canteen lunch.

- 2 Describe two approaches the canteen would use to informally gather information to help evaluate or analyse the success or failure of food that is sold at the canteen.
- 3 Develop a survey that could be used by your peers to analyse a food-production session. Include at least five questions, covering your work processes and project-management skills, your final food product solution and your ability to work collaboratively with your peers.

Extended response

The following is a design brief for a Halloween party.

There are four friends meeting to go out trick or treating. They will then come back to your house for a quick meal. One of your friends is gluten intolerant (this means he cannot eat products containing gluten, including wheat) and another person cannot eat pork. You want to be able to whip up your meal quickly so that you can start eating the treats you have collected. Mum says you have to eat your dinner first! Everybody is pretty relaxed about what they eat but you know you will all be pretty hungry after being out.

- 1 Identify two considerations and two constraints contained in the brief.
- 2 Write three criteria for success that could be used to evaluate the food made for the Halloween party.
- 3 Investigate and generate a list of design solutions for the meal. Check that they match the considerations and constraints.
- 4 Select your final design solution, providing a justification for why you have chosen this option. Remember that you must link this back to the design brief.

