

2016 specification
first exams in 2018

Skills Guide

For AQA GCSE Food and Nutrition

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Teacher's Introduction

This *Skills Guide* has been designed to help you teach the food preparation and cooking skills students are required to learn during their GCSE AQA Food Preparation and Nutrition course.

This resource is split into 12 chapters, each of them describing in detail one of the skills listed in the specification.

What's included for each skill:

1. **Skill overview** – a general introduction to the skill, tools and equipment used, and general information to consider prior to a practical session.
2. **Health and safety tips** – to help your students maintain personal and food safety when working in the kitchen.
3. **Detailed instructions** – step-by-step guidance to carrying out each skill.
4. **Alternative methods** – creative and different ways to complete the skill when faced with barriers to completing them using conventional methods (e.g. when you don't have specialist equipment).
5. **Images** – to show certain processes when preparing and cooking food and help students understand the written instructions better.
6. **Activities** – at the end of each chapter, to help practise each skill and see how it's used when preparing and cooking food.
7. **Extra tips** – ideas that help to make food preparation an easier and faster process.

This resource also includes:

- **Skills checklist** – with a rating system to help your students track their progress and identify skills they may need to practise a bit more!
- **Answers** – to support you in assessing students' work; these can also be handed to students for self-assessment or peer-assessment.

Ways to use the resource:

- To help students get acquainted with a skill prior to their practical lesson – simply copy the relevant pages and ask students to read them at home. This will help them prepare for the lesson and think about possible difficulties they may face.
- To help students during the lesson – the detailed step-by-step instructions will help complete the more complex skills, which may be especially useful for the less able students.
- To widen and strengthen students' knowledge – copy the activity sheets and ask students to complete either during the lesson or as a homework.

We hope you will find the *Skills Guide* an engaging and useful teaching tool.

January 2019



A web page containing all the links listed in this resource is conveniently provided on ZigZag Education's website at zzed.uk/9289

You may find this helpful for accessing the websites rather than typing in each URL.

Free Updates!

Register your email address to receive any future free updates* made to this resource or other Food resources your school has purchased, and details of any promotions for your subject.

* resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers

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Skill 1: General Practical Skills (Overview)

Although this might seem easy, it is extremely important to pay attention and master the skills to succeed in cooking. Correctly measuring ingredients and cooking for the correct time are key to success. A good cook will know what techniques, equipment and ingredients to use, how to adjust cooking times, and how to judge and modify sensory properties of food to suit the requirements of the dish.

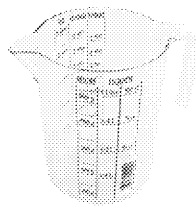
Equipment

For weighing and measuring:



Kitchen scale

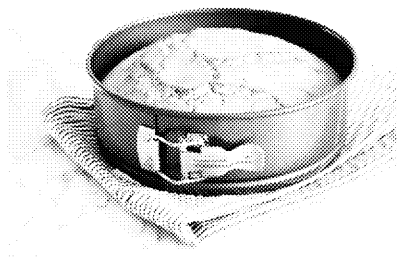
Electric (sometimes not) scale fitted to requirements of cooking. The scale can commonly weigh the food with 1 g accuracy.



Measuring jug

Plastic or glass jug with a scale drawn on the side to indicate amount of liquid in it, usually in millilitres and ounces.

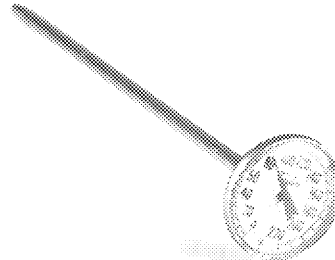
For preparing and cooking:



Round cake tin (with spring form)

Usually coated with non-stick layer, used for baking sponge cakes (as more liquid batters would leak out).

For testing readiness:



Temperature probe

Special thermometer adapted to high temperatures which allows the temperature inside of the food to be checked.

Health and Safety (Tips to remember!)

- Remember to disinfect the temperature probe before and after using it to avoid contamination.
- When using a glass jug, make sure to place it further from the counter edge to avoid it falling and potentially harming you and others.
- When using a kitchen scale, make sure to tare (zero) it after placing the bowl on it.
- Use a tray to keep your utensils on, and another one to keep the ingredients on to avoid mess and confusion during cooking.

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Skill 1a: General practical skills – Weigh a

You will notice that various recipes may give different measurements – usually using the metric system or imperial system. How do these work?

Imperial unit	Metric equivalent
1 fluid ounce	28.4 ml
1 pint	568 ml
1 gallon	4.546 litres
1 pound	454 g
1 stone	6.35 kg

Note that American recipes may use different measurements, e.g. 1 US ounce equals 29.57 ml – always double-check where the recipe comes from! Also, simplified measurements are used in the UK and other countries. For example, a 'cup of water' in Great Britain means 250 ml, while in the US it would be 237 ml.

Instructions for weighing

Correct proportions are often crucial for your culinary success. Some recipes will specify a specific amount of an ingredient. If a very precise amount is given, you might need to use a kitchen scale – this usually applies to powdery foods like flour or sugar.

To correctly weigh the food:

1. Turn the scale on.
2. Put an empty bowl on the scale.
3. Tare (zero) your scale by pressing the 'Tare'/'Zero' button – the scale should now show 0 grams. This is extremely important, as the bowl is not a part of the recipe, and you don't want to include the weight of the bowl in your measurements.
4. Pour or place your ingredients into the bowl until you obtain the desired amount.
5. If you accidentally put in too much, scoop out the excess with a spoon to get the correct amount.
6. Place the weighed food in another bowl before adding the next ingredient. If you put in too much and separating the two could be difficult.

Alternative methods

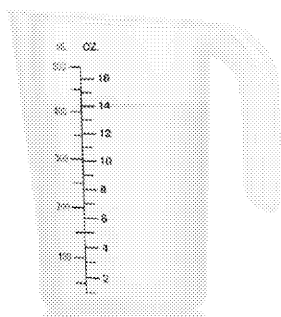
If you don't have a kitchen scale, you might need to use conversion tables or simple examples given below.

Ingredient	Weight
A teaspoon of mayo	15 g
A teaspoon of butter/margarine	5 g
A teaspoon of oil	4 g
A tablespoon of mayo	25 g
A tablespoon of butter/margarine	15 g
A tablespoon of oil	10 g
A 250 ml of oil	215 g
A 250 ml of cream	240 g
A teaspoon of flour	6 g
A tablespoon of rice	15 g
A teaspoon of sugar	5 g
A tablespoon of breadcrumbs	10 g
A tablespoon of quinoa	15 g

A tablespoon of flour	15 g
A tablespoon of oatmeal	10 g
A tablespoon of sugar	12 g
A tablespoon of icing sugar	10 g
A tablespoon of cane sugar	14 g
A 250 ml of wholemeal pasta (fusilli or penne)	65 g
A 250 ml of rice	120 g
A 250 ml of lentils or quinoa	180 g
A 250 ml of couscous	170 g
A 250 ml of flour	130 g
A 250 ml of semolina	170 g
A 250 ml of sugar	200 g
A 250 ml of icing sugar	120 g
A 250 ml of muscovado (cane) sugar	150 g

Instructions for measuring

To measure food ingredients you will need a measuring jug or spoons.



Measuring jugs are usually used to measure liquid water or oil. It usually has two scales – one metric, one imperial – so you can easily adjust the amount of liquid no matter whether you are using litres.

Measuring spoons are usually used to measure *small* amounts of powders, like baking soda or salt, and some liquids, like vanilla essence. They are labelled with the correct volume so your only concern is to use the correct spoon.

Alternative methods

A **heaped teaspoon** is usually equal in volume to a levelled measuring teaspoon, but it has more than the measuring one.



If you need a specified amount of a liquid, first read the volume of the package. It has to be clearly indicated on the label. Single-portion foods like cream or yogurts can be easily divided into smaller ones. Use a transparent juice bottle and divide it into equal portions – e.g. measure the bottle's height with a ruler, divide by four or five and mark it to divide into equal measurements. This way you will obtain 200 ml/250 ml portions.

Also, notice that margarines and block butter usually have measuring 'rulers' on the side to easily split them into 50 g (or equivalent) pieces.

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Activity 1.1: Are you close enough?

Task 1

Let's start with something easy – apple crumble! Split into pairs. Here's what you

For the crumble:

- 150 g plain flour
- 85 g brown sugar
- 100 g unsalted butter
- pinch of salt

Cut the butter into cubes, mix with flour, salt and sugar and rub together until it resembles breadcrumbs.

For the filling:

- 225 g peeled and cored apples
- 25 g brown sugar
- 0.5 tablespoons plain flour
- pinch of cinnamon

Dice the apples into 1 cm cubes, mix with sugar and cinnamon in a large bowl, add the crumble mixture. Bake for 45 minutes.

What measuring/weighing methods and utensils did you use and why?

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Set up a simple tasting panel to compare your crumble with that of your classmate. What difference? Why / why not?

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Task 2

Now that you've covered the basics, it's time to try something harder. What do you need for your pairs again – here's what you will need:

- 100 g icing sugar
- 100 g ground almonds
- 2 egg whites, medium
- 50 g golden caster sugar
- 3 drops food colouring gel
- 1 ml vanilla extract

Whisk egg whites until stiff. Add the ground almonds and whisk in the sugar. Sift the icing sugar and fold in. Add the food colouring and mix. Spoon the mixture onto a lined baking tray and bake for 15 minutes.

What measuring/weighing methods and utensils did you use and why? Do they differ from those used in making apple crumble?



Set up a simple tasting panel to compare your macaroons with those made by your partner. What differences? Why / why not?

Task 3

Get into pairs once again. In each pair, choose one food ingredient (e.g. flour, sugar) and measure it using different methods – e.g. you can place the ingredient in a bowl, a measuring cup, a tablespoon, etc. Record the weight/volume and take a picture to create your own



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Skill 1b: General practical skills – Prepare ingredients

The preparation of ingredients and utensils is an important part of *mise en place* at hand, reducing the risk of running out of ingredients, having to run around the kitchen and helps to organise your work and shorten the cooking time.

Instructions for greasing and flouring

Covering the surface of a baking tin or other dish is important, as it helps to avoid sticking and helps to remove a cake, muffin or other baked product from the tin after baking.

- Greasing is applied to cakes and other dishes which don't contain much fat or yeast cake, such as Italian panettone.
- Greasing is **NOT** needed for high-fat textures like shortcrust pastry or puff pastry, as they have sufficient fat content, so they stick to the sides.
- Baking tins and forms made of metal or silicone usually don't need to be greased as they are easy to remove the cake from it.

Usually tins are greased with oil, lard or butter.

1. To grease with oil:

- Choose a refined oil which can be safely heated to high temperatures, e.g. sunflower or canola oil.
- Pour a tablespoon into the baking tin and brush evenly over all surfaces.
- This is best for dry, tough doughs, such as pizza.

2. To grease with butter:

- Cut a piece of butter and smear inside of the tin.
- This is best for 'wet' cakes, such as sponge.

3. To grease with lard:

- Cut a piece of lard and smear evenly inside of the tin.
- This is best for savoury recipes, such as pâté.

Extra tip:

If you want to keep your hands clean, hold the piece of butter or fat through a piece of foil/paper in which the fat (butter, lard, etc.) was wrapped in.



Additionally, some recipes require the tin to be floured, especially important when baking liquid cakes like pâté. Sprinkle a thin layer of flour inside the tin in all directions, tapping on the bottom to ensure the layer of flour should be very thin. Turn the tin upside down and tap on the bottom.

Do **NOT** grease or flour the form when baking a sponge. When rising, the cake will stick to the sides, which will stabilise it and help to maintain the shape. Simply cover the bottom of the form with a thin layer of flour.

Alternative methods

Instead of flour, you can use breadcrumbs, fine oat bran, semolina or manna-croissant, almond flour or desiccated coconut.

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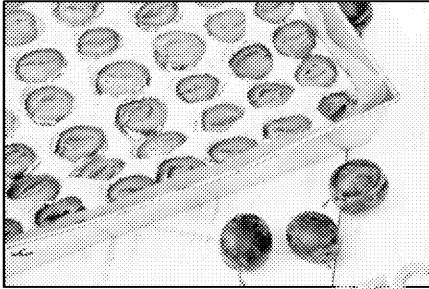
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Instructions for lining

Lining the tin with baking paper will help to remove the cake from the tin and make it easier to cut. The paper has two sides, one of which is usually waxed – make sure this is the surface you use for your cake, as the non-waxed surface may stick to it. A tin lined with paper does not need greasing.

To evenly line a square or rectangular form with paper:



1. Turn the form upside down.
2. Cover the form with paper and cut a sheet to fit the whole form.
3. Place the paper on top of the form and press it down to the shape you wanted to make a paper box.
4. Turn the form right side up and put your 'paper box' in the tin to keep them clean and protect from grease.

To evenly line the bottom of a round tin:

1. Detach a round circle from the bottom of the tin.
2. Cover the tin with a square piece of baking paper, waxed side up.
3. Attach the round circle to the bottom.
4. Cut all the excess paper around the edges.

As this method covers the bottom only, you might need to grease the sides of the tin to detach the cake from them.

To line the walls of a round tin:

1. Spread the baking paper.
2. Measure the circumference of the tin (with a measuring tape or simply a piece of string).
3. Measure the height of the tin.
4. Cut a piece of paper which is as long as the circumference and 2–3 cm broader than the height of the tin.
5. Line the sides of the tin, folding the extra paper over the edge to prevent food from sticking to it during rising.



Extra tip:

To line a muffin form simply use paper baking cups!

Alternative methods

Instead of baking paper, you can use aluminium foil. Make sure the shiny side faces out to adjust the cooking time slightly, as the aluminium foil reflects heat and may transfer it to the food.

Extra tip:

After blind-baking shortcrust pastry for quiche, cover the sides with aluminium foil to prevent burning while the filling is cooking!

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Activity 1.2: Ready, steady, cook!

Task 1

Below is a list of various dishes. Describe how you would prepare the baking dish of your choice.

Dish	How to prepare the baking dish	
Shepherd's pie		
Swiss roll		
Meat pâté		
Croissants		
Quiche Lorraine		
Profiteroles		
Lasagne Bolognese		
Panettone cake		

Task 2

Some foods, like steaks and burgers, can be both dry-fried and shallow-fried. Prepare one of them and shallow-fry the other one. Compare the results.

	Cooking time	Appearance	Texture
Dry-fried burger			
Shallow-fried burger			

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Skill 1c: General practical skills – Select and adjust

Instructions for adjusting cooking time

Cooking time is very important, especially to obtain the right texture of the food.

- The main rule to follow is to lengthen the cooking time according to the texture of the food. If it's a steak, a cake or an egg. The larger/thicker the food, the longer the cooking time.
- Read the recipe (or cooking instructions) carefully, as all instructions are based on a standard size of food.
- The smaller the food pieces, the shorter cooking time. If you have little time (or choose smaller pieces, like a small egg instead of a large one).
- Lowering the temperature usually extends the cooking time.
- Turning up the temperature is more risky as it might cause the surface of the food to cook too quickly while the inside would be still raw.
- If you have a smaller baking tin than required by the recipe, lengthen the cooking time, as the layer to be cooked will be thicker.
- If you have a larger baking tin than required by the recipe, shorten the temperature and cooking time, as the layer to be cooked will be quite thin and you may easily overcook the food (usually cake).
- Knowing your oven is the key – experiment with a couple of dishes to make sure how to use it and when to change settings. Usually, fan-assisted ovens require lower temperatures, as otherwise cakes or meats may come out burnt on the outside and raw in the middle.



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Skill 1d: General practical skills – Test for

Instructions for using a temperature probe

A temperature probe is a precise device which allows measurement of the temperature in the core of the food to make sure it cooks evenly and to ensure food safety. The core temperature should be 75 °C to make sure all pathogenic bacteria are killed and the food is safe to eat – this is because most bacteria thrive at temperatures between 5 °C and 63 °C, which is referred to as the *danger zone temperature*.

Make sure you understand the recipe and your oven's temperature probe settings, as they may use different units. Most commonly, degrees Celsius and degrees Fahrenheit. Here's how to convert them. Most American recipes will be in Fahrenheit, so make sure you know how to set your oven before cooking!

To use a temperature probe:

1. Clean it and disinfect with a disinfectant spray. This is important to make sure it does not carry any microorganisms or pieces of other food products, which might be allergenic and cause cross-contamination of the food.
2. Switch the probe on.
3. Insert it at an angle into the thickest part of the food (or the centre). Make sure not to touch the tin, a bone or base with the top of the probe, as they are much hotter than the food itself and will distort the result.
4. Leave the probe in place until the temperature stabilises.
5. If it is 75 °C or more, remove, clean and disinfect the probe. The food is ready to eat.
6. If the temperature is not above 75 °C, repeat steps 1–4 until it reaches the target temperature.

Instructions for using a knife to check readiness

A knife is sometimes used to check whether meats and other solid foods are thoroughly cooked. The knife should be inserted into the thickest part of the food.

If you're checking meat, the juices should be clear – if the *jus* (juice) is pink or bloody, the food is not ready yet (this excludes bleu/ rare beef or tuna steak, where this is a welcome serving method). Spreading the meat apart a little bit you can also see the colour of the meat – bright pink or red means raw.

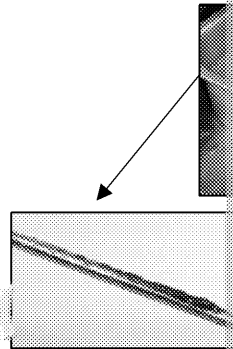
If you're checking a fish, it should be opaque (not transparent) and easily flake away.

Instructions for using a skewer

A skewer is a long, thin, wooden stick used to check the readiness of cakes and doughs.

To use a skewer:

1. Choose a clean skewer.
2. Gently insert at an angle into the thickest part of the food – this will usually be near the middle.
3. Remove the skewer. If it is clean, the food is ready to eat. If it is wet or has bits stuck to it, the food needs a little bit more time.



Skewer with bits of cake on it, the cake is not cooked yet

Instructions for using other methods of checking the readiness of food

Sometimes you won't need any special equipment to check if the food is ready, as you can use your senses.

Touch:

Useful for checking the readiness of smaller cakes or meat cuts. The texture should be firm, not soft or gooey.

Eyesight:

Cooking usually changes the colour and look of a food. Your eyesight will be especially useful when checking the readiness of cakes and doughs. During cooking, they should rise (expand in volume). Also, during baking, carbohydrates will dextrinise creating a golden/brown colour. More complicated chemical reactions (such as Maillard reaction), which take place during cooking between proteins and sugars will also cause the food to brown and create a more pronounced aroma.

You can also observe the readiness of food when grilling/frying. Fried or grilled meats should set and brown, while fish should turn opaque.

Caramelisation during cooking will create a golden, brown or black colour, which will help you to assess the readiness of onions or caramel sauce.

Hearing:

A sound check is important when checking the readiness of bread. When turned over the knuckles, a well-baked bread will produce a hollow sound.

Taste:

How the food tastes is probably the most important aspect for a cook. A taste check is useful for checking the readiness of pasta (which should be cooked al dente, which means firm to the bite) (which should be firm, but not mushy).

Vegetables should be firm, as overcooked vegetables may simply fall apart.

Aroma:

During cooking, various chemical reactions occur in the food. They change the nutrients, texture, flavour and aroma of the food. Notice that a raw cake mixture doesn't smell like the whole house with its aroma! The same applies to all foods – like bread or meat.

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Activity 1.3: Are you cooking with gas

Task 1

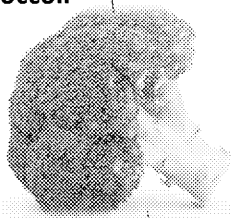
It is important with many food items that we test for readiness. Complete the diagrams below showing how the foods below should be like when cooked, and how to best check if they are ready by appearance, taste, sound, texture, aroma, etc.

Should increase in volume

Bread



Broccoli



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Now cook one of the foods above and check if you were right!

Task 2

Split into three groups. Each group will have to prepare cupcakes using the same oven settings, as shown below.

Group 1	Group 2	Group 3
Use mini cupcake moulds (30 ml).	Use normal cupcake moulds (60 ml).	Use large cupcake moulds (90 ml).
Place one mould on the top shelf of the oven.	Place one mould on the top shelf of the oven.	Place one mould on the top shelf of the oven.
Place one mould on the middle shelf of the oven.	Place one mould on the middle shelf of the oven.	Place one mould on the middle shelf of the oven.
Place one mould on the bottom shelf of the oven.	Place one mould on the bottom shelf of the oven.	Place one mould on the bottom shelf of the oven.
Repeat with different oven settings – e.g. higher temperature, lower temperature, fan.	Repeat with different oven settings – e.g. higher temperature, lower temperature, fan.	Repeat with different oven settings – e.g. higher temperature, lower temperature, fan.

Here's the recipe for cupcakes (make one batch and share between groups). Cupcakes are the result of various cooking settings, not ingredients).

- 220 g soft butter
- 220 g golden caster sugar
- 4 large eggs
- 1 teaspoon vanilla extract
- 220 g self-raising flour

In a large bowl, beat the butter and sugar until light and fluffy. Whisk in the eggs one at a time, then the flour and fold. Pour into the moulds until they are $\frac{3}{4}$ full. Bake for 10-12 minutes.

Take pictures or make notes of what happened to each cupcake, then repeat the process with different oven settings.

Group number	—	What do I observe?	How can I control the temperature?
Cupcake 1 (top shelf)			
Cupcake 2 (middle shelf)			
Cupcake 3 (bottom shelf)			

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Skill 1e: General practical skills – Judge and modify

Instructions for tasting during cooking

It is important to taste the food during cooking to ensure everything goes well and since tasting involves close interaction with the cook's mouth, it is necessary to follow the correct order to avoid its contamination.

- Rinse your mouth with water to cleanse your palate.
- Always use a clean spoon for tasting.
- Do not use the same spoon twice, as it has traces of your saliva on it.
- If multiple people are tasting the dish, each of them should use a separate spoon.
- Use a ladle or another spoon to scoop some of the food and pour it onto individual spoons.

Alternative methods

Instead of using a spoon, you can use cups, mugs, glasses or any other device for tasting. If you have a small supply of clean spoons or buy a packet of plastic disposable ones.

Instructions for seasoning, changing the taste and aroma

The taste of the food may change during cooking, and what first tasted delicious can turn into a catastrophe. To avoid such situations, follow the rules below.

- Always add salt at the end. Over-salting is probably the most common mistake. Some ingredients are naturally high in salt which is released during cooking, so no additional salt is needed, especially to dishes which contain bacon, ham, sausage or cheese, as they will release their saltiness into the food.
- Also, pepper should be added at the end, especially if you're using pepper in some sausages, which will spice the dish up anyway.
- Add **dry herbs** at the beginning to give them a chance to release their aroma. Add **fresh herbs** at the end of cooking to preserve their natural value (they will lose their taste if heated).
- Some **spices** need to be heated to release their aroma (usually when making a curry, frying them in a small amount of oil, and only after that other ingredients are added).
- Add cream, coconut milk or yogurt at the end of cooking, as overcooking can denature and create unsightly bits, which look like cottage cheese.

You can also amend the flavour of the food by using **dextrinisation** and **caramelisation**. This helps you to obtain a darker colour and a slightly sweet taste. Make sure to use the correct amount of time, as incorrect use of these techniques can quickly lead to burning of the food.

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Instructions for changing the texture

The texture of the food is just as important as the taste. The texture can be changed in a number of ways.

Changing texture before cooking:

- Marinate foods to alter their texture and soften them.
- Sprinkle (or cover) foods with breadcrumbs, which will then create a crispy surface.
- Glaze pastry or bread to make it shiny and golden.
- Add crust (usually the leftover shortcrust pastry is used for this).
- Sprinkle sugar on top to allow caramelising during baking (applies to sweet foods) – this will also turn the surface golden brown.

Changing texture during cooking:

- Increase the cooking time – the longer the cooking time, the crispier the food (especially to toast, crispies, pancakes, waffles, potato crisps, chips, etc.).
- Lower the temperature and increase the cooking time – this will help to cook food more evenly (applies to soups, stews and sauces).

Changing texture after cooking:

- Blow torch or grill crème brûlée (or any other dessert) to caramelise sugar and create a crispy top.
- **Reduce** a sauce to evaporate water and make it thicker. Add a small piece of butter to make it more creamy.
- Add a *beurre manié* **paste** (butter mixed with flour into a thick paste) to make a sauce thicker. The more flour, the thicker the mixture. Also, using potato starch makes a sauce transparent and jelly-like.
- Allow meat to rest after cooking before you cut it, as this relaxes the muscle fibres (juice) inside and makes the meat easier to chew.
- Toast or grill bread to obtain crispy toasts or croutons.

Alternative methods

You might notice that changing the texture often affects the flavour of the food as well. For example, toasting bread makes it taste richer while adding a paste will make it more buttery.

Instructions for garnishing and decorating for presentation and

The way the food looks is very important, as before we even have the chance to taste or smell it, we see it and judge whether it looks appetising or not. How the food looks is then, important in food choices.

- **Garnishes** are all decorations on savoury foods. They include chopped or whole herbs, vegetables, sauces or more complex-shaped decorations, like tomato roses or carrot flowers.
- **Decorations** are usually applied to sweet foods, and include icing, chocolate, coloured powder, piped cream, nuts, writing or candied fruits.

How to choose a garnish or a decoration:

- Make it contrasting in colour to the dish – green chopped coriander looks good on a tomato curry, but not on a green pesto spaghetti.
- Emphasise the main ingredient – a candied lemon or zest on a lemon chicken.
- Make it contrasting in flavour – a sour lemon wedge will go nicely with a salty dish, but cracklings will not.
- Roast nuts or seeds, as it will create a nicer, deeper flavour and a crispy texture.

You will learn more about garnishing in Skill 3.

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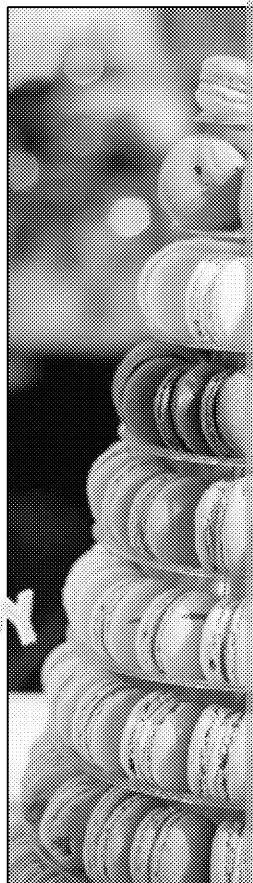
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Instructions for portioning and presenting the food

How the food looks is just as important as its taste. Here are some tips to help you make food more appetising:

- Choose clear, light-coloured plates – but not blue as it will cause loss of appetite.
- Large plates usually look better than small ones, as the latter may look 'overcrowded'.
- Cut and portion the food on a chopping board and only then transfer it to the plate (otherwise it will look messy).
- Place the food in the middle of the plate.
- If possible, stack the food – it looks better than spread flat on the whole plate.
- Gently sprinkle a couple of drops of sauce next to the food – not directly on it.
- The rest of the sauce can be served in a separate dish (sauce boat).
- Carefully place the garnish on the plate to complement the composition.
- When laying out cookies, cakes, pastries, canapés or finger foods, arrange them in a neat row.
- Contrast. You can also lay out the food with white napkins, and decorate it with fresh flowers.
- Pieces of bread, fruit and vegetables (such as fruit or vegetables) should be cut into small pieces so they will also fit more into a dish.
- Make sure the portion is not too large, to avoid food going to waste.
- Serve the dishes in the correct order: begin with a drink (aperitif), then go on to the fish dish, meat dish, salads and cheese. Coffee and desserts are served last.



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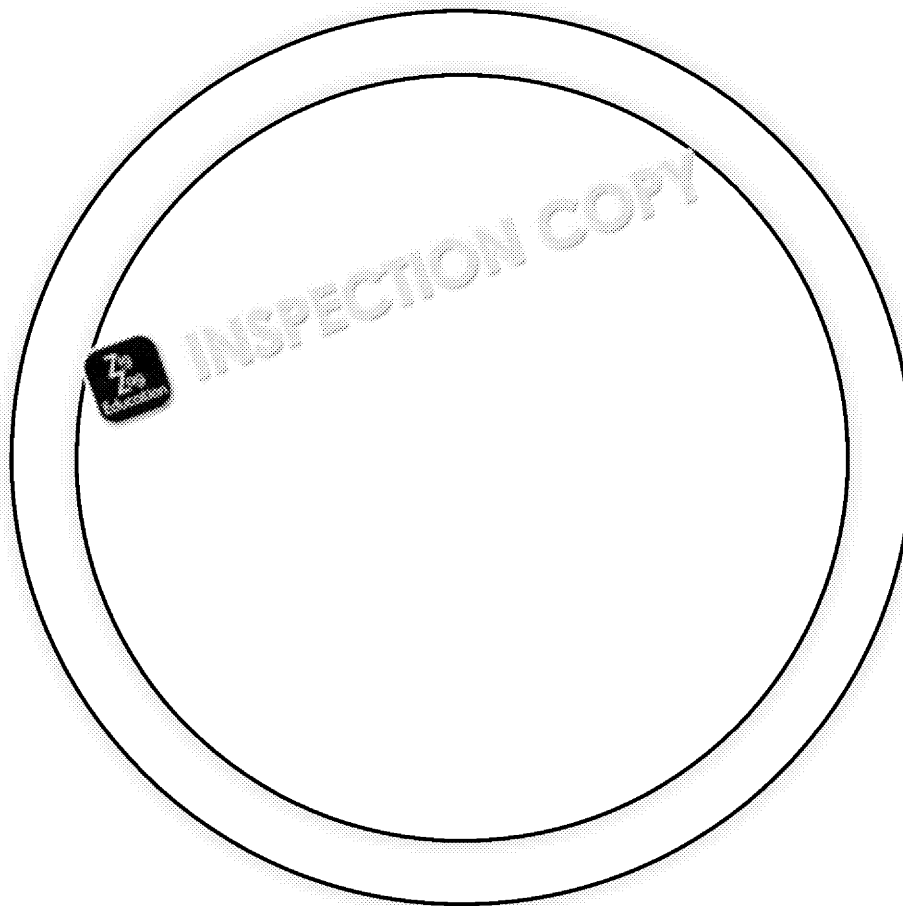
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Activity 1.4: Will your plan go astray?

You have been asked to prepare a dish consisting of potatoes, duck and vegetables. Consider how you could prepare with the use of these ingredients. Consider how you will present your dish, the portions, check for readiness, etc. to ensure you obtain the desired effect.



Weighing, measuring and portion control	
Checking for readiness	
Other issues to address	

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Skill 2: Knife Skills (Overview)

Using a knife is an important skill, one without which no cook can cook. It is crucial to know the correct way to hold a knife, and the cutting technique which applies to the food product at hand and the skill is designed to help you learn basic techniques used to peel and slice fruit and fish, portion a chicken, and remove fat and rind from meat.

Equipment

- **Serrated kitchen knife (bread knife):** Useful for cutting foods with a tough edge. The wavy serrated edge allows for a greater pressure to be applied and the wavy edge can be beneficial for gripping slippery surfaces, such as tomatoes.

- **Boning / filleting knife:** Sharp and flexible knife used to fillet fish and portion chicken or butterfly pork. Use a larger one for fish and smaller one for boning a chicken.

- **Chef's knife:** Soon to be the most common sharp all-purpose knife used to dice, slice and chop.

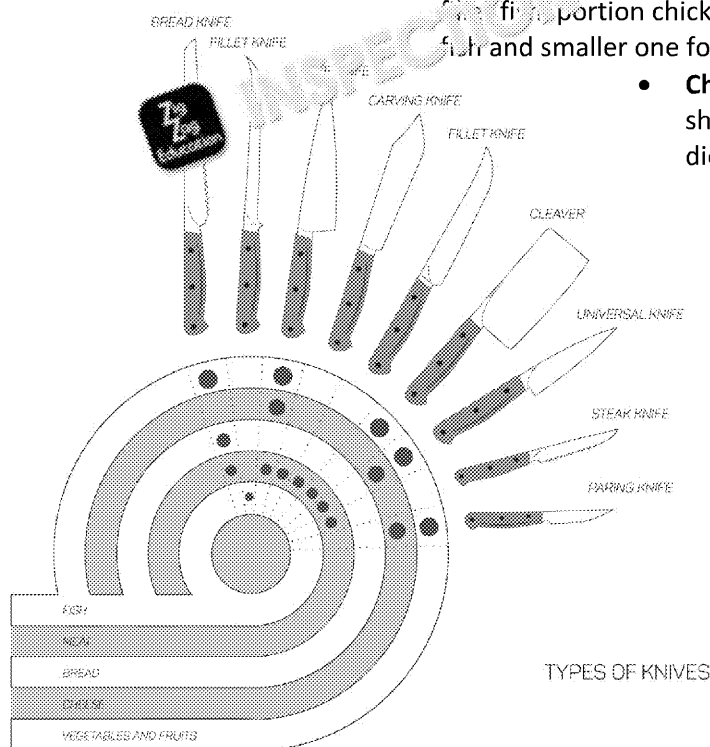
- **Carving knife:** Large knife used together with special tools to carve meat, ham, poultry and to cut through cutting larger vegetables.

- **Cleaver:** This is a heavy knife with a sharp blade and a wide edge and separating e.g. ribs.

- **Universal knife:** Slightly smaller than a chef's knife, may be used for smaller pieces of food, cutting meat.

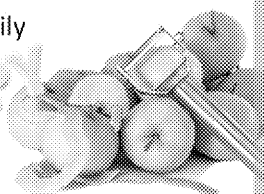
- **Steak knife:** Thin knife with a serrated blade.

- **Paring knife:** Small knife with a sharp and even edge, used for peeling and fruit, removing seeds, cleaning.



Other equipment used for cutting includes:

- **Peeler:** This is a double-edged tool designed to easily peel fruit and vegetables, slice off thin strips and ribbons, and sometimes remove the core.



Health and Safety (Tips to remember!)

- Make sure the handle of the knife and your hands are clean and dry – you don't want it to slip out.
- Ensure the knife is sharp – a dull knife is often more dangerous than a sharp one, as instead of cutting through the food it will slide down it and hurt you.
- Choose the correct chopping board – professional chopping boards are colour-coded to avoid cross-contamination and food poisoning.

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Skill 2a: Knife skills (fruit and vegetables) – Peeling



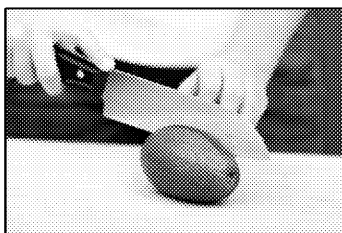
So what's the difference between peeling and slicing?

Peeling: removing the skin (outer layer) from a fruit or vegetable. Some fruits are better off peeled, e.g. cucumbers.

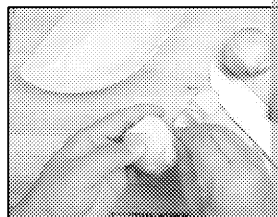
Slicing: cutting into slices. Some types of fruit are better off separated into segments while some are better off left intact or just cut into halves, e.g. grapes.

Instructions for peeling and de-skinning

1. Wash the fruit/vegetable to remove wax or dirt, and pat it dry.
2. Hold the fruit/vegetable with one hand, while peeling with a peeler from the edge side.
 - **For de-skinning tomatoes**, blanch for a minute in hot water, plunge into cold water, then peel with a paring knife. This way you will only remove a very thin layer of the tomato pulp.
 - **For peeling bananas**, cut off the 'black' end and pull the skin to remove the 'black' end. Both methods are just as good.
 - **For peeling avocados**, cut them in half, remove the pip and spoon out the flesh. This way you will save as much flesh as possible.



- **To peel onions**, simply pull the brown, rigid layer from top to bottom. Rolling the onion against a chopping board may help to loosen the skin. It is to chop off both ends and pull off the husks (as shown below).



- **To peel garlic**, press the clove (or the whole head!) gently with a rolling pin or a board. This will crack the husk open and loosen it, so peeling will be easier.
- **To de-skin bell pepper**, place it on a baking tray and roast for a couple of minutes. The skin will peel off itself. Alternatively, hold it above a flame – make sure it's not too close!

Extra tip:

- To make peeling vegetables even faster, cut a cross on top (where the stem was) and soak in hot water. The skin will go off (almost) all by itself! Make sure the cut is not too deep.
- Remember that some fruit and vegetables are more susceptible to enzymatic browning. To prevent this, peel them quickly or sprinkle with an acid (vinegar or lemon juice).

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Instructions for slicing

For slicing you will need to familiarise yourself with two techniques. One of them is the **bridge hold**.

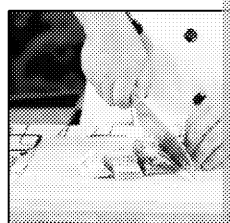
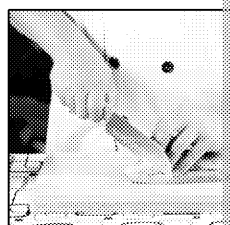
1. Grip the fruit or vegetable between your thumb and the rest of the fingers, forming a bridge above it.
2. Now cut underneath or in front of it to cut the fruit or veg.



This is especially useful when cutting food products such as grapes, tomatoes, baby potatoes, etc. into halves. A vegetable knife might be best for this.

The other technique is called a **claw grip**.

1. Curl your fingers together to form a claw, which you will hold the fruit or vegetable.
2. Use the chef's knife, slicing the product in front of you, moving them backwards each time a slice is cut off.



Extra tip:

If you want to obtain even slices, try to use an egg cutter (the one which looks like a tiny grill). This will work for soft foods, such as cooked carrot or potatoes, or tofu. You can also try to slice the vegetables, such as carrot, cucumber or courgette, with a peeler. This will allow you to obtain long, thin ribbons – choose the serrated blade to make them even more fun!

Alternative methods

- You don't always need a peeler to peel vegetables. It is just as easy to do with a paring knife.
- If you want to peel only a very thin layer of the skin, simply scrape it off with a paring knife (try this with a carrot or parsnip) or with a clean metal scourer or the harsh side of a clean kitchen sponge (great for peeling baby new potatoes).
- For chopping cooked vegetables, try to use an egg cutter.
- Peeling garlic made easier? Use a silicone tube! Simply insert the cloves inside and roll to remove the husk.

For more on how to use the bridge hold, see [zigzagged.co.uk/9289b](https://www.zigzagged.co.uk/9289b).

For more on how to use the claw grip see [zigzagged.co.uk/9289b](https://www.zigzagged.co.uk/9289b)

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Skill 2b: Knife skills (fruit and vegetables) – Dicing in different holds



So what's the difference between dicing and cutting?

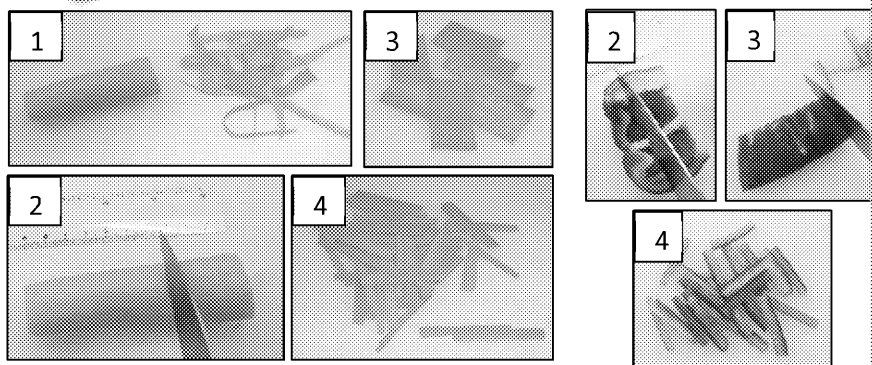
Dicing: chopping fruit or vegetables into cubes. Depending on their size, you can get small pieces called *brunoise*, or larger ones called *macédoine*.

Cutting: cutting fruit or vegetables into strips. Depending on their size, you can obtain thin strips called *julienne*, or larger batons.

Instructions for julienning

As julienning requires very thin slices, it is best applied to hard vegetables, such as carrot, or parsley root.

1. Wash and peel the vegetable with a hand (some vegetables do not need peeling).
2. Cut the vegetable into 5 cm long pieces.
3. No. 2. Cut each piece into 3 mm thick slices.
4. Cut the slices into 3 mm thick match-like strips.



Extra tip: for batons (also called *jardinière*) cut into 5 cm long pieces, then each piece into 3 mm thick strips.

Instructions for dicing

Small cubes with 3 mm-long edges are called *brunoise*. As they are also very small, this technique is best applied to firm vegetables and fruit, as soft ones could simply fall apart.

1. Cut the vegetable as for julienning.
2. Turn the matchsticks by 90 degrees and chop them into 3 mm cubes.

Extra tip: To obtain a *macédoine*, the dices' dimensions should be around $6 \times 6 \times 6$ mm. Large dices, which are about $2 \times 2 \times 2$ cm large, are called *carre*, while dices of size $1 \times 1 \times 1$ cm are called *Parmentier*.

Alternative methods

- You can try to obtain a *macédoine* dice by using an egg cutter (one with the grid). Simply press the vegetable through about half a centimetre, and then move sideways to cut off the pieces, which will fall below. Continue to chop the whole vegetable. This can only be applied to soft products, such as cooked carrots, potatoes or eggs.
- Remember that some fruit and vegetables are susceptible to enzymatic browning. Blanch them briefly in hot water and plunge into ice cold water to prevent darkening, when cutting.

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Activity 2.1: Chop chop!

Task 1

For each of the vegetables below, indicate whether it would be best to use a claw grip to cut them into the desired shapes and sizes.

Vegetable	Claw grip?	
Cut celery sticks into slices.		
Cut celery sticks lengthwise.		
Cut a tomato into slices.		
Halve cherry tomatoes.		
Dice potatoes.		
Slice potato.		
Slice carrot.		
Cut carrots lengthwise.		
Julienne a bell pepper.		
Dice garlic.		
Slice a courgette.		
Dice an onion.		
Slice an onion.		

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Task 2

Your task is to prepare the following foods to make a simple beef stew.

Complete the table to identify what kind of knife are you going to use for each of you may have endured and provide your own rating of how difficult each task is. Compare the results with your classmates – perhaps they could help you out with especially difficult!

Here's what you will need:

- 300 g stewing steak
- 1 large potato
- 1 large carrot
- 1 small onion
- 1 celery stick
- vegetable oil
- stock cube
- water
- fresh rosemary
- black pepper
- salt

Ingredient	Type of knife	Main difficulty
Cut the beef into 2 cm cubes.		
Peel the carrot.		
Cut the carrot into thin slices.		
Peel the onion.		
Cut the onion into thin slices.		
Peel the potato.		
Cut the potato into 1 cm cubes.		
Cut the celery into 2 cm slices.		

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Skill 2c: Knife skills (meat, fish or alternatives) – Portioning a chicken

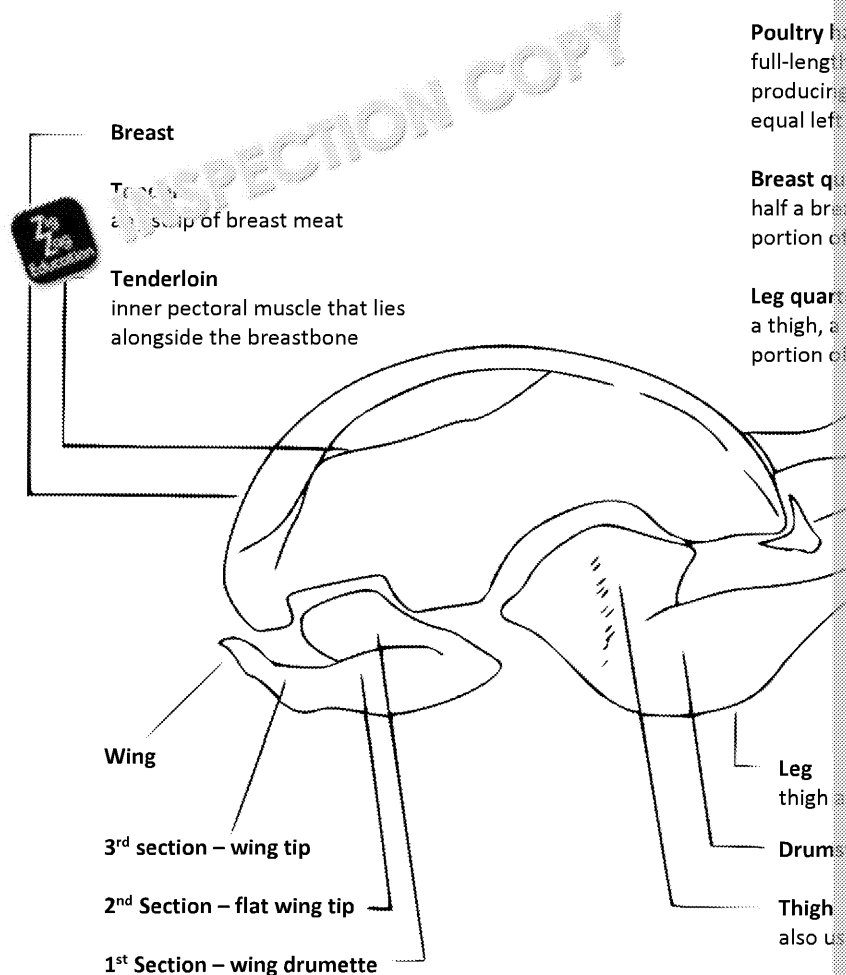


When cutting meat and fish, you will come across the following terms:

Filleting: removing the bones from fish or chicken to obtain a clean, boneless portion.

Portioning: cutting a chicken, pig or any other animal into parts, such as a roast or a joint.

Instructions for portioning a chicken



1. Grab a clean filleting knife and an appropriate chopping board (red).
2. Place the chicken on the board, back side up.
3. Pull away the leg and cut off between the joints. Repeat with the other leg. Also separate the thigh from the drumstick (again, cut between the joints).
4. Pull away the wing, cut between the joint and the breast to remove it. Cut off the wing tip as they have no meat on. You can use them to prepare a stock.
5. Now use the knife to separate the breast. Cut along the backbone, pulling away the breast meat. Try to cut as close to the bone as possible. Repeat on the other side.

You now have two legs (or two thighs and two drumsticks), two wings, two breasts and a carcass, which can be used to prepare a broth.

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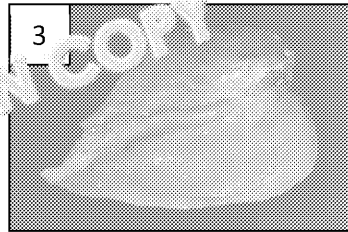
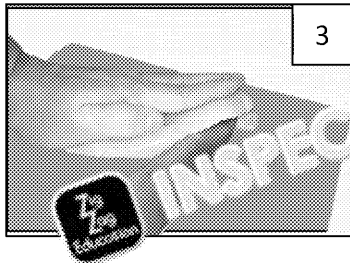


Instructions for filleting a chicken breast

For filleting a chicken breast, you can use two different techniques.

To butterfly a chicken breast:

1. Before beginning, check whether there is a thin slice of meat loosely attached to the tenderloin and you can cut it off for later use, e.g. in stir-fries.
2. Now pull the skin off the breast, using a knife to help you if the membrane is tough.
3. Press the fillet to the board, thicker end towards you. Insert the knife at the thicker end, parallel to the board through $\frac{7}{8}$ of its width, pulling towards you. This should be able to open the breast like a book.



To pocket a breast you need to:

1. Press it against the board, and insert the knife about an inch from the end. Do not cut all the way through, but leave about an inch on the other side as well.
2. This way when you're done, you should be able to open the breast like a pocket, which might be useful for stuffing it with herbs, butter or breadcrumbs.

Extra tip:

Remember that raw meat is quite slippery. To reduce the risk and create a cleaner cut, place the meat in the freezer for about 15 minutes. This will toughen it up and make the filleting easier.

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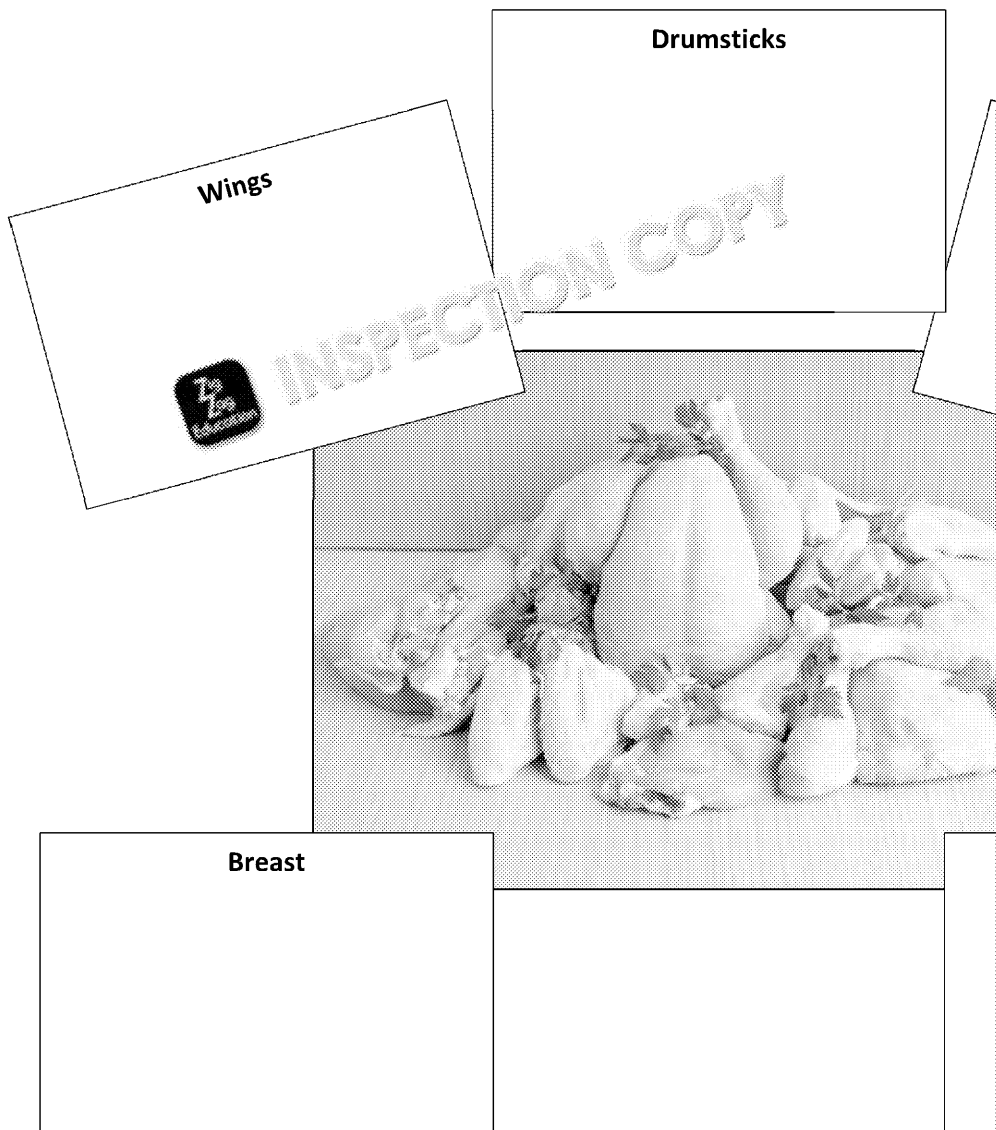
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Activity 2.2: Are you able to cut it?

After portioning a chicken, you have obtained various pieces of meat. For each of preparing or cooking it in order to best use its value and prevent food waste.



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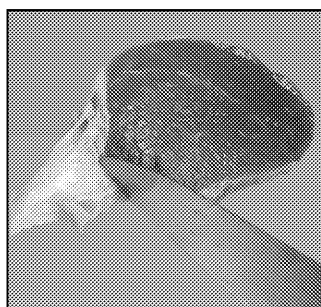
Skill 2d: Knife skills (meat, fish or alternatives) – rind and cutting raw and cooked meat

Instructions for removing fat and rind

Rind is the skin which sometimes surrounds your meat cuts, like bacon or gammon. You can remove the rind from meat before cooking by simply pulling it away and cutting with a small knife if it is stuck.

To remove fat:

1. Gently pull away all the visible fat (should be white – yellowish fat means it's old). If it's stuck, it shouldn't be difficult, as the fat usually accumulates on the outside, right up to the skin.
2. While pulling, cut with a sharp knife along the edge of the fat (between the fat and the meat, not parallel to the meat), trying not to cut into the meat.



Check
removal
of fat

Instructions for cutting raw meat

You might find this useful when preparing meat for stir-fries, curries, or simply chopping meat. Raw meat is often slippery. Wrap it in kitchen foil and put it into a freezer for 15 minutes to toughen it up.

To cut raw meat:

1. Use a chef's knife.
2. Cut against the muscles (so-called grain), as this will allow you to obtain more tender meat after cooking, as the muscle fibres will be shorter. This way you will make chops.
3. If you want to make dice, simply cut the chops into strips and then into dice.



When cutting raw chicken, cut straight through the meat to fall apart, as it will be too tender.

For more on
slice meat
grain see:
zzed.uk/928

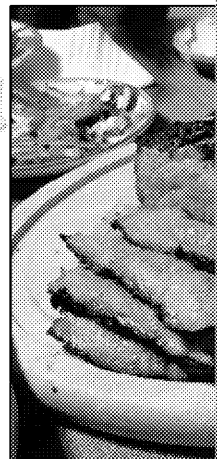
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Instructions for cutting cooked meat

To cut cooked meat:

1. Remove it from the cooking pan and place on a chopping board.
2. Allow to rest for a couple of minutes – if you cut too early, the *jus* (juice) will be dry and chewy.
3. Use the fork to hold the meat in place and cut through with a carving knife. This will allow you to obtain nice, thin slices. Again, remember to cut against the grain.



You can easily observe the muscle fibres in meat when pulling roast pork.

Alternative methods

Sometimes cooked meat is so tender you don't need to cut it. It's enough if you tear it. This method is called 'pulling' and is often done with cheaper meat cuts which could otherwise be wasted (e.g. pork, or chicken).



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Skill 2e: Knife skills (meat, fish or alternatives) – Filleting raw and cooked fish



Filleting: cutting the meat off the fish to obtain a clean, boneless fillet

Instructions for filleting a fish

Filleting a fish is a demanding, high-level skill only a few people know how to do. Here are a couple of tips:

1. First, grab a proper filleting knife. It should be sharp, thin, flexible and have a blade long enough to cut through the whole fish.
2. You can cut off the fins with a knife or sharp scissors. Pull them away from the body and then cut between.
3. Now locate the gills – these are the two flaps just behind the fish's neck where it was using for breathing. Cut the head off right behind them.
4. If your fish is smaller, insert the knife right above the tail and cut towards the (now removed) head, tightly holding and gently pulling the tail. Hold the knife flat, let the backbone of the fish be your guide.
5. If your fish is larger, cut deep behind the gills but do not remove the head entirely. Instead, hold the head and insert the knife flat into the fish, cut along the backbone. The head is useful, as you have something to hold onto while gently pulling and making the cutting easier.
6. Repeat on the other side of the fish. You should obtain a head, two fillets and a carcass with a tail OR two fillets and a carcass with a head and tail. You can use the carcass to make a fish broth / aspic.

To remove the skin from fish:

1. Place it on the chopping board, skin down.
2. Insert the knife flat between the skin and the meat, and cut across the skin, pulling the meat upwards. This might be difficult at first, but practice makes perfect!
3. Cut left to right if you're right-handed and right to left if you're left-handed.

Extra tip:

Remember that fish is very slippery. Wash it properly prior to filleting and pat dry with a paper towel. If there are any bones left in your fillet, you can remove them with tweezers.

Check how to



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Check how to fillet a

at:

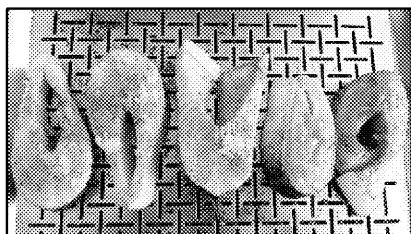
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Instructions for cutting raw fish



Sometimes you need to cut the fish to obtain fillets. Some fish, like carp, may be **cut into slices**. The whole fish into chops, without filleting. The chop contains the backbone and some fish bones. As they contain collagen, they are good for preparing fish aspic.

Other fish, like salmon, need to be **finely sliced** in order to use them in recipes for curries or sushi.

1. First, place the fish on a chopping board and observe the direction of the muscle fibres (this is applied to large fish fillets, like those of a salmon).
2. Cut the fish fillet along the grain to portion it into broad strips in which the fibres run the same way, as it is important to keep the slices whole.
3. Cut thin slices across the grain, slightly inclining your knife towards the bone (at a 45-degree angle).

Extra tip:

- You will notice the white stripes between the pink flesh – this is connective tissue. If you cut against the grain, you would end up with long fibres of it, which are rather unpleasant.
- Cutting straight through the fish would allow you to obtain short, narrow slices. Cutting at an angle you can obtain larger slices.

Instructions for cutting cooked fish

Some fish, like trout, are cooked (grilled, roasted, etc.) and served whole. How are they cut?



1. Place the fish on a chopping board or on a plate.
2. Gently cut in the middle until you feel resistance.
3. Cut through the fish towards the tail and gently pull it open.
4. Now you have a large fillet with a skeleton.
5. To remove it, chop off the head and gently pull the fillet away from the bone. Use the fork or a spoon to make sure no bones are left.

Extra tip:

Cooked fish is usually very delicate and may fall apart all by itself. Look out for 'weak points' where the fish is more fragile. They are to avoid having many tiny fish pieces.

Alternative methods

You can also try to fillet the fish from the back side. When it's lying on its side, cut along the backbone to remove the fillet, exposing the backbone. Gently pull the backbone up, using a knife or a fork, and place it on the plate.

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Activity 2.3: A (short)cut to meat preparation

Task 1

Some recipes require you to remove fat or rind before cooking a piece of meat. Identify two advantages and two disadvantages of the process.

Advantages	Disadvantages

Task 2

The way the muscle fibres are packed in a piece of meat is important when trying to

1. Take a piece of raw meat (e.g. beef) and identify the direction in which the muscle fibres are packed.
2. Then place the meat on a chopping board and cut it in half across the muscle fibres.
3. Quickly fry or boil one of the meat pieces.
4. Try to slice each piece of meat using various knives (e.g. serrated knife, chef's knife). Write down your observations.

	Raw meat	
Serrated knife		
Chef's knife		
Paring knife		
Fillet knife		

5. In your knife experiment you will have produced a lot of little scraps of cooked meat. Suggest two ways of reusing them to prevent food waste. Then choose one of your suggestions and write a short recipe for it.

1.

2.

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Task 3

Explain why fish has to be frozen prior to being eaten if you are planning to eat it

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.....

Task 4

List three dishes that use raw fish.

1.
2.
3.



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Skill 2f: Knife skills (meat, fish or alternatives)



Alternatives: meat alternatives include high-protein products that are sometimes used usually to satisfy the nutritional requirements of vegetarian and vegan diets, such as tofu, textured vegetable protein and mycoprotein, as well as various kinds of plant-based meat substitutes.

Instructions for preparing tofu

Tofu, also known as bean curd, is made of coagulated soy milk. Depending on how much water is pressed out of it, it can have different textures – from very soft and silky to firm, hard and crumbly.

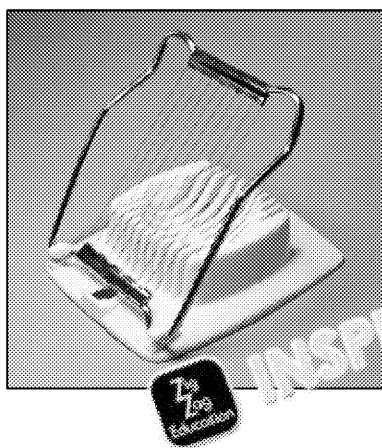
- Silken tofu will be easier to spread, as it is very soft, while an extra hard regular tofu may be a bit crumbly and not suitable for cutting into a fine dice or thin slices.
- Usually tofu has a spongy, sponge-like texture, and is easy to cut into slices, like a loaf of bread. As it mostly consists of protein and fat, but has a little water, it will mostly keep its shape.
- Tofu can be marinated, grilled, pan-fried, stir-fried, deep-fried, breaded, crumbled into soup or eggs, baked, mixed into smoothies, puddings, salad dressings, sauces, dips... It all depends what kind of tofu you have.
- Use silken tofu for blending with other things; use hard tofu for crumbling or cutting.
- Use the chef's knife to ensure even edges and limit unnecessary crumbling.

Instructions for preparing halloumi

Halloumi is a semi-hard cheese made of goats' and sheep's milk, set with rennet and brined. It has a relatively high melting point, which means that it can be safely grilled or fried. Its texture is quite tough, similar to mozzarella. Simply cut into slices with a knife and enjoy either raw or cooked.

Extra tip:

Soak the cheese in buttermilk for a day or two to remove excess salt and improve flavour.



Alternative methods

Try to cut softer tofu with an egg cutter to ensure the cutter's strings are strong enough!

See how to cook
[zigzagged.uk/9289m](https://www.zigzagged.uk/9289m)

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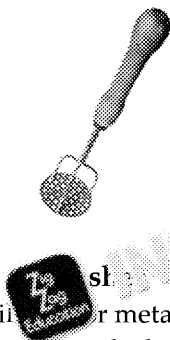
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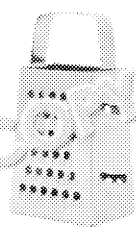
Skill 3: Preparing Fruit and Vegetables

Fruit and vegetables are an important part of a daily diet. It is important to prepare them to retain their nutritional value, texture, colour, taste and aroma. This skill is designed to help you learn how to use tools which turn boring fruit and vegetables into lovely, mouth-watering, appetising food.

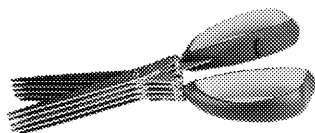
Equipment



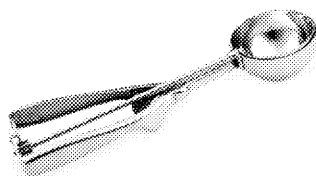
Ricer
Plastic, silver or metal tool with a long handle and a broad 'foot' with many openings. Designed to mash potatoes, it will be just as good at mashing swede. Use a ricer if you don't have one – it looks like a large garlic press!



Grater
Multipurpose metal tool which can grate, shred or slice. Use larger openings to obtain fine strips; finer round ones will turn most foods into a pulp – which may be beneficial, e.g. when making potato pancakes.



Snipping scissors
Scissors with many blades, ideal for chopping herbs. They are quick and effective.



Scoop
This is a deep metal spoon designed to scoop out the flesh of a fruit, like melon or watermelon.

Health and Safety (Tips to remember!)

- When blanching food, make sure not to burn yourself.
- Use gloves when grating or shredding foods – it will protect your nails and skin.
- Always use a sharp knife and the correct chopping board: green for salad, brown for meat, yellow for fruit and vegetables.

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Skill 3a: Preparing fruit and vegetables – Mash



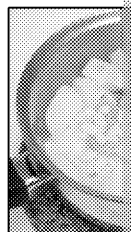
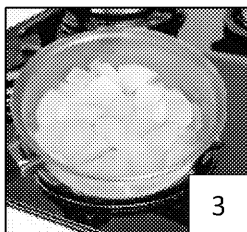
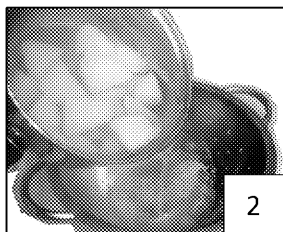
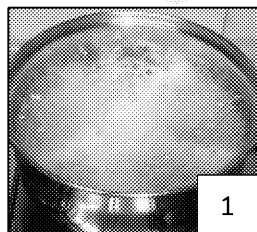
Mashing: reducing a food product into a soft, smooth pulp

Crushing: smashing a food into small pieces

Instructions for mashing and crushing

Mashed potato is probably one of the favourite British staples.

1. Begin by boiling the food – it can be potatoes, sweet potatoes, swede – vegetables.
2. Once cooked, drain the water.
3. Place the pan on the hob (low heat) and allow the water to evaporate for the steam will burst straight into your face when you begin mashing.
4. Turn off the hob, and mash the potatoes – press a potato masher down or press around the pan with a spoon until each portion has been mashed twice.
5. Add butter, milk and pepper (as seasoning, if required) and mash again to a smooth texture.



If you want to obtain perfectly smooth mushy peas, try to press them through a fine sieve to remove the hard skins.

Extra tip:

Do not mash for too long, as this will turn the mash into an unsightly pulp. This is because you release the starch, which in turn makes the mash gummy.

Alternative methods

You can simply mash food with a fork, although this is not very efficient when mashing large quantities. If no masher is available, try to use a ricer. Sometimes a blender might come in handy.

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Instructions for crushing

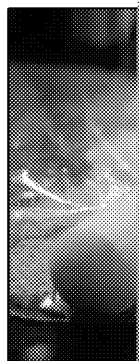
Why would you want to crush food? How about creating a lovely cheesecake with you will need a mortar or a rolling pin.

To crush biscuits or nuts:

1. Place them in a thick plastic bag and close, leaving as little air as possible inside.
2. Place on a chopping board and roll over with a rolling pin, making sure you do not press too hard, as this may cause the bag to break.
3. Repeat as long as is needed to obtain a fine crumble.

Crushing may also be useful to **ground** certain foods, such as **seeds** or **garlic**.

1. Place them in a mortar and crush with the pestle.
2. Remember that pressing too hard may turn the food into a big mash, as many of them contain a lot of fat and water.



Alternative methods

You can try a blender or food processor to crush biscuits, seeds and nuts – use the mixture, as overcrushing will turn the seeds into a nut butter.

More on how to use a
pestle and mortar
[zzed.co.uk/92](https://www.zigzagged.co.uk/92)

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Activity 3.1: It's not such a hot potato

Task 1

Get into five groups. Each group should prepare and boil a different variety of potatoes (Duke of York, Maris Piper). In each group, drain, and then mash the potatoes. Record your observations. In the class, set up a simple taste test to assess the flavour of each variety.

Potato variety	Observations

Task 2

Prepare your own pesto sauce by crushing the ingredients in a mortar and in a bowl. Record your observations of the flavour of the two sauces. Here's what you will need:

- 2 bunches fresh basil leaves
- 2 × 25 g pine nuts (or sunflower seeds)
- 2 × 2 cloves fresh garlic
- 2 × 3 tablespoon olive oil
- 2 × 1 teaspoon lemon juice
- 2 × 1 tablespoon grated parmesan cheese or nutritional alternative

	Crushed pesto	
Appearance		
Texture		
Flavour		

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Skill 3b: Preparing fruit and vegetables – Shred



Shredding: slicing food into thin, long strips

Grating: turning food into small threads or a pulp by rubbing it against a

Instructions for shredding

Shredded vegetables are often used as a base for salads, soups and stews.

Shredding cabbage or lettuce:

1. Begin by removing the bad, damaged exterior leaves.
2. Place the cabbage on the chopping board with its hard stem facing downwards, and cut it in half with the cleaver or the chef's knife.
3. Now, remove the central stalk from each of the halves – unless you're planning to use only one of them. The stalk will help the cabbage stay fresh for longer, so leave it intact if you're not planning to use the whole cabbage.
4. Chop the cabbage in half again.
5. Shred vertically if you want longer strips, and horizontally if you want them to be shorter.

Alternative methods

You can shred the cabbage with a grater or a food processor. This way you will obtain finer, shorter pieces. Since these methods are more invasive, some juice may also be produced – to avoid that, use the pulse setting on the food processor.

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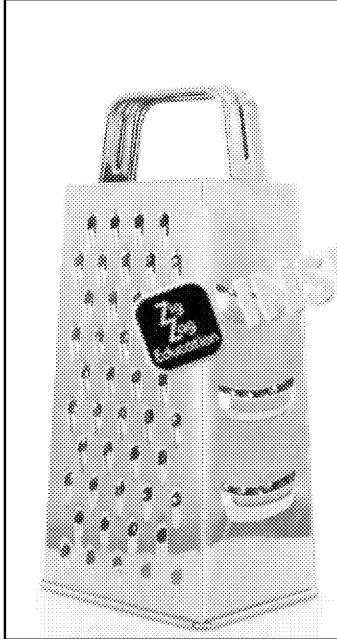
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Instructions for grating

Multifunctional graters have four sides, each with different size openings on them. To obtain small threads of food, the small, round openings with sharp edges will be used. The transverse opening will help you to quickly slice foods. The very fine shredder will be used for grating hard cheeses and lemons.

To grate foods:



Small openings for finer threads – good for grating hard cheeses such as parmesan.

Transverse opening for slicing.

Large openings for thicker threads – good for grating cheese and carrots.



Small openings for finer threads – good for grating hard cheeses such as parmesan.

1. Wash and peel them (if necessary), and trim the ends, e.g. from cucumbers.
2. Choose which side of the grater you need – and run the food down the grater with your own fingertips or nails!

Extra tip:

Try to grate the foods as quickly as possible, as grating is very invasive and accelerates browning. Have some vinegar or lemon juice at hand and sprinkle the food with it.

Alternative methods

You can also grate food products in a food processor. To do that, cut the products into small pieces that will fit. Also, try to make the pieces even in size, as otherwise small ones will be almost intact.



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Skill 3c: Preparing fruit and vegetables – Scissor sn



Snipping: cutting into fine pieces with scissors

Scooping: spooning out a round, nicely shaped piece of fruit or vegetable

Instructions for scissor snipping

Snipping scissors are a fast and clean way of cutting fresh herbs, like dill or parsley.

1. First, tie the herbs into a bunch with an elastic band, rinse and pat dry with a paper towel.
2. Snip the herbs from the top (the most leafy part) to the end (the toughest, leafless part).

The scissors will create even pieces, which can be used as a garnish, in salads, soups, stews, sauces, dips and many other dishes.

Alternative tools

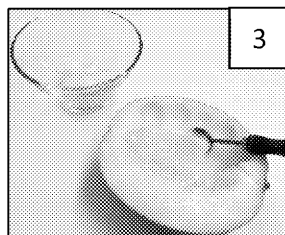
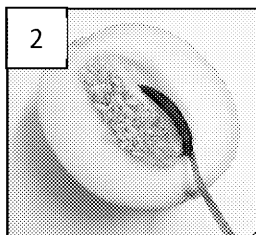
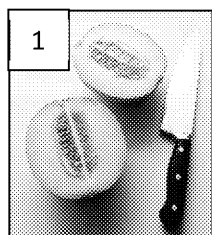
You can also chop the herbs with a chef's knife or with a special herb chopper (also available).

Instructions for scooping

Scooping is easiest with a special scoop – it looks like a deep spoon (or a small ladle) and helps to produce even, equal-sized balls. You can scoop raw and cooked vegetables.

To scoop a melon:

1. Cut it in half.
2. Using a spoon, remove the seeds.
3. Insert the scoop close to the skin and dig out a nice, round ball.
4. Repeat until you have as many scoops as needed, or until a whole melon is scooped out.



To scoop a raw potato:

1. Choose a large one, wash and peel it.
2. Once peeled, scoop out small balls with a small scoop. You can either boil or fry or roast them.

To scoop a soft mixture, like mashed potatoes:

1. Choose a large scoop – possibly one which has a spring release to easily remove the food by pushing it out or running underneath it to cut it off the scoop.
2. Insert the scoop in the mash, make a round move with your wrist and release the food.
3. If the mash has stuck to the scoop, you can try to gently remove it with a knife or scrape it off.

The same technique works with ice creams and mousses.

Alternative methods

You can try to scoop foods out with an ice cream scoop (although they are often not suitable for hard foods like raw potatoes) or simply a measuring spoon.

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Skill 3d: Preparing fruit and vegetables – Segmenting



Segmenting: dividing a fruit or vegetable into small parts, which naturally divide into segments.
Deseeding: removing the seeds from a fruit or vegetable, either for later use or to make it easier to eat.

Instructions for segmenting

Segmenting applies to all foods which are naturally divided into separate segments – clementines, grapefruit... you name it.

To segment a fruit:

1. Peel it and remove all the white soft pericarp (it is called pith).
2. Pull the fruit apart, creating a natural creasing which will let you remove the membranes from between the segments.
3. Use either your fingers or a small vegetable knife to remove the hard membranes.

Remember to remove the seeds from the segments – they are now called fillets and shouldn't have any hard bits.

Alternative methods

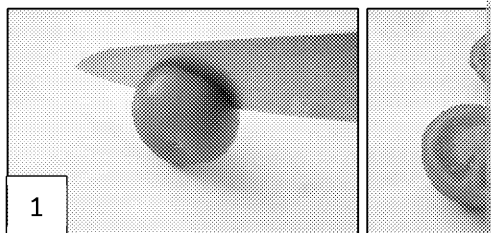
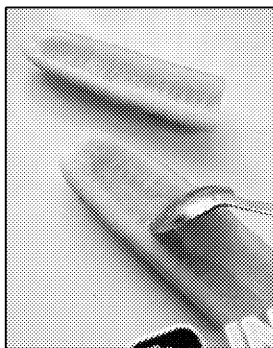
Alternatively, cut in with a knife as close as possible to the membranes, fishing out the fruit pulp and throwing out the membranes. This method is a bit less effective, as it leaves some pulp on the membranes and removes some juice from the fruit.

Instructions for deseeding

Seeds are a source of vitamins and minerals, but sometimes they just aren't suitable for young children. Some fruits have very watery seed cavities, which would turn your salad into a soup or a mash.

To deseed tomatoes:

1. Cut them in half.
2. Scoop them out with a teaspoon.



Use the same technique to deseed cucumbers or melons.

Extra tip:

If you cut off the top part of a tomato and scoop out the seeds, you can use the rest to make a tomato soup.

It is very important to **deseed chilli peppers**, as the seeds are bitter and VERY spicy.

1. Cut the chilli lengthwise.
2. Place on a chopping board with its back up.
3. Tap a couple of times – the seeds should fall out by themselves. If they don't, scoop them out with a teaspoon or cut them out with a vegetable knife.
4. Wash the spoon or knife thoroughly before using with any other food!

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To deseed a bell pepper:

1. Cut around the green stem in a circle.
2. Pull the stem, together with the seeds, out of the pepper.
3. If necessary, cut or pull the pepper apart to make it easier.

To deseed a pomegranate:

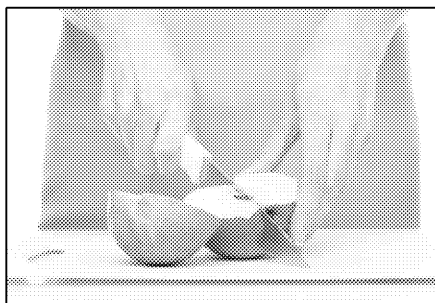


1. Cut it in half.
2. Place it face down above a bowl.
3. Tap with a tablespoon or a wooden spoon straight into the bowl. If they do not fall out, use a spoon.

To deseed a pumpkin:

1. Cut a hole in the top (where the stem is) and lift the newly formed lid.
2. Scoop out the seeds with a spoon or a scoop, trying not to cut out any flesh.

You can leave the seeds for later – roasted, they will be great in a salad.



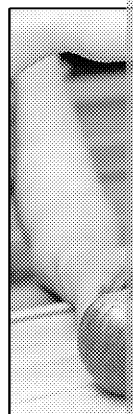
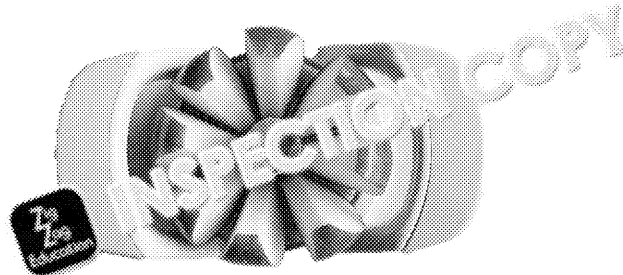
To deseed an apple or pear:

1. Place the fruit on a chopping board, stem side up.
2. Cut lengthwise into quarters.
3. Cut off the seeds, together with the stringy part of the stem, from each of the quarters.

Alternative methods

To remove the core of an apple, use a corer. Insert from the top and cut right through with the core, containing all the seeds and the stem.

You can also use a special apple core remover, especially if you want all the pieces.



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Activity 3.2: A slice of life in the kitchen

Task 1

Prepare a fruit salad using some of the techniques you have learnt recently. Here's what you will need:

- melon
- watermelon
- kiwi
- grapes
- blueberries, honey and lemon juice for dressing
- or any other fruit of your choice

Complete the table to identify the method you used and difficulties you've encountered.

	What did I do with it?	What was the most difficult about it?
Melon		
Watermelon		
Kiwi		
Grapes		
Blueberries		
Other: _____		
Other: _____		
Other: _____		

Task 2

Prepare your coleslaw salad. Here's what you will need:

- white cabbage
- red cabbage
- apple
- carrot
- parsley leaves
- salad cream or mayonnaise

Plan the process step-by-step by indicating what you will do and in what order.

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Skill 3e: Preparing fruit and vegetables – Blanching and garnishing



Blanching: putting into boiling water for a minute or two and then plunging into cold water to remove skin from tomatoes and prevents enzymatic browning in other foods.
Shaping: creating a shape with the use of a knife, usually for a garnish

Instructions for blanching

Blanching is a very useful technique. The use of hot water deactivates enzymes and preserves the natural colour of foods, and is useful for de-skinning tomatoes, as the skin comes off easily in the heat. Remember that some foods, like green beans, broccoli, cauliflower or Brussels sprouts, should be blanched before freezing.

To blanch vegetables:

1. Boil water in a large saucepan.
2. Once boiling, reduce the heat and place the peeled and cut vegetables in the water.
3. After some time (this will be shorter for small pieces and longer for larger ones, usually up to 2 minutes) remove the food from the water – either by draining or by spooning it out with a ladle.
4. Place the food in a bowl with ice cold water OR run it under cold tap water. This will stop the cooking process and preserve its crunchiness.

Instructions for shaping and garnishing

Shaping vegetables and fruit is a tedious, yet fun way to prepare beautiful decorations for a special occasion. special, small carving knives are used, as they are sharp enough and yet allow very fine cuts. You can carve vegetables and fruit into flowers or any other shape – your imagination is the limit. What do you need for shaping? A small, sharp knife, vegetable or fruit which is hard enough to carve, a shape and not collapse, a pinch of creativity and a lot of time and patience.

Ribbons

What you need: a carrot, a cucumber, a courgette or another long vegetable, a vegetable peeler.

1. Wash the vegetable and peel if necessary.
2. Cut lengthwise with a vegetable peeler to create long, thin slices – they are perfect for garnishing.

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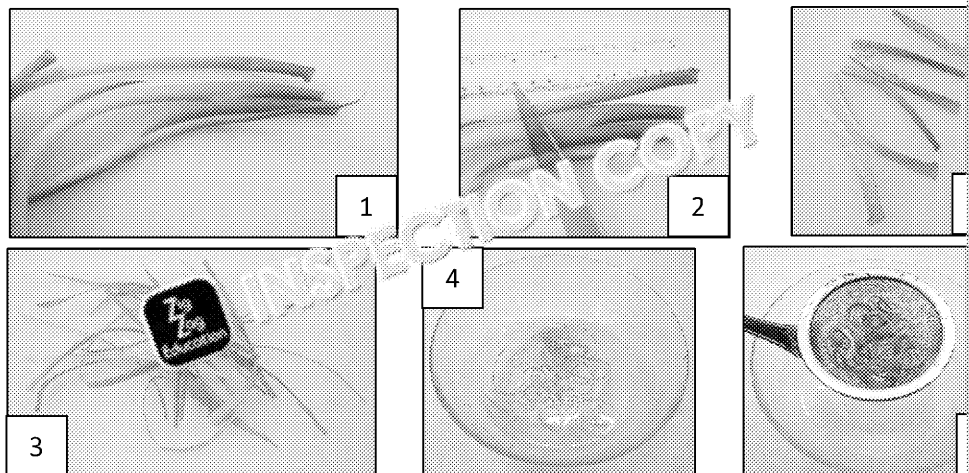
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Spring onion curls

What you need: radishes or spring onions, ice cold water, paring knife

1. Place the spring onion on the chopping board and cut off the roots.
2. Cut off an 8 cm long piece from the green part.
3. Cut each piece into four lengthwise cuts (as if you were trying to cut a star).
4. Place in ice cold water for a minute – the coldness will make the strips curl.
5. Remove from water and drain.



Strawberry fan

What you need: a large strawberry with the green stem still on, vegetable knife

1. Wash the strawberry.
2. Place it on a chopping board, stem side downwards.
3. Cut it into four or five slices, but don't cut to the end – leave a small part of the stem.
4. Spread the slices sideways to create a fan.

Carrot lily

What you need: a large carrot, vegetable knife, toothpicks, vegetable peeler

1. Peel the carrot and cut out a 12 cm long piece.
2. Cut off a thin layer from each side to make it flat (not round).
3. Cut both ends in the shape of a pick (as if you wanted to sharpen it).
4. On each oblique surface, cut out small triangles to make an impression of a flower.
5. Using the peeler, cut alongside to make nine ribbons.
6. Roll one of the ribbons into a roll and pin with two toothpicks to create a 'petal'.
7. Take two carrot ribbons, make a V-shape and fold inwards, then pin on to the roll.
8. Repeat with the remaining six carrot ribbons to create a flower.
9. Turn the flower upside down and tie with a rubber band to make the flower.

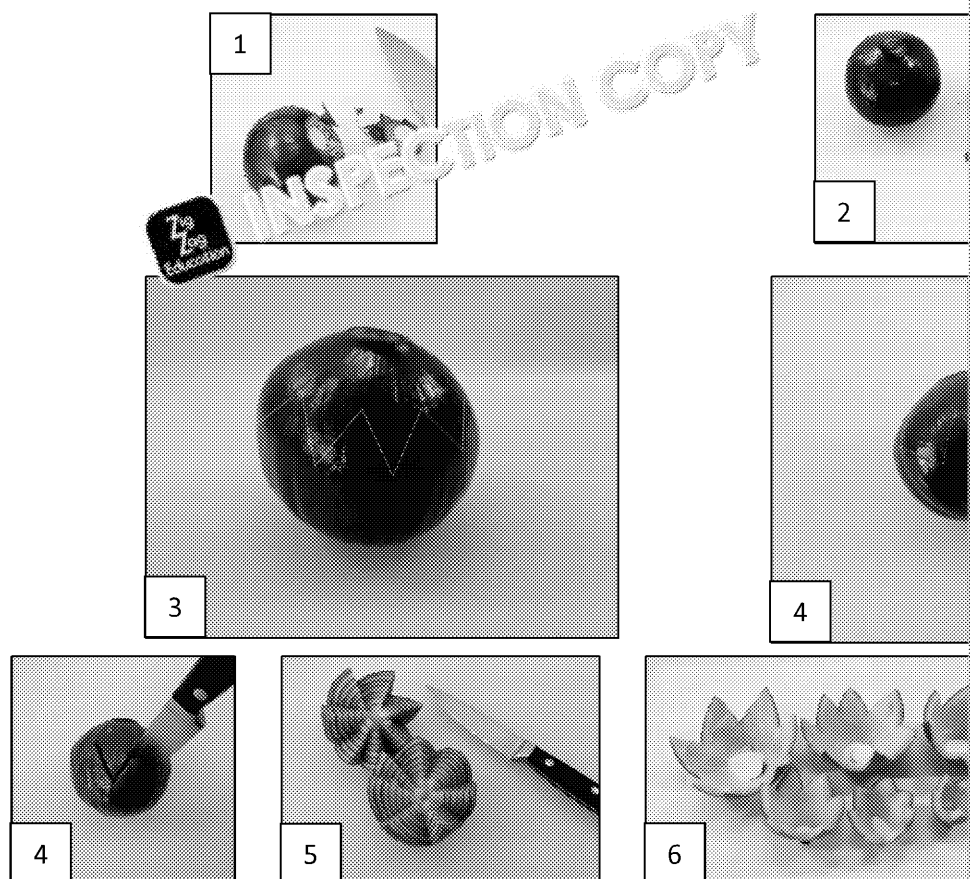
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Simple onion flower

What you need: a small red onion and a carving knife

1. Cut off the root of the onion.
2. Peel to remove the hard, stiff outer layer.
3. Place on the chopping board, the flat root part down. Imagine a zigzag going round the onion.
4. Carve the onion following the zigzag pattern, until the knife reaches the top. Remember, you do NOT cut through the root.
5. Once you have cut all the way round, split the onion into two halves.
6. Take the bottom half and remove the onion parts layer after layer.
7. Restack the onion layers on top of each other, rotating a little bit each time.



Extra tip:

Dip the tips of the petals in a bowl containing some colourful spices (e.g. curry or paprika) to make them even more beautiful.

Alternative methods

You can also slice the product into thin slices and shape each slice with a cookie cutter to create a flower shape. This can be applied to softer foods like cooked carrot or potatoes.

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Activity 3.3: Will this be a pretty sight?

Task 1

For each of the foods below, suggest one type of garnish you could use to decorate.

Food	Garnish suggestion	
Vanilla cheesecake		
Wafer with chocolate ice cream		
Raspberry teacake		
Tuna pasta bake		
Cream of mushroom soup		
Salmon carpaccio		
Beef steak		
Pizza margherita		

Task 2

Your task is to peel some tomatoes using different techniques, as described below, whether it was easy or not so easy to do.

	How easy	
	Fairly easy	Not so easy
Place the tomato in the fridge for 1 hour. Remove from the fridge. Place in a saucepan. Pour over boiling hot water. Peel.		
Place the tomato in the fridge for 1 hour. Remove from the fridge. Cut shallow cuts diagonally, where the stem was attached. Pour over boiling hot water. Peel.		
Take a tomato stored at room temperature. Place in a saucepan. Pour over boiling hot water. Peel.		
Take a tomato stored at room temperature. Cut shallow cuts diagonally, where the stem was attached. Place in a saucepan. Pour over boiling hot water. Peel.		

What conclusion can you draw from this experiment?

.....

.....

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Skill 3f: Preparing fruit and vegetables – Blending



Blending: mixing into a smooth mixture

Juicing: squeezing or pressing to obtain juice

Instructions for blending

Blending is a very useful technique which allows cream soups, smoothies, cocktails and mousses to be made. It doesn't matter whether you have a simple hand blender or a powerful blender.



- A good blender should have sharp blades and enough power to deal with hard foods. A 300 W blender is good for blending soft mixtures, like cream soups and smoothies. A 650 W will be better when blending chickpeas into a hummus or peanuts.
- If blending soups and other hot foods, make sure they aren't too hot – let them cool down a bit, as hot temperatures will dull the blades.
- Also, ensure your bowl (or whatever dish you're using) is tall enough, as the force will make the food go up and, possibly, spill out.
- If using a hand blender, hold the dish with your other hand, as otherwise the food will splash the food around.
- It is easier to blend foods if the whole 'foot' of the blender is covered – as the force will create a 'hole' and splash the food around.
- Put a lid on top and hold during blending, if possible (of course, a hand blender doesn't have a lid).

Alternative methods

If you don't have a blender, you can try to press the food through a fine sieve (good for cream soups), mash it with a masher/ricer. Make sure the food is well cooked, as it will be easier to do with harder pieces.

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Instructions for juicing

Fruit and vegetable juices are a good source of vitamins and minerals. If you leave some pulp in, they will also provide some fibre, which will in turn slow down absorption of sugar and prevent high blood sugar levels.

There are many different juicers. Small hand juicers are ideal for squeezing lemon or lime juice when you need some to add into a salad, dressing or a cocktail.



Electric citrus juicers are perfect for preparing your own orange juice for the whole family.

To make large amounts of juice you will need a more powerful juicer. These juicers are quite large and look a bit like food processors. You need to peel the fruit and vegetables, cut them into small pieces, and then put them into the slot. They will then go through a couple of fine graters and you will obtain a clear juice.

There are also food presses available, which are usually used in industry to produce juice by pressing the fruit or vegetables with high force.

Extra tip:

Remember that some fruits and vegetables are more susceptible to enzymatic browning than others. Always have some lemon juice at hand to prevent it.

Alternative methods

- What to do if you don't have a citrus juicer? Wash the fruit (orange, grapefruit) and roll on the worktop to make it soft. Cut in half and squeeze the juice out. You can also try to use a metal whisk to get the juice out.
- If you don't have a juicer machine, you can try to use a blender or a food processor. Blend the fruit and juice, let it strain through a thin membrane, like a coffee filter or a layer of gauze.

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Skill 3g: Preparing fruit and vegetables



Piping: squeezing out a soft mixture from a piping bag, through a nozzle

Instructions for piping



Piping is an interesting way of making a bag (or tube) is usually fitted with a nozzle (or plastic interchangeable tips), which creates a specific shape.

Piping is used to decorate cakes and duchesse potatoes.

The mixture used for piping has to be soft enough to push out, but firm enough to maintain the shape.

Potato mash and butter creams are examples of a proper consistency.

To pipe duchesse potatoes:

1. Make a potato mash with butter, cream and egg yolks.
2. Let it cool down a little.
3. Place the chosen tip on the piping bag.
4. Put the mash into the piping bag, making sure there are no air bubbles or holes – simply push each spoon in to make sure there are no empty spaces.
5. Close the bag by spinning it.
6. Press the mash out from the top of the bag, creating little star-like round shapes.
7. Sprinkle each star with melted butter and bake.

To pipe cream:

1. Make a cream using butter, icing sugar and a little milk (you can add cocoa to change the colour, or swap some butter for mascarpone cheese).
2. Place the chosen tip on the piping bag.
3. Put the cream into the bag, making sure there are no empty spaces.
4. Close the bag.
5. Press the cream out by squeezing from top of the bag, making swirls, flowers, stars or any other shape on a cake or cupcake.

Extra tips:

- You can use the piping bag to make writing on cakes by putting some melted chocolate in the bag and making it thinner.
- Also, use the piping bag to make mayonnaise, mousse and sour cream decorations.

Alternative methods

If you don't have the cake decoration set, simply put your cream or mash into a bag and cut one of the corners. The larger the cut, the bigger the shapes you will be able to create.

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Activity 3.4: Food in the pipeline

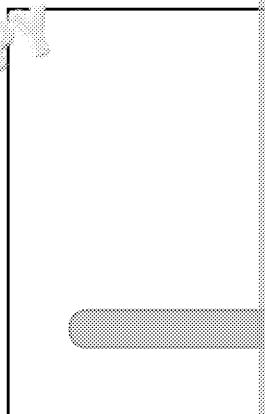
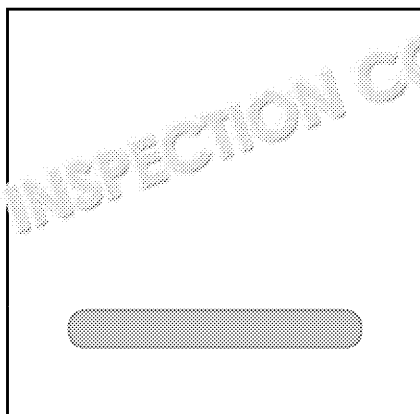
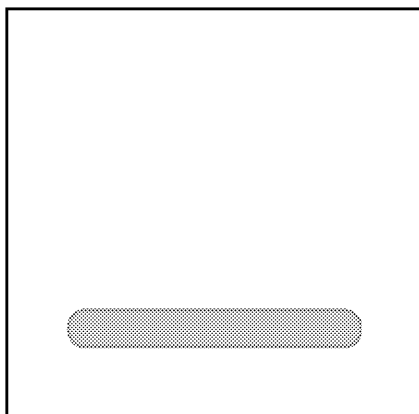
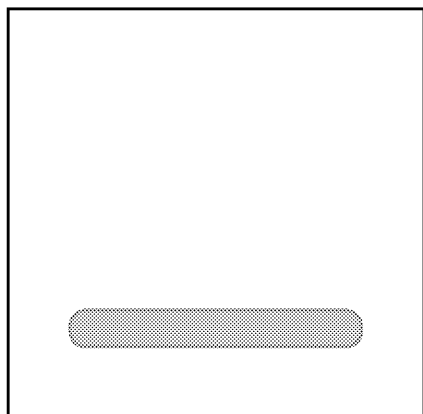
Task 1

From the foods below, tick those which have to be peeled before juicing.

carrots	<input type="checkbox"/>	strawberries	<input type="checkbox"/>	bananas	<input type="checkbox"/>
mangos	<input type="checkbox"/>	apples	<input type="checkbox"/>	blueberries	<input type="checkbox"/>
clementines	<input type="checkbox"/>	celery	<input type="checkbox"/>	beetroots	<input type="checkbox"/>

Task 2

You have been asked to design a selection of canapés in the form of open mini-sandwiches. You are to use a variety of fillings with some creams, flavoured butters and mousses used as fillings. Draw and label the different fillings you are going to pipe onto the canapés that you have designed in your planner.



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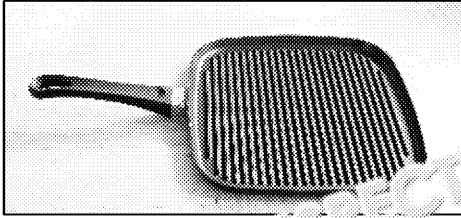
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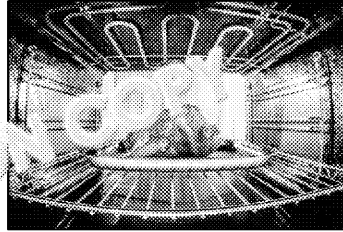
Skill 4: Use of the Cooker (Overview)

Using your cooker is very important. You need to know how it works to know how to use it safely. Also, it is important whether you have a classic gas cooker, an electric one, or even a combination oven which has real flames is different to one which is electric and has an internal fan.

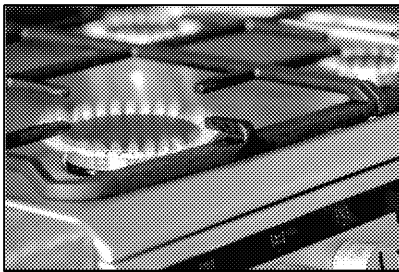
Equipment



Grill pan
Used for grilling or dry-frying meats and vegetables on a cooker.



Oven grill
Thick metal wire installed at the top or bottom of an oven. Used for grilling the top surface of pizzas, frittatas, crème brûlée, etc.



Gas cooker
Used for cooking with the use of a flame made by burning gas.



Used for cooking with electric panels – is cold at the touch.



Health and safety (Tips to remember!)

- Cooking means working with heat. Make sure you wear an apron, especially when frying, as it likes to sputter.
- Use oven gloves or mitts to avoid burning.
- When frying, make sure the food is dry (if possible), as water will splash out.
- Before using a cooker, try to read the manufacturer's instructions, as each model is different.



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Skill 4a: Use of the cooker (using the grill) – Grill vegetables, cheese, nuts and seafood



Grilling: applying dry heat to food by the use of a grill pan (grilling over an open flame or under heat).

Barbecuing: applying dry heat to food with the use of a barbecue grid, over burning charcoal.

Instructions for grilling meat and fish

Grilling meat and fish is one of the easiest ways to prepare a tasty, healthy dish. You can grill in the grill section in the oven or on a grill pan on a hob.

To grill fish or meat:

1. Prepare the food for grilling – wash it, trim it, remove scales and bones. Fish and meat cannot be grilled.
2. Prepare the dish you're going to use – whether that's a grill pan or a grill.
3. Place the food in the hot dish and over the grill (if using an open fire barbecue or an oven).

As different manufacturers have different safety requirements, some ovens have a grill that can be closed. Some need to be open. Follow the instructions specific to your oven to obtain the best results.

Alternative methods

Use a barbecue to obtain a smoky aroma.

Instructions for grilling vegetables

Vegetables consist mostly of water, and for that reason you need to pay extra attention to them when grilling, as they will tend to leak juices and stick to the pan or baking tray.

To make sure vegetables grill evenly, cut them into same-sized pieces. Courgette can be sliced, bell pepper cut into quarters, and cherry tomatoes should be left whole.

Extra tip:

Some vegetables will not stick if marinated – sprinkle or brush some oil on courgette to prevent sticking.

Alternative methods

You can wrap vegetables, such as onion, in aluminium foil and place directly on the grill. Even if it overcooks, you will still be able to eat it, as it will create a nice chutney.

Extra tip:

To easily and evenly spread oil and herbs on vegetables, put them in a plastic bag and shake.

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Instructions for grilling cheese

Grilled cheese is a lovely treat, which can be eaten separately, on toast or sprinkled on various dishes. It is important to choose the right kind of cheese, as some of them will melt too quickly and create a sauce instead of, well, grilled cheese.

- You can grill some cheeses like camembert (in one piece, uncut), smoked cheeses, mozzarella, halloumi, talleggio and feta. Soft goat's cheese can also be grilled, but only for a short time, as it melts quickly. Tofu can be grilled, as it is low in fat and will maintain the texture.
- Cheeses like Cheddar or Gouda should not be grilled, as the fat content is very high and will turn them quickly into sauce.
- Cut the cheese into thick, even slices and place correctly on the grill pan.
- If using a barbecue, place the cheese on a special aluminium tray to prevent it from falling into the coal.

Extra tip:

Grilled cheese will go nicely with onion chutney and redcurrant or cranberry sauce.

Alternative methods

If you wish to grill high-fat cheeses like Stilton or Cheddar, put them on a piece of parchment paper and place it into a bowl. They will melt and create a yummy sauce.

Instructions for roasting/toasting nuts and seeds

Toasted seeds and crushed nuts make a great and tasty addition to baked goods.

To toast seeds or nuts:

1. Preheat a dry-frying pan – it has to be very hot before putting any food in it.
2. Sprinkle the seeds over the hot frying pan.
3. Leave for 20 seconds and stir (or shake the whole pan), as leaving the seeds for too long will cause them to burn on one side and be raw on the other.

Such prepared pumpkin or sunflower seeds can be sprinkled on top of a cream soup or salad, crushed nuts can be sprinkled on top of a stir-fry or desserts. Roasted nuts and seeds may also be blended into a butter.

If you plan to sprinkle a bread or cake with seeds or nuts, use raw ingredients because they will toast anyway.

Extra tip:

You can also toast nuts and seeds in an oven on a clean, dry baking tray lined with parchment paper.

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Skill 4b: Use of the cooker (using the oven) – Baking and braising



Baking: applying dry heat (usually in an oven) to foods which have a non-liquid cooking medium.

Roasting: cooking foods which are solid in an oven or over an open fire.

Braising: a cooking method in which food (typically meat) is first fried to seal the surface, then cooked slowly in a liquid in a closed container.

Instructions for baking (muffins or cakes)

Baking is easy if you abide by a couple of rules:

- Make sure the oven is preheated to the correct temperature. This can be done by using ovens which have built-in temperature probes. Use a special thermometer to check the temperature.
- Put the cake or muffins in the oven only once the correct temperature is reached.

Exception: the oven doesn't have to be hot when inserting a yeast cake, as it will rise and cook as it bakes.

- If your oven is fan assisted, you may want to either turn the temperature down or change settings.
- When filling the baking tray or muffin form, choose the correct size (as indicated in the recipe) and never overfill them. Fill only about $\frac{3}{4}$ of the form, as the dough will rise and possibly spill out (and burn) if there's too much of it.
- If your form is larger than in the recipe, reduce cooking time. If it is smaller, the heat will have to penetrate through a thicker layer of batter.
- Do not open the oven unnecessarily. This will let cold air in and may cause the food to cook unevenly.

Alternative methods

Always check the recipe to look out for possible modifications. Most recipes are for conventional ovens and, therefore, the cooking time is longer. If you use a fan-assisted oven, the cooking time will be shorter and/or reduce cooking time. As each oven is different, try to experiment with your own changes need to be.

Instructions for baking (casserole or tagine)

A casserole is a kind of a stew which is baked in the oven, usually in a lidded container. A tagine is a dish which is baked in a special clay dish called a tagine, which has a dome-shaped lid.

Casseroles and tagines are usually baked for a long time (usually a couple of hours).

- Make sure there is enough liquid in the dish, as the water will evaporate during cooking.
- Also, the temperature doesn't have to be high, as it would turn the whole dish into a soup.
- Always use a lid to cover the food before putting in the oven, as it will keep the food moist.
- Remove the lid 15 minutes before the end of baking to create a crispy top.

Alternative methods

If you don't have an oven, you can prepare a casserole on a hob, using a very small pot and simmering. Make sure your dish is deep and tall, rather than wide and broad.

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Instructions for roasting (potatoes and vegetables)

Crispy roasted potatoes and vegetables are an indispensable part of a Sunday roast.

It is important to choose the right kind of cooking oil, as some of them will create a crispy surface while others will make the food greasy and unappetising. The traditional choice is goose fat, a more modern approach suggests sunflower oil. Unrefined raw oils are not good for cooking (although they make lovely dressings).

1. To create a crispy coat, preheat the oven and place the baking tray with oil.
2. Cut the potatoes/vegetables into even pieces –small rather than large, as they will cook faster outside and be still raw inside.
3. Remove the tray from the oven and place the roasting tin in the hot oil. You will hear a sizzle.
4. Turn them over to cover evenly with oil, sprinkle with salt, pepper and herbs, return to the oven.
5. Usually 20 minutes is enough for roasting vegetables and potatoes, but check the kind of oven you use.

Extra tip:

If you want to use less oil, put vegetables, spices, herbs and the oil into a plastic bag, shake well, place over the baking tin – in this method you don't have to preheat any oil in the tin; just roast the vegetables after 10–15 minutes as they are more prone to sticking to the dish.

Alternative methods

Some people suggest blanching potatoes before roasting, as this way they will soften faster.

Instructions for braising meat

Braising is a cooking method which uses two other methods: frying and stewing.

1. First, choose what meat you want to braise.
2. Whether it is one large piece or small chunks, pat it dry with a paper towel. When put into hot oil, water will sputter and possibly burn you, so drying the meat is important.
3. Preheat the oil in a frying pan.
4. Fry the meat lightly on each side to seal its surface and keep the juices inside.
5. Now, place the fried meat in a lidded dish, add vegetables and some stock, cover and stew for a couple of hours.

Stock will prevent it from burning, while vegetables will soften and create a sauce.

Extra tip:

- Instead of stock you can use water, beer, cider or wine.
- If you fry the meat in oil first, you won't have to worry about it drying out.

Alternative methods

You can also braise the meat in a deep, lidded saucepan on a hob. Turn it over frequently to ensure it is evenly cooked.

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Activity 4.1: Meaty discussion

Task 1

Many supermarkets offer a selection of aluminium dishes designed for barbecuing. List three disadvantages of using them.

Advantages	Disadvantages

Task 2

From the meat cuts below, tick those which are best suited for braising.

blade chuck	<input type="checkbox"/>	sirloin	<input type="checkbox"/>	<input type="checkbox"/>
tenderloin	<input type="checkbox"/>	skirt	<input type="checkbox"/>	<input type="checkbox"/>
short rib	<input type="checkbox"/>	brisket	<input type="checkbox"/>	<input type="checkbox"/>

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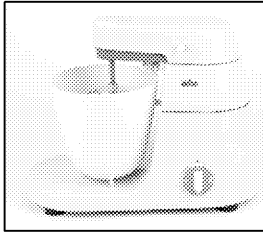
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Skill 5: Use of Equipment (Overview)

Using the kitchen equipment correctly is important for safety reasons and helps to ensure the quality of the food. Remember that many kitchen utensils are electric and need to be dealt with properly.

Equipment



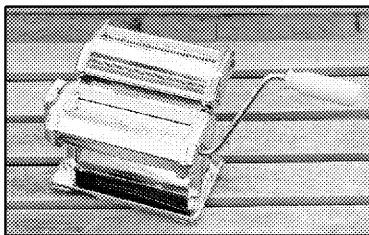
Food processor

An electric machine with interchangeable blades used for chopping, slicing, shredding, mincing and puréeing foods



Stick blender

A handheld electric tool used to purée and mix liquid foods such as soups and fruit sauces



Pasta machine

A special rolling tool which presses pasta dough into thin sheets and then cuts it into thinner or wider strips

Health and safety (Tips to remember!)

- Ensure the equipment is suitable for your electric sockets, i.e. the appliance voltage for the mains supply.
- Always hold the socket when pulling out the plug.
- If the cable is damaged, do not use the appliance.
- Keep cables away from working surfaces and water. If possible, tie them to the counter.



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Skill 5a: Use of equipment – Food processor

Instructions for using the food processor

Food processors are usually used to chop, mix, shred, mince or purée. They often have multiple functions which make them truly versatile. A good food processor will replace the grater, blender, mixer, kneader and many more kitchen appliances. The usefulness of a food processor is determined by the size of its bowl.

- Make sure your food processor is suitable for your electric sockets, i.e. the voltage for the mains supply.
- The blades are usually very sharp. Make sure you don't cut yourself when putting food in or cleaning the bowl.
- Do not put very hot food in the bowl as it will dull the knives.
- Always use a lid to prevent splashing the food around, especially when blending liquids.
- Follow the manufacturer's instructions on how to change the attachments and use different functions of the food processor.
- Use pulse mode to chop tougher foods, like biscuits, nuts or seeds, as the continuous setting may cause damage to the motor (and turn them into a paste).
- Make sure your device is powerful enough. A good food processor will be 650 W or more.

A food processor will help you to produce purées, smoothies, cream soups, dips, nut butters, pâtés and many more.

Alternative methods

Each part of a food processor can be replaced – either by a simple knife, grater, blender or mixer. This method will (usually) take more time.

Instructions for using a stick blender

Stick blenders are very handy when you need to blend a large amount of liquid and a food processor can only hold so much liquid). To use a stick blender:

1. Attach the blending end to the motor part of the blender and make sure it is locked (usually there is a button that will click when the two parts attach to each other).
2. Plug the cable to an electric socket – make sure you can reach the saucepan.
3. Place the saucepan on a non-slip surface; for example a damp kitchen cloth. Make sure the saucepan (or jar, or another device) is tall – otherwise the contents will spill out.
4. Holding the stick blender in the other hand, place it in the mixture you are blending. At the bottom, the better. Make sure that the food is not too hot, as high temperatures can damage the motor.
5. Press the power button on the blender to start blending the food. Make sure the blender is held steady, otherwise it may spin together with the food and splash it around.
6. Move the blender around to make sure all food pieces are puréed/blended.
7. Turn off the blender (usually it's enough to stop pressing on the button).
8. Unplug the device before attempting to attach another attachment or try to clean it.

Three ways of using a food processor
[zzed.uk/9289r](https://www.zigzagged.uk/9289r)

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Instructions for using the mixer

Mixers usually have three kinds of agitators – whisks, beaters and hooks.

Whisks are used to whisk or cream lighter mixtures, like sponge cake, pancake batter or cream.

- If you're whisking or creaming a mixture, stop the mixer before adding any ingredients (especially sugar). Small particles of them could sputter up and clog the whisk slot, causing the engine to burn.
- If possible, add ingredients a little at a time rather than all at once, as this makes the mixing easier (and will give you time to react if the mixture is too stiff).
- The mixer can be used to prepare mayonnaise – the fast movement of the whisk helps to help to produce a smooth texture.

Hooks are used to knead dough, as for bread, buns, rolls, pasta or doughnuts.

- Make sure your dough is not too stiff – this can damage the engine.
- Add ingredients slowly and in small amounts, to avoid the dough becoming too stiff.
- Be especially careful when adding flour or hot liquids – add some and stir with a wooden spoon to avoid it bursting into the air or sputtering after the mixer is started again.

Beaters are used to prepare stiffer mixtures, like butter creams, cheesecakes, pâté or meatloaf.

Alternative methods

- You could use a whisk or a wooden spoon to prepare most dishes, but it will be much slower.
- All you need to knead a dough are your hands.

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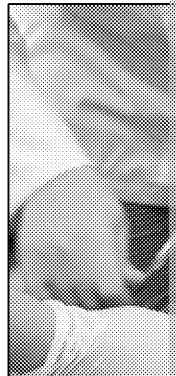


Skill 5b: Use of equipment – Pasta machine and

Instructions for using the pasta machine

Pasta machines will help you to produce pasta of various shapes and thicknesses you make dumplings, tortellini or ravioli.

1. The first step is to prepare a dough. Use a mixer or knead it yourself to obtain a springy, elastic dough. The most basic recipe is to knead 100 g of plain flour with egg – if too stiff, add a tiny bit of olive oil or water.
2. Allow the dough to rest for 20 minutes. During that time, the protein fibres will create a sponge like state net.
3. Make sure that the dough is not too sticky, as it could stick to the machine and be difficult to remove.
4. Cut the dough into smaller pieces – one shouldn't be larger than the palm of a hand.
5. Use a pasta machine to roll the dough.
6. Choose a proper attachment and cut the flat dough into the desired shape.



You can now either dry the pasta or cook it.

Alternative methods

- Instead of kneading the dough in a mixer, use your hands.
- Pasta can be rolled with a rolling pin, although this requires some practice, as the dough can be difficult to roll out.
- If you don't want strips, try to cut different shapes with cookie cutters or with a pasta cutter. Ravioli can be made by cutting the pasta into squares and then stuffing and gluing them together to form dumplings, while the square or tortellini.

For more
machine
zzed.uk/



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Instructions for using the microwave oven

Microwaves are excellent for quickly heating up foods which would take much more time by other means. The microwave works by heating up water molecules, which warm up and boil. The kinetic energy of water molecules is then transmitted into other molecules in the food.

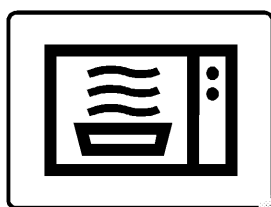
For this reason, microwaves can only be used to heat up relatively moist foods – like soups, stews, vegetables and fruit.

- The microwave can NOT be used with dry foods (like bread), as it will make them very hard.
- High – fat foods, like croissants, will easily burn in the microwave.
- Do not use aluminium foil in the microwave – the waves will bounce back and forth, creating a hazard (if you do, you will see small flashes of light and hear a crashing noise in the microwave...).
- Also, make sure the plate or bowl is microwave safe (plain and has no shiny elements or writing). Do not use metal bowls, plates or cutlery. (for the same reason as above).
- The smaller the portion, the less time needed to heat it up.
- Remember to stir the food in the microwave and stir the food to avoid cold spots.
- Do not run the microwave on an empty microwave, as it may become damaged.
- Make sure your plate or bowl is microwaveable – some materials could melt or catch fire.
- Use a special lid when microwaving liquids, as they like to sputter. The lid should be placed loosely to allow water evaporation and prevent unnecessary increase in pressure.
- If you don't have a lid, use microwave safe cling film, leaving a small opening for steam to escape.
- Remember to choose the proper settings – it is better to use lower power settings for a longer time, as the food may burn on top and stay ice cold on the bottom.
- Always remove the dish wearing mittens or kitchen gloves, as it is likely to be hot (unfortunately, even if the food inside is not).

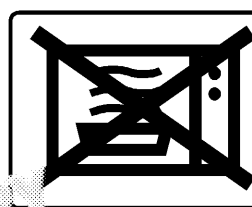
Microwave ovens can be used to cook fresh and frozen vegetables, fruit, beans, fish, etc. Some foods may be cooked in a microwave, as long as the proper amount of water is used.

Extra tip:

Microwave block butter for 10–15 seconds to make it soft and spreadable!



Microwave safe



Not microwave-safe

Look out for these signs (may differ slightly on some dishes) to check whether a dish is suitable for microwave use.



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Activity 5.1: (Not quite a) spaghetti west

Task 1

Using a food processor, prepare a pasta dough. Here's what you will need.

- 400 g semolina / Italian 00 flour
- 4 large eggs

How did it go? Identify two positive and two negative aspects of the process.

Positive	

Divide the dough into four portions.

Task 2

Roll the dough using different methods, as described below. Note down your observations (in four groups so that each group works with different settings).

	Observations	
	Before cooking	
Dough 1 Roll with a wooden pin until thin; cut into tagliatelle and cook.		
Dough 2 Roll using the thinnest setting of the pasta machine only; cut into tagliatelle and cook.		
Dough 3 Roll using the 4 th thinnest setting of the pasta machine, and then the 3 rd and 2 nd until the desired thickness is reached; cut into tagliatelle and cook.		
Dough 4 Roll using the widest setting of the pasta machine and then the narrower settings until the desired thickness is reached; cut into tagliatelle and cook.		

What conclusion can you draw from this experiment?

.....

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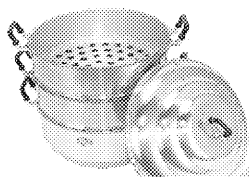
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Skill 6: Cooking Methods (Overview)

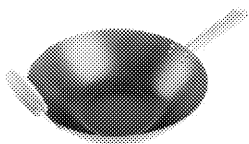
Choosing the right cooking method is crucial, as it will help to produce the desired texture and the nutritional value of the food. This skill focuses on various cooking methods, the food's appearance, texture and nutritional value, as well as safety.

Equipment



Multi-storey steamer

Multi-storey cooking device which steam circulates around, cooking the foods to cook. Very useful when cooking various kinds of food at the same time



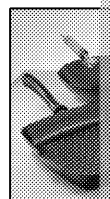
Wok

Deep, round pan used to prepare stir-fries and other dishes



Deep fryer

Deep dish with a lid used to deep-fry chips, onions and many other foods



Non-stick pan

Non-stick pans are used for grilling and frying

Health and safety (Tips to remember!)

- Make sure not to burn yourself or anyone else.
- Wear a kitchen apron and mittens.
- Do not put very wet foods into hot oil – always pat them dry beforehand.
- Do not leave the food unsupervised, as it may easily burn.
- Do not put hot dishes (saucepans, frying pans or baking tins) directly on the table.

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Skill 6a: Cooking methods – Water-based methods



Steaming: cooking with the use of steam, usually in a steamer

Boiling: cooking in a large amount of water

Simmering: cooking for a long time in temperatures below boiling point

Poaching: cooking by simmering in a small amount of liquid; such as water, juice, or milk. For eggs, it means cooking without the shells

Blanching: preparation method in which food is placed in boiling hot water for a short time and then plunged into cold water

Instructions for steaming

Steaming is one of the healthiest cooking methods. During steaming, convection currents expand and rise. Once on top (and further up the heat source), the vapour cooks the food. During steaming, the food has no contact with water, so the vitamins and minerals are not lost during draining. Steaming also uses less fat, so the dishes are low in calories and easy to digest. Many bowls can be saved time and energy, as many foods can be cooked at the same time.

To use a steamer:

1. Pour cold water into the bottom pan – follow the manufacturer's instructions as each steamer works a little differently.
2. Place the perforated pans with food in on top of the water-filled one.
3. Cover the whole construction with a lid.

Also, there are a couple of rules to obey:

- Meat or fish should be placed in the pan directly above the water (at the bottom). Meat should be thawed before cooking.
- Above meat/fish, there should be potatoes or harder vegetables. Vegetables should be frozen.
- More delicate vegetables should be placed in the top pan.
- Make sure to cut the foods into even pieces to allow even cooking.

Alternative methods

Use a large metal saucepan and place a metal or silicone colander on top. Cover with a lid or a ceramic plate.

Instructions for blanching

Blanching is a preparation method used for vegetables. It is usually used to:

- prevent vegetables and fruits from browning
- help peel vegetables such as tomatoes
- prepare vegetables and fruit for freezing

Vegetables that need to be blanched include artichokes, asparagus, green beans, broccoli florets, Brussel sprouts, shredded cabbage, baby carrots, cauliflower florets, aubergines, mushrooms, okra, onion rings, mangetout, potatoes and parsnips.

You can blanch vegetables using either boiling hot water or steam. See skill 3 for more information.

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Instructions for boiling

Boiling means cooking in a large amount of boiling water. The food is placed directly in the water and cooked by convection currents. Boiling doesn't require the addition of fat, so the dishes are generally healthier. Unfortunately some of the micronutrients easily dissolve in water, which is then discarded. Also, most vitamins are degraded in hot water.

To boil vegetables or potatoes:

- Use as little water as possible – they will cook by steam anyway.
- Put them into already boiling water – putting vegetables into cold water increases cooking time and vitamin loss.
- Do not use aluminium pans, as they increase vitamin loss as well.

Extra tips to reduce nutrient loss:

- Use the water from boiling potatoes or vegetables to make a soup, stew or sauce.
- Don't cut the food too finely – large dice is OK.
- Use a pressure cooker to increase pressure and shorten the cooking time.

To boil rice:

- Measure the rice and use twice as much hot water (i.e. a cup of rice = 2 cups of water).
- Add dried herbs (optional).
- Cover with a lid and leave for 10 minutes.
- After that time, check whether the rice is soft, and add some water if needed.
- When the rice is ready, season to taste.

Extra tip:

If you don't want the rice to be sticky, pour some oil or butter into the saucepan for 2–3 minutes. Add the correct amount of boiling water afterwards.

To boil pasta:

- Pour a lot of water into a saucepan and boil (usually 1 l per 100 g of pasta).
- Add a pinch of salt and a spoonful of oil – it will prevent the pasta from sticking.
- Place the pasta in the water and gently stir to prevent it from sticking to the pan.
- Follow the manufacturer's instructions as to the cooking time – some pastas are al dente, others may need as much as 20 minutes.
- Each 100 g of pasta requires a litre of water to cook properly – otherwise it will be too dry.

Extra tip:

- Pasta is rich in starch, so you can use some of the water to thicken your sauce.
- If you don't add the oil, the sauce will stick better to the pasta after cooking.

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To boil eggs:

1. Take a large saucepan so that the eggs have enough room and don't hit each other.
2. Pour water into the saucepan and heat it up – there has to be enough water to completely cover the eggs.
3. Put the eggs into warm water – not hot, as they could easily break.
4. Wait until the water boils.
5. Lower the heat to a gentle simmer, as a very hot temperature will cause the eggs to crack like.
 - For soft-boiled eggs, boil for 2 minutes and remove from the water immediately. Extend the cooking time to 3 minutes for very large eggs.
 - For semi-hard boiled eggs, boil for 4 minutes, remove from the water and place in cold water for 10 minutes (extend to 5 minutes for very large eggs).
 - For hard-boiled eggs, boil for 10 minutes, remove from the water and place in cold water for 10 minutes to cool down (extend to 15 minutes for very large eggs).

Extra tips:

- If you don't want the eggs to break, remove them from the fridge 2 hours before cooking.
- To easily peel boiled eggs, crack the shell slightly and put the egg into cold water.

Instructions for simmering

Simmering is a traditional cooking method used to prepare soups, stews, curries etc. The food is cooked for a long time just below the boiling point. Simmering is also used for root vegetables, as it allows them to cook evenly throughout.

To simmer a stew:

1. Fry some chopped meat (pork, chicken, lamb, beef) in a small amount of oil to seal.
2. Place in a deep container.
3. Add vegetables (like chopped onion, carrots, mushrooms) or other ingredients (such as bacon, dried herbs).
4. Pour in a glass of water, wine or another liquid.
5. Bring to the boil and lower the heat.
6. Cover with a lid.
7. Simmer for 2 hours until the meat is tender and melt-in-the-mouth.
8. During simmering, regularly check the amount of liquid – add more if the food starts to burn.
9. Season with salt, pepper and fresh herbs.

Extra tip:

- Simmering is the best way to obtain an essential, rich broth.
- Do not add raw ingredients to an already hot simmer, as it will release proteins and cause the food to curdle.

Alternative methods

Gas hobs are often difficult to regulate – even on the lowest setting the flame may cause the mixture to boil instead of simmering, while turning it down even more may cause the food to burn. To avoid this, place the pan only partially on the burner, so that it doesn't touch it with all its surface. Alternatively, offset towards the front of the hob, where it could be knocked off.

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Instructions for poaching

Poaching is a more advanced cooking technique used to prepare more tender food.

To poach fruit:

1. Pour some water, juice, wine or syrup into a saucepan.
2. Add cloves, cinnamon, vanilla, aniseed or other spices and let infuse.
3. Gently heat to around 82 °C – use the temperature probe to check that.
4. Gently place fruit pieces in the solution and let cook for a couple of minutes.
5. Once cooked, remove from the pan.
6. Filter the liquid to remove pieces of spice and use to prepare a sauce.

Extra tip:

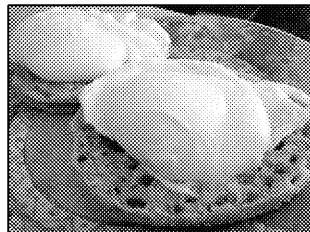
If you used white wine, it can be used to make a zabaglione (original recipe uses white wine will do).

To poach fish:

1. Pour water, wine, stock or milk into a saucepan.
2. Add some dried herbs to infuse.
3. Heat up to around 85 °C – use the temperature probe to check that.
4. Place the fish fillets in the poaching liquid – make sure there is enough liquid to cover the whole fillet.
5. Cook for about 6–8 minutes, until opaque.
6. Gently remove from the solution.
7. Use the liquid to prepare a sauce.

The fish needs to be filleted (not whole, just pieces of meat), and NOT breaded or battered.

To poach eggs:



Poached eggs on toast.

1. Break an egg into a bowl or a cup - make sure no shell is in.
2. Boil water in a deep saucepan.
3. Once boiling, reduce the heat to a gentle simmer.
4. Add 2 tablespoons of spirit vinegar or lemon juice.
5. Create a whirl in the water.
6. Pour the egg straight into the whirl – it will help to cook the egg.
7. Simmer for 3 minutes and gently remove – be careful not to break.
8. Place in ice cold water for 30 seconds to stop from cooking.

The fresher the egg, the better, as the bonds in the egg white are stronger and well-cooked eggs will have a nice round shape, delicate white egg wall and a runny yolk.

Make sure to remove the eggs from the fridge 24 hours before cooking.

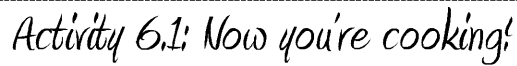
Extra tip:

- Use wine instead of water to give the egg an interesting aroma and colour.
- You can also use oil instead of water to poach an egg – but be careful, as oil can smoke.

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Skill 6b: Cooking methods – Dry heat and fat-based cooking on a hob



Dry-frying: frying in a pan without the use of oil (or any other fat)

Shallow-frying: frying in a small amount of oil (or other fat)

Stir-frying: frying finely chopped foods over high heat while stirring (either in a pan), usually in a wok

Instructions for dry-frying

Dry-frying is one of the methods of frying, in which no oil is added and so the food is cooked at a high temperature. This high temperature may lead to destruction of some of the less stable vitamins, like vitamin C. It is best to use a non-stick frying pan, preferably made of cast iron or ceramic.

- Dry-frying may require constant stirring, as the high heat quickly shortens the cooking time and burns the surface.
- Dry-frying is best applied to foods which already have some amount of fat or moisture. Otherwise, the food may stick to the surface and burn instead of fry.
- It is possible to dry-fry pancakes – add a spoonful of oil to the batter and cook as usual.
- High-fat foods will leak some fat, so dry-frying is actually healthy, as it will not add extra fat to the food.
- It is also possible to dry-fry fish or chicken. Simply wrap it in baking paper. The fish/chicken cannot be breaded or battered.
- If you're using a Teflon frying pan, make sure not to scratch it, as damaged Teflon releases harmful, carcinogenic substances.

Extra tips:

- Try to use a grill pan instead of a normal one.
- You can also use a spray which will cover the pan with a very thin layer of fat.

Alternative methods

Since dry-frying is very similar to roasting, you can also use the oven to prepare a healthy meal.

Instructions for shallow-frying

Shallow-frying is a cooking method which requires a small amount of fat. Various points and smoking points, so it is extremely important to adjust the cooking temperature (and burning of the food). What fat is best for frying, then?

- Butter can be used to fry at low temperatures and for a rather short time, as it has traces of protein which tend to burn quickly. Its smoke point is around 150 °C. Ghee (or clarified butter) is a better choice, as the protein is removed from it, and the smoke point is around 235 °C.
- Unrefined oils, like extra virgin olive oil, are not the best choice for frying, as they contain many different substances, which lower their smoke point (it is only between 110 °C and 160 °C).
- Refined oils are a good choice for frying, as their smoke point is usually above 200 °C.
- Lard and refined coconut oil also can be used for frying, as their smoke point is high in saturated fatty acids.
- Remember that vegetable oils are high in unsaturated fatty acids, and heated at high temperatures may produce harmful *trans* fats.
- On the other hand, butter, lard and coconut oil are high in saturated fats, which are not as healthy either (especially in excess).
- It is best to use fats which have a high content of monounsaturated fatty acids, as they are the least harmful substances (if any).

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There are also a couple of general rules to obey when frying with fat:

- Never reuse or reheat the fat – it is best to collect it in a separate bucket.
- Always preheat the fat before adding the food to the frying pan. This way is healthier.
- Do not add fresh oil during cooking, as the fatty acids released from the oil decompose.
- Remember that frying increases the amount of fat in the food and its calorie content, so it is not recommended for people suffering from obesity, gall bladder, liver or pancreatic diseases.

Extra tip:

Remember that butter, lard and suet contain cholesterol, which is susceptible to oxidation, which can affect the flavour of the dish.

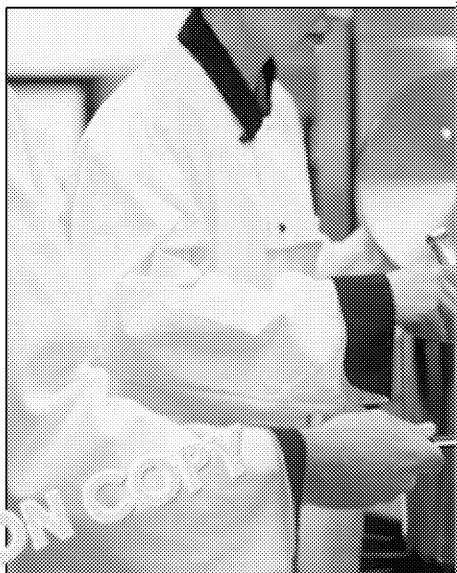
Alternative methods

Dry-frying, roasting and stir-frying may be considered when planning to lower the fat content of a dish.

Instructions for stir-frying

Stir-frying is a cooking method characteristic of Asian cuisine. In this method, the food is quickly cooked in a wok or a deep frying pan, which is lightly oiled to prevent sticking. This method requires attention to prevent burning of the food.

1. Prepare all ingredients and cut them into even pieces – during cooking you will need to stir the food frequently.
2. Use a deep frying pan – for example, a wok – as during stirring you will need a large surface area.
3. Heat it up to very high temperature and add some oil, covering the walls of the pan. Vegetable oil or soy oil is a good choice in this case, as their smoking point is quite high.
4. Begin adding ingredients – start with the meat, and once done, remove it. Beef, fish, seafood or poultry is a good choice for a stir-fry, but not pork, as it takes a long time to cook. Stir the meat from time to time to allow browning.
5. Then fry the vegetables, from the most hard (like carrot, broccoli or pepper) to the more delicate ones (like bean sprouts or spinach). Stir the vegetables constantly, shovelling them from one side to another.
6. Add the meat and cook for a short time together.
7. At the end, add fresh herbs, a sauce, or drizzle with sesame oil.
8. Serve fresh, as reheating will cause overcooking and will alter the texture of the food.



Extra tip:

- If you want your dish to be more aromatic, add spices at the beginning of the cooking time. They will infuse the oil, so can be removed before adding other ingredients.
- If you want to add noodles or rice, they have to be pre-cooked, as there is not enough time to cook them in the wok (and certainly not enough time).

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Activity 6.2: Do you know which side is best?

Task 1

Complete the table below to suggest one dish/food item that could be made with each ingredient below using each of the indicated cooking methods. You may also decide that one ingredient is not suitable for cooking a given ingredient.

	Dry-frying	Shallow-frying	Stir-frying
Fish			
Chicken			
Mushrooms			
Eggs			
Broccoli			
Tomatoes			

Task 2

From the fats below, choose and tick those that can and cannot be used for frying. Justify your answer.

coconut oil	<input type="checkbox"/>	peanut oil	<input type="checkbox"/>	lard	<input type="checkbox"/>
rapeseed oil	<input type="checkbox"/>	butter	<input type="checkbox"/>	refined olive oil	<input type="checkbox"/>
extra virgin olive oil	<input type="checkbox"/>	goose fat	<input type="checkbox"/>	sunflower oil	<input type="checkbox"/>

I chose the fats above because...

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Skill 7: Prepare, Combine and Shape (0

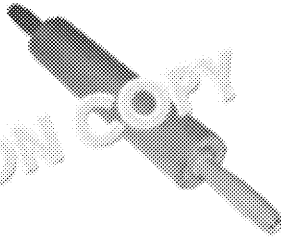
Now that you know all the basic techniques, it's time to introduce the more complex ingredients in correct proportions will help you when shaping them, as they will behave differently during cooking. It is very important to deal with high-risk foods with care to prevent food poisoning or allergic reactions.

Equipment



Silicone brush

Special brush used to coat tins with oil or to glaze foods, such as pasties, with egg



Rolling pin

Wooden, plastic or ceramic device used to roll pastry or dough flat. Some rolling pins can be filled with hot or cold water to help rolling different types of pastry.

Health and safety (Tips to remember!)

- Always wash hands before and after handling food – especially when dealing with high-risk foods such as raw eggs, meat or fish.
- Wash eggs in boiling water for 30 seconds before using, to kill potential bacteria and prevent food poisoning. This is especially important if you're planning to use raw eggs in recipes like mousses.
- Always use separate tools and utensils to chop or mix ingredients.
- Remember to use colour-coded chopping boards, and potentially, colour-coded containers. This will help to prevent cross-contamination and food poisoning.
- If using any allergens, like eggs, milk or nuts, always mark it in bold on the recipe.
- If making two versions of a food – one with an allergen and one without – use separate, clean surfaces, with the use of clean, separate utensils, and have separate stages of preparation, cooking or serving.
- Use disposable gloves when dealing with high-risk foods or mixing ingredients.



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Skill 7a: Prepare, combine and shape – Rolling



Rolling: spreading a dough or pastry flat with the use of a rolling pin; also a roulade

Wrapping: folding or rolling up a filling or stuffing in a flat sheet of bread or a large flat leaf, like cabbage or lettuce

Instructions for rolling

Rolling is a preparation technique in which a pastry or dough is spread flat in order to make a flat sheet of pastry is then used to cut out shapes, which then can be either cooked with a savoury filling or folded in half to create pasties or dumplings. Or simply used when

Rolling a pastry:

The best rolling pin for a shortcrust pastry is a plastic or silicone one filled with cornmeal or of the pastry and not to roll it in it.

1. Sprinkle your worktop or a large board and the rolling pin with flour to prevent the pastry from sticking.
2. Divide the pastry into a few pieces to make the rolling easier.
3. Place one piece of the pastry in the middle of the worktop and flatten with your hand.
4. Begin rolling from bottom to top (away from yourself) to make a flat sheet of shortcrust.
5. During rolling, turn the pastry a little bit into one direction every couple of strokes to make sure each part of it is rolled evenly.
6. Once the pastry is 1 cm thick or so, you can cut it with a knife or use a glass or cookie cutters to cut out shapes.



Extra tip:

Cut as close to each other as possible to spare the crust. Unused crust can be added to another batch but overrolling it will affect the texture, so it's best to avoid wasting too much of it.

Rolling a dough:

Dough is usually made with yeast, which makes it elastic. Leaving the dough for too long will increase in volume, so it's important to roll it quickly to avoid it overgrowing – overgrown dough has a yeasty taste and may give a slight yeasty aftertaste. It may also fall during cooking.

1. Sprinkle the worktop with flour.
2. Cut your dough into four pieces (or more if you have a lot).
3. Roll one piece of the dough in flour.
4. Spread the dough flat with your hands and then roll from bottom to top.
5. Once flat, turn by 90 degrees and roll again.
6. Roll and turn as long as you need to obtain the thickness you need.
7. Now the dough can be used to make a pizza, cut out doughnuts from it or spread with a spicy seed paste and roll into a roulade.



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Rolling pasta:

Thinly rolled pasta dough is essential for making pasta, dumplings, ravioli and tortellini.

1. Dredge the worktop with flour.
2. Place the pasta dough in the middle.
3. Roll from bottom to top, turning by 90 degrees every few strokes to ensure the whole sheet has the same thickness.
4. Once the pasta sheet is flat and even, you can cut it with a knife to make pasta, or cut out shapes (circles, triangles or squares) to fill with a stuffing and fold together into dumplings.

Extra tip:

To avoid mess, cover the dough/pastry with cling film – the dough will not stick to the film and will not produce dust.

Alternative methods:

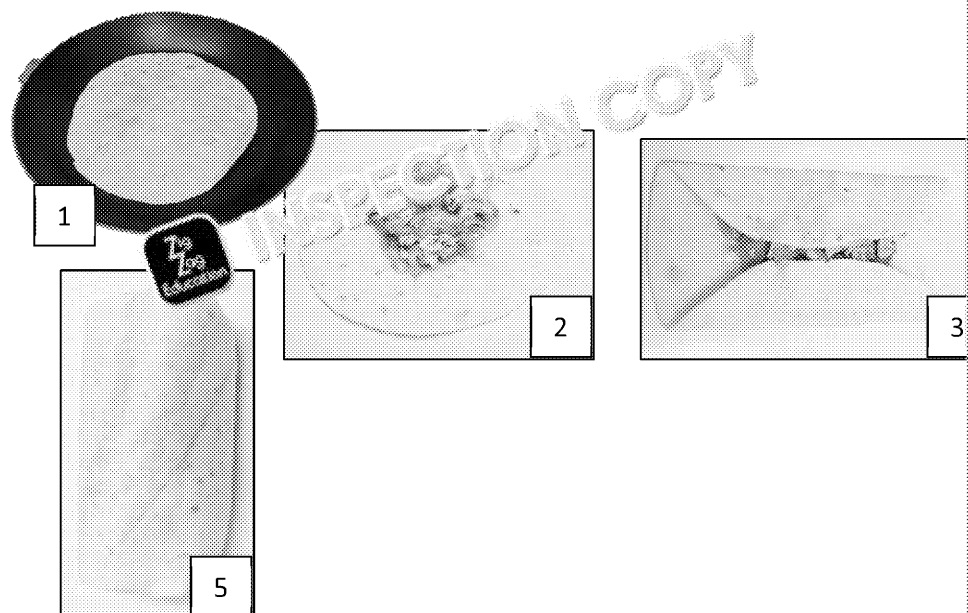
- You can flatten the dough with your hands or a large glass bottle if no rolling pin is available. If you don't have a cookie cutter, simply use a glass.
- A shell dumpling maker will not only allow you to cut out shapes in the dough but also fold them together and create a nice fan-like edge.
- To roll a pasta dough, you can use a pasta machine – it will not only flatten it but also cut it into strips.

Instructions for wrapping

Wrapping may be more or less difficult, depending on the kind of ingredients you are using. Try to wrap them as tightly as possible, without tearing the wrap apart, to keep the filling in. Also, make sure you have the right amount of filling to the wrap you have – otherwise you will struggle wrapping it and the filling could spill out during cooking.

Wrapping tortillas and pancakes:

1. Warm up the tortilla on a hot pan. It will make it soft and elastic, and less likely to tear.
2. Place the filling in the middle of the tortilla, leaving around 3 cm from the edges.
3. Fold the tortilla inwards, from the bottom and top.
4. Then fold from the left and right inwards.
5. Continue wrapping until the whole tortilla is wrapped.
6. If you want to reheat or bake your tortilla, place it with the folded edge down. It will unroll all by itself during cooking.

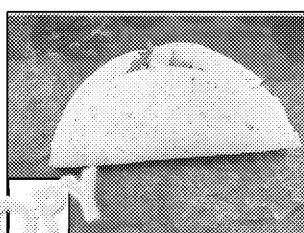
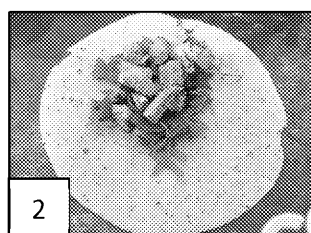
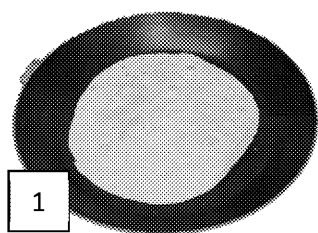


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You can also wrap an open tortilla. To do so:

1. Warm up the tortilla on a hot pan.
2. Place filling in the middle, leaving around 3 cm from the edge.
3. Fold the bottom of the tortilla so that it covers the filling.
4. Fold inwards the left and right side of the tortilla.



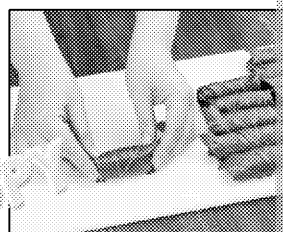
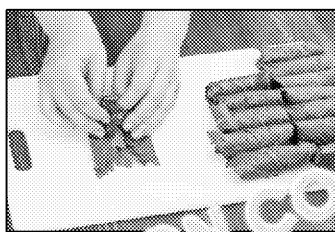
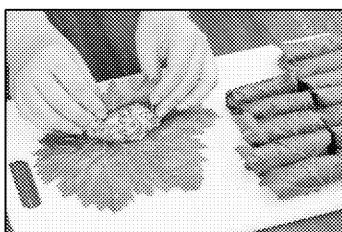
Extra tips:

- If you use paper sheets for your wraps, put them into warm water.
- Cover the fried pancake in lightly beaten egg and breadcrumbs and fry to cook.

Wrapping in cabbage leaves:

Raw cabbage leaves are crispy and break easily, so it is necessary to pre-cook them before wrapping anything in them (lettuce leaves are softer so can be used 'as is').

1. Boil water in a large saucepan and place a whole cabbage in it.
2. Cook for 20–30 minutes until semi-soft. You want the leaves to be cooked but firm, not too soft as they could overcook and fall apart later.
3. Remove the cabbage and begin removing leaves, trying not to tear them.
4. You will notice that there are hard stems at the base of each leaf – cut them flat (don't make a hole in the leaf), as they are very hard and would make wrapping impossible.
5. Once the leaves are prepared, spread them flat and put some filling in. You can use meat, rice, whole grains, mushrooms, finely cut vegetables, or whatever you like.
6. Use the technique above to roll cabbage rolls.
7. Place tightly in a saucepan, add spices and water, and cook until ready – the filling should be cooked through.



Extra tip:

If you add rice to the minced meat, cook the wraps in a broth, so they are moist and have extra flavour and texture. It will also help to keep a nice shape, as the rice will swell and

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Activity 7.1: Roll your sleeves up!

Task 1

Your task is to prepare spinach and ricotta ravioli. Complete the table below to identify the equipment you will need during the process. For each piece of equipment, explain why/how it is used. An example has been given for you.

Piece of equipment	Why/how
e.g. saucepan	to simmer spinach before

Task 2

Prepare burritos with guacamole, beef chilli, cheese and vegetables.

List three things you found difficult:

1

2

3

List two things you found easy:

1

2

List one thing you will do differently next time:

1

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Skill 7b: Prepare, combine and shape – S



Skewering: pinning the edges together to protect from unrolling or holding wooden or metal pin

Instructions for skewering

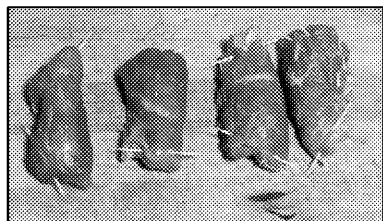
A skewer is useful for holding food pieces together – whether you want to make vegetables on a skewer, a kebab (minced meat baked on a skewer) or a chicken want to make shashliks, and shorter ones to pin together the edges of a meat roll

To skewer a shashlik:

- Cut the food into even pieces. It is best to slice the meat into $2 \times 2 \times 2$ cm cubes, as they will hold securely on the skewer.
- Don't cut the vegetables too thin, as they will fall off the skewer during cooking (sometimes even before).
- Start the skewer in the middle of the cubes – the closer to the edges, the larger the risk of falling off the skewer once the food cooks and softens.
- The more colourful, the better – use different vegetables to make your shashlik more appetising.
- Shashliks can be roasted in an oven, grilled or barbecued.
- You can also sprinkle them with a sauce, oil or seeds before cooking.

Extra tips:

- Make fruit shashliks, which will be ideal for a dessert.
- Small shashliks made on toothpicks will make interesting finger food/starters
- Use wooden skewers for fruit, but metal ones for meat, as they conduct the heat



Skewers are also useful when making meat rolls:

1. Cut meat chops and beat them flat with a mallet, so they are larger, so more stuffing can be put in.
2. Put stuffing at one side and roll.
3. Skewer the edges together to keep the shape and to prevent them from unrolling.

Extra tip:

Spread some mustard or another sauce on the inside part of the meat to give it a work as a marinade, as mustard is slightly acidic, so will tenderise the meat even more.

Using skewers for making chicken breasts

1. Cut the chicken breasts using the pocketing technique.
2. Put some stuffing into the pocket.
3. Skewer the edges to secure the stuffing inside and fry or roast.

For meat
meat
zzed

Alternative methods

Instead of using a skewer, you can secure the meat with thick cotton thread, either (make sure you have a sterilised, clean needle to do that), or by simply wrapping

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Activity 7.2: It's a w(t)rap!

Task 1

Design a fruit shashlik for a summer barbecue. Draw it below and annotate the parts that are going to use and why.



Now try and make your fruit shashlik. How did you get on? Were there any problems?

Task 2

Prepare chicken rolls with dried tomatoes and pesto – skewer the edges of one of the rolls with a wooden skewer, wrap another one with cotton thread, and don't skewer the third one at all. Here are the ingredients:

- a large chicken breast
- dried tomatoes in olive oil
- green pesto sauce
- salt and pepper
- wooden skewer
- cotton thread
- meat mallet

Cut the chicken breast into three middle slices (the size of a palm). Pound with a meat mallet until thin. Season with salt and pepper, then spread a layer of pesto on top. Roll up with a layer of dried tomato on top. Secure the rolls with a wooden skewer, cotton thread, or one with a cotton thread. Shallow-fry.

Compare the three chicken rolls. What conclusions can you draw from this experiment?

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Skill 7c: Prepare, combine and shape – Mixing



Mixing: the process of combining one or more ingredients together to obtain a mixture.

Coating: to cover a food in a protective or decorative layer, may be applied before or after cooking.

Instructions for mixing

As mixing is applied to many different food products, you might need to use different utensils. For example, to mix ingredients for a sponge cake you might need a mixer, while to make a batter for a pancake a spoon might be enough. Other utensils used for mixing include spatulas, whisks, and your own hands (remember to wear disposable gloves when using the latter).

- It is important to read the recipe carefully. Sometimes the ingredients need to be mixed thoroughly (as for a sponge) and sometimes just a little (as for muffins).
- If mixing savoury ingredients, like meat and vegetables, make sure to cut or mince them beforehand so that the mixture is smoother and the flavours can penetrate the mixture.
- When using a mixer, stop the machine before adding any more ingredients, as they could be thrown up and block the mixer slots, damaging the machine.



Instructions for coating

Coating can be applied both before and after cooking. It is usually used to change the flavour of the food, or as a decoration.

Coating before cooking:

Coating before cooking is usually used to protect the food inside and to alter the texture and flavour.

- Coat in whisked egg and breadcrumbs to make a crispy top – applied to meat, fish or vegetables.
- Coat in batter – applied to fish and vegetables before frying.
- Coat in flour – applied to meat and fish before frying.
- Coat in oil and herbs – applied to potatoes, chips, vegetables.
- Coat in oatmeal or corn flakes – applied to chicken breast, as it cooks quite fast.



Extra tip:

If you coat a fish with flour and then in batter, it will stick together better.

Coating after cooking:

Coating after cooking is usually used as a decoration or to change or enhance the flavour of the food. It is usually applied to sweets and cakes.

- Coat with icing or sugar – usually on dragees (round or oval confectionery items with a hard shell), cookies and cakes.
- Coat with a butter icing or cream – on cakes.
- Coat with a whipped cream – on cakes.
- Coating with chocolate – on cakes, cookies, chocolate bars, etc.
- Coating with desiccated coconut, chocolate chips and sugar sprinkles – on cakes and puddings.

Extra tip:

If you add a bit of butter to melted chocolate, it will create a soft coat which will be easier to spread.

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Skill 7d: Prepare, combine and shape – Layering alternatives – Shaping and binding wet



Layering: the process of placing food ingredients on top of each other

Shaping: giving a form to a wet mixture

Binding: gluing various ingredients together, usually with the use of another ingredient

Instructions for layering

Layering can be used to prepare both sweet and savoury dishes. It is often used to make foods more appetising, as the ingredients used are often very colourful and the whole structure looks simply yummy.

- To layer different food ingredients, think about their consistency – liquids and sauces should be placed on top, while crumbs or other solid foods should be placed at the bottom.
 - The liquid should not be too liquid, as they will fall to the bottom, soaking the solid foods and changing its colour, texture and flavour.
 - Notice that the layers are usually in contrasting colours to easily distinguish one from another.
 - Wait until the lower layers set before pouring sauce on top.
- Examples of layered desserts are trifle, tiramisu or banoffee pie.
Examples of layered savoury foods include lasagne, fish pie, shepherd's pie, some salads, etc.



Extra tip:

You can thicken the sauce with gelatine or potato starch to make it less runny, so the dish holds its shape.

Instructions for binding

Wet mixtures are sometimes difficult to bind, as ingredients around the world vary. If a mixture is too dry, it will fall apart during cooking.

- It is best if the ingredients are finely chopped or minced, as the mixture will be smoother and easier to handle.
- If you're mixing raw meat, milk or eggs with your hands, use disposable gloves to prevent cross-contamination.
- The most common binding agents in foods are egg whites, whole eggs and water.

Alternative methods

If you can't use eggs (e.g. because of allergy) in savoury recipes, try to use:

- Corn starch or rice gruel
- Wet (soaked) breadcrumbs
- Soy flour
- A finely grated potato
- Silken tofu

In recipes for sweet dishes:

- Finely crushed biscuits
- Apple sauce
- Prune or dried fruit
- Soaked groundnuts
- Pumpkin purée
- Potato starch
- Soy yogurt

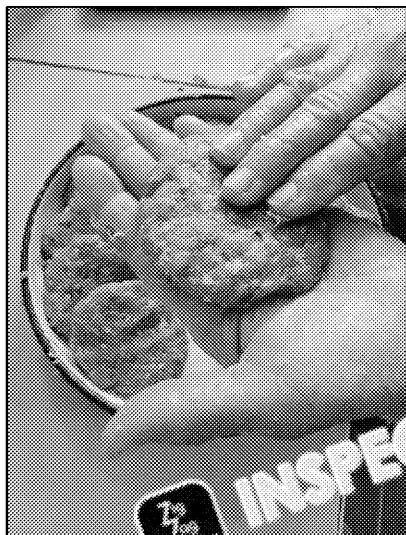
Important!! The ingredients above will act as a binding agent – but they will not act as a raising agent.

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Instructions for shaping



Shaping a raw food mixture may be difficult, so it is important to ensure even cooking.

To shape fish cakes and burgers:

Shape the mixture into a thick roll and cut even pieces. Coat with breadcrumbs and fry. Burgers can be fried with a bun.

To shape meatballs or falafels:

Scoop the mixture from the bowl with a spoon or your hands. Coat with flour or breadcrumbs.

To shape kebabs on a skewer:

Spread the meat mixture flat into a 2 cm thick strip. Shape each strip on the metal skewer. Cook on the same size. Drizzle with oil and sprinkle with herbs.

Extra tip:

When shaping raw meat with your hands or a spoon, wet them with cold water to prevent sticking.

Remember that raw meat, fish and eggs are high-risk foods – even more so when they are finely minced. Thoroughly clean your hands, working surface and all utensils used with hot water and soap, and disinfect to reduce the risk of cross-contamination.

Alternative methods

- To shape burgers, you can also spread the mixture flat and cut out circles with a glass or a cookie cutter.
- To make very small meat balls (or simply leave the mixture for a later use) put the mixture tightly into a plastic or silicone ice cube tray.

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Activity 7.3: Too many cooks spoil the broth

Task 1

You have been asked to prepare falafels for a garden party. Complete the table below by listing the equipment and/or ingredients used at each step.

Step	What equipment/ingredient
Drain the chickpeas and blend them into a smooth paste.	
Thicken the chickpea paste and bind it.	
Mix the chickpea mixture with...	
Shape the falafels.	
Coat the falafels.	

Task 2

List three savoury and three sweet dishes traditionally made from a number of different ingredients.

Savoury dishes:

- 1
- 2
- 3

Sweet dishes:

- 1
- 2
- 3

Task 3

List foods or ingredients that are used in the making of falafels that are made with the use of binding or stabilising agents.

1		4	
2		5	
3		6	

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Skill 8: Sauce Making (Overview)

Sauce is often the essence of the dish. It not only adds colour, but also taste and texture with the use of various techniques. When making sauce, it is important to measure accurately to obtain the desired viscosity and flavour. The three basic techniques of sauce making are reductions and emulsions.

Equipment

Preparing a sauce does not usually require any fancy equipment – usually a large jug, bowl or pot and a whisk will do. Some sauces, such as pesto, can be ground in a pestle and mortar, or blended with a hand blender.

You may need some extra equipment for plating and serving the sauce. For some foods, such as pies, it is appropriate to serve the gravy in a separate gravy boat.



If you want to make your dish look more fancy, you may find that a simple squirt bottle and a toothpick are helpful. Simply squirt a few drops of sauce around the plate and run the toothpick through them!

Health and safety (Tips to remember!)

- Make sure not to burn yourself or spill the sauce on yourself or anybody else.
- Wear an apron and mittens, if necessary.
- Use a saucepan with a thick bottom, as it will transfer the heat more evenly.

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Skill 8a: Sauce making



Starch: the complex carbohydrate present in flour and starchy vegetables.

Gelatinisation: reaction which takes place when starch is cooked with water.

Deglazing: adding liquid to the frying pan or roasting dish after food has been cooked.

a sauce.

Emulsion: a stable mixture of oil and a liquid (usually water).

Reduction: a sauce thickened through evaporation of water, or a method of thickening.

Instructions for starch-based sauces

Starch is the complex carbohydrate in flour. If cooked with water, the starch granules swell. When a temperature of 80 °C is reached, the granules break down, making the solution thick. This is called gelatinisation. It is necessary to agitate (stir) the sauce all the time to prevent the starch from burning at the bottom of the saucepan.

Starch-based sauces may be made with different methods.

Roux:

1. Melt fat (e.g. butter) over low heat.
2. Once melted, add flour and stir with a whisk into a smooth paste.
3. Cook for 2–3 minutes – the starch will dextrinise, creating a brown colour. The longer you let it cook, the darker roux you will obtain – therefore, briefly cooked roux sauce is called white, 2–3 minutes creates a blond, while a longer cooking time will help to produce a brown roux.
4. Remove the saucepan from the hob and slowly add milk (or another liquid, e.g. water, broth, wine...) whisking/stirring all the time until smooth.
5. Place the saucepan on the hob and cook for 3–4 minutes to cook the starch properly.
6. Add seasoning or flavouring, if necessary.

All-in-one sauce:

1. Place all the ingredients (fat, liquid and starch) in a saucepan.
2. Cook on a low heat, stirring constantly to prevent lumps.
3. Once boiled, cook for another 3–5 minutes so the sauce becomes glossy and transparent.
4. Add seasoning or flavouring if necessary.

See how to make a thickened sauce.

Blended sauce:

The most popular blended sauce is custard. In a blended sauce, there is no fat added – the main ingredients are starch and liquid, and sometimes egg yolk.

To make a blended sauce:

1. Mix corn starch with a little liquid (milk, juice, wine...) into a thick paste.
2. Warm the rest of the liquid (you might like to infuse it with vanilla or herbs, depending on whether you are making a sweet or savoury sauce).
3. Add the warm liquid to the starch paste, stirring constantly until smooth.
4. Cook the whole mixture for 5 minutes, stirring all the time to prevent lumps.
5. Remove the sauce from the hob when the sauce has thickened.
6. Season and flavour, e.g. with sugar or salt.

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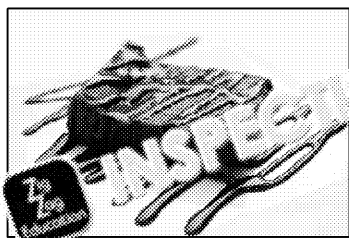
Beurre manié

Beurre manié is a French term for a thick paste made of equal parts of flour and butter. It is added to stews, soups and sauces to thicken them up.

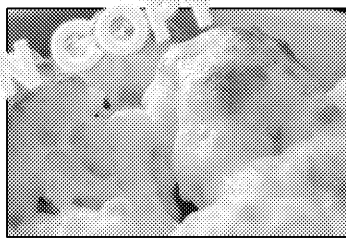
1. Measure equal parts of butter and flour (e.g. a teaspoon of each).
2. Knead them in your hands until smooth and non-sticky.
3. Add to the sauce and stir.
4. When the butter melts, it releases starch gradually, so there will be no lumps.

How starch/liquid ratios affect viscosity of sauces

The most popular starch-based sauces include white sauce, béchamel and velouté. They have different viscosity (thickness), depending on the ingredient amounts.



Pouring sauce requires 1 part of flour, 1 part of fat and 16 parts of liquid. An example of this is crème anglaise or chocolate sauce.



Coating sauce requires 1 part of flour, 1 part of fat and 10 parts of liquid. An example is cauliflower cheese sauce.

Beurre manié requires 1 part of flour and 1 part of fat. An example is the fish sauce.

Alternative methods

- Experiment with various ingredients to prepare a range of different sauces. Use different starches and liquid ratios to obtain different results. Remember that the amount of each ingredient affects the final result.
- Sauce may be easily thickened by the addition of grated cheese – it will melt when cooled down.



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Instructions for reduction sauces

Reduction sauces are made by simmering a sauce for a long time to evaporate the liquid and richer in taste. An example of a reduction sauce is tomato sauce, which is cooked until the full aroma and flavour of the tomatoes. Curry sauce and gravy also use reduction to enhance flavour.

A reduction sauce can also be made by deglazing the liquids left from cooking meat or vegetables. After frying/roasting them, the food is removed from the pan/baking tray, and a liquid (usually some sediment, sometimes also a little bit of fat, *jus* (juice) or water) is added to the pan. The liquid added may be water, white wine, red wine, stock, cream, etc. – depending on the recipe.

To deglaze:

1. Fry meat, fish or vegetables in a frying pan and remove them after frying (as you want some bits stuck to the pan. Don't use a non-stick frying pan).
2. Scrape the residue from the pan with a wooden spoon.
3. Add a little liquid (water, stock or wine).
4. Cook for a short time to reduce.
5. Add water to thicken and enhance the flavour.
6. Add seasoning and flavouring if necessary.

It is best to prepare reduction sauces in wide frying pans, as the surface will be large and the liquid will evaporate faster.

Extra tip:

By stirring constantly, you will obtain a smoother texture.

Instructions for emulsions

An emulsion is a stable mixture of fat and water. As fat particles are water-hating, they tend to separate from the water, creating an oil layer on top of the mixture. To avoid that, an emulsifier must be added. Examples of emulsions are mayonnaise and hollandaise sauce (water-in-oil emulsions). In mayonnaise, the basic ingredient is oil, while in hollandaise it is butter. Both are emulsified with egg yolk, which contains a natural emulsifier – lecithin. The lecithin helps to spread the fat molecules evenly throughout the whole sauce.

To make a hollandaise sauce:

What you need:

- | | |
|---|---|
| • 230 g butter | 1. Melt butter in a saucepan. |
| • 2 egg yolks | 2. Whisk egg yolks in a bowl. |
| • 1 teaspoon lemon juice | 3. Add the melted butter to the egg yolks, constantly whisking. |
| • salt | 4. Add a spoon of lemon juice, pouring in all the liquid. |
| • pepper | 5. Season with salt and pepper. |
| • saucepan | |
| • blender or hand mixer | |
| • high-speed whisk or a jug for mixing. | |

In this sauce, the lecithin is an emulsifier, but proteins from the yolk are also denatured and coagulated with the warm melted butter, which additionally stabilises the mixture. This sauce should be served fresh, as keeping it warm for a long time enhances bacterial growth.

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To make a mayonnaise:

What you need:

- 2 egg yolks
 - ¼ teaspoon salt
 - ½ teaspoon sugar
 - 1 teaspoon mustard
 - 1 tablespoon vinegar
 - 1 glass of oil
 - Mixer
 - high bowl or jug for mixing
1. Put egg yolks into a bowl.
 2. Add vinegar, salt and mustard.
 3. Mix until smooth.
 4. Slowly begin adding oil – drop by drop to reduce the risk of curdling.
 5. Once half of the oil required has been added.
 6. Whisk in the rest of the oil.
 7. Store in a closed jar in a fridge.

Extra tip:

- If the mayo curdles anyway, there are a couple of ways to save it:
- Mix a new egg yolk with all new ingredients and slowly add the spoilt mayonnaise.
- Put it into a fridge for 30 minutes, remove and mix again.
- To prevent curdling in the future, make sure the ingredients have the same temperature.

An example of an unstable emulsion is a vinaigrette sauce (salad dressing). It is usually made from a mixture of an acid (lemon juice, balsamic vinegar, etc.) and herbs and spices. They are used over the salad immediately, as leaving them to stand would let them to separate.

To make a vinaigrette you need:

- 1 tablespoon lemon juice or vinegar
 - 4 tablespoon of olive oil
 - salt
 - pepper
 - 1 teaspoon mustard
- Place all the ingredients in a jar or bottle and shake well.*

Extra tip:

Make your vinaigrette in a jar or squirt bottle. Simply put all the ingredients inside and shake well. You can store the sauce for some time in the fridge – remember to shake it well before using.

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Activity 8.1: Sauce parlour

Task 1

Your task is to prepare roux for three types of sauces: white, blond and brown. Prepare three portions of butter (25 g each) and three portions of flour (25 g each). Measure the time needed to prepare each roux and discuss in class the process that causes the change in colour.

	How long does it take to obtain the
White roux / sauce	
Blond roux / sauce	
Brown roux / sauce	

Task 2

Split into three groups. Each group will have to prepare a simple tomato sauce (same size of saucepan). Each group will have to measure the amount of sauce at the beginning and every 15 minutes for as long as the sauce is cooking. Compare the results of each group.

- 1 large onion, finely diced
- 1 medium carrot, finely diced
- 2 celery stalks, finely diced
- 400 ml tomato passata
- 200 ml vegetable stock

Sauté the diced vegetables in the saucepan. Sprinkle with flour and add tomato passata and vegetable stock. Simmer on low heat for 30 minutes.

	Volume of the sauce		
	At the beginning	After 15 minutes	After 30 minutes
Group 1 Saucepan diameter 10 cm			
Group 2 Saucepan diameter 15 cm			
Group 3 Saucepan diameter 25 cm			

What conclusions can you draw from this experiment?

.....

.....

.....

.....

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Skill 9: Tenderise and Marinate (Overview)

Food products, especially meat, need to be tenderised to make sure they are soft. This can be done by chemical or mechanical action, or by cooking for a long time at low temperature to retain flavour and moisture to the food, and tenderise it by denaturing proteins. This will make the meat tender than non-marinated ones, and create a melt-in-the-mouth feeling.

Equipment



Meat hammer

A heavy tool used to tenderise meat by beating. It may be made of wood, plastic or metal.

You may also find that **cling film** is quite useful, as in many cases you need to cover the meat for some time to allow the marinade to do its magic.

Remember that raw meat, poultry and fish, whether marinated or not, have to be cooked thoroughly.

Various types of meats will require different marinating times for best results – use the table below.

Type of meat	Marinating time
Fish	up to 2 hours
Chicken	2-4 hours
Pork	6-8 hours
Beef and lamb	2-4 hours
Venison	12-24 hours

Health and safety (Tips to remember!)

- Make sure not to beat your own fingers when hammering meat cuts.
- Thoroughly clean the meat hammer after use to prevent cross-contamination, food poisoning or allergic reactions.
- When pasteurising marinated foods, make sure the water reaches $\frac{3}{4}$ of the way up the container, as they might not cook properly and be more susceptible to spoilage.

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Skill 9a: Tenderise and marinade



Tenderising: making softer by beating or cooking on low heat for a long time
Marinating: soaking in a marinade to denature proteins, alter the flavour

Instructions for tenderising meat and poultry

Meat and poultry can be tenderised in three different ways:

- By cooking for a long time at low temperatures (stewing and simmering)
- By beating with a meat hammer to soften the structure and break up muscle fibres
- By marinating in a solution of acid or salt

To tenderise with the use of a meat hammer:

1. Slice the meat into pieces approximately 1 cm thick.
2. Spread the meat on the chopping board and beat with a meat hammer to obtain a thin, even cutlet.
3. Such prepared meat can be filled and rolled or coated with egg and bread crumbs.

Extra tip:

Before beating, cover the meat with foil or waxed paper – this will help you keep it moist.

Alternative methods

If you don't have a meat mallet, try to use a glass bottle, or a plastic bottle filled with water.

Instructions for marinating meat and poultry

Marinades are usually made of a fat, an acid, and a selection of herbs and spices. The marinades alter the colour, taste and aroma of the food, keep the moisture inside making it more juicy, and denature proteins, which makes the meat less chewy.

Marinades are also a source of nutrients, such as unsaturated fatty acids or polyphenols (antioxidants in herbs and spices). They often help digestion and prevent heartburn or bloating. Marinades also shorten the cooking time.

- Fat in marinades covers the surface of the food and prevents it from drying out during cooking. The oil is then responsible for the juiciness from rapeseed oil, olive oil, coconut milk, vegetable oil, or buttermilk.
- Acids in marinades denature proteins and tenderise the meat. At the same time, they penetrate the meat, making it more flavoursome and juicy. The most common acids are vinegar, balsamic vinegar, lemon juice, wine, or lactic acid from buttermilk. BE CAREFUL with mustard, which is also slightly acidic.
- Herbs and spices infuse the meat and alter its colour, taste and aroma. The aromatic ingredients are garlic, onion, shallots, salt, soy sauce, chilli, lemon juice, etc.
- Some marinades contain sweet compounds, such as sugar, treacle or honey, which can caramelise and react with proteins, creating a brown colour and appetising flavour.
- Some types of fruit can also be used in marinades, as they contain enzymes that tenderise meat. These enzymes are called proteolytic, and are present in such fruits as pineapple (bromelain) or papaya (papain). Do not use them in marinades for long periods as they could coagulate them.

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How to marinate meats and poultry:

- Red meats such as pork, beef or venison need to be marinated for longer. Red meats are tougher than poultry (which usually needs up to 3 hours). The longer the time needed for marinating.
- Remember not to use too much salt, as it will cause the water to leak out of the meat.
- Do not use metal boxes or containers for marinating, as they could react with the marinade. Also, do not use plastic boxes, as these can easily become discoloured and stained. Glass and ceramic containers are best).

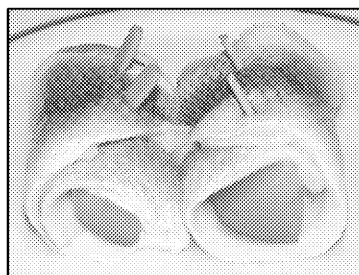
Instructions for marinating fish

Fish and seafood cannot be tenderised with a mallet, as they are usually very delicate. The aim of marinating them is to add colour and flavour, and prevent drying during cooking. Protein denaturation is a side effect, as fish meat does not need to be softened.

When marinating fish, it is important to maintain the ratio between oil and acid – leaving fish in an acidic environment for too long will cause it to curdle. Marinating fish in acid (e.g. lemon juice) is applied in ceviche – a dish popular in Latin America.



The most popular ingredients in fish marinades are white wine, lemon juice, lemon zest and lemon grass, as they complement the flavour of fish or seafood. Other ingredients include fresh parsley and dill.



It is enough to marinate fish for just 30 minutes, as longer periods lead to a change in texture.

Some fish, like herring, can be marinated in spirit and served in salads or in canapés. This is especially true in Eastern European countries (the rolled, marinated herring).

Instructions for marinating meat alternatives

Tofu, paneer and other meat alternatives can also be marinated. Sliced or diced meat alternatives should be marinated for approximately 2 hours to obtain the desired flavour and moisture.

Marinated meat alternatives can then be prepared as usual – fried, baked, added to a salad or soup.

Instructions for marinating vegetables

Marinating is a good way of preserving fruit and vegetables for winter, and is also a good way of using up surplus produce. Produce used needs to be clean and intact, without any signs of spoilage, as it could be used for other purposes.

To marinate vegetables:

1. Put in a jar garlic, bay leaf, black peppercorns or other spices in a glass jar.
2. Tightly pack the vegetables in the jar.
3. Pour over a solution of salt, acid and water – sometimes with other ingredients, like honey or sugar.
4. Close the jar.
5. Put into a saucepan with hot water and boil for 20 minutes – the water needs to reach $\frac{3}{4}$ of the way up the jars.
6. Take the jars out of the water and store in a cool, dark place.



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Vegetables will need about a month to marinate – after that time they will be infuse in the marinade and still crispy. The most popular marinated vegetables are gherkins, carrots, cabbage, hearts of palm, asparagus, artichoke, bell peppers or courgette.

Extra tip:

Mushrooms can also be marinated this way – although some species will turn the colour and have to be rinsed off before eating.

To macerate* fruit:

1. Prepare the fruit – you can use pears, plums, cherries or peaches.
2. Wash and blanch the fruit, remove the pips or stones.
3. Pack them tightly in a glass jar.
4. Pour over a solution of water, sugar or honey and vinegar or lemon juice. You can also add spices such as cloves, cinnamon, cardamom, etc.
5. Close the jar.
6. Put the jar into a pot of hot water – the water should reach $\frac{3}{4}$ of the way up the jar.
7. Boil for 10 minutes.
8. Remove from the pot.
9. Store in a cool, dark place.

The fruit will need about two weeks to infuse, and after that time can be used in meats (e.g. marinated plums), baked cheese (e.g. cranberries), meat pâté (e.g. meat and cranberries) or similar dishes.

Extra tip:

More acidic types of marinated fruit are best served with meats, while sweet marinated fruit is best served with desserts.

*marinating fruit is referred to as macerating.

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Activity 9.1: Don't get yourself in a pickle

Task 1

It's time to prepare your own marinade! First, choose what are you going to marinate:

beef		chicken
pork		fish/shellfish

Now list the ingredients you will use for your marinade:

.....

.....

.....

.....

Specify the time you will marinate your chosen ingredient for:

Task 2

Slice your food item (e.g. meat) into four even pieces. Marinade each of them for 15 minutes, 30 minutes, 1 hour and 2 hours. Cook each piece and set aside until all pieces are ready. Present to the tasting panel to compare how the marinade affected the flavour, appearance and texture.

My food item:	Flavour	Appearance	Texture
15 minutes			
30 minutes			
1 hour			
2 hours			

What conclusions can you draw from this experiment?

.....

.....

.....

.....

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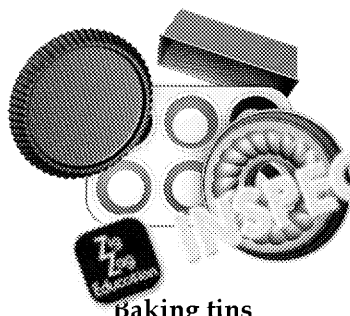
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Skill 10: Dough (Overview)

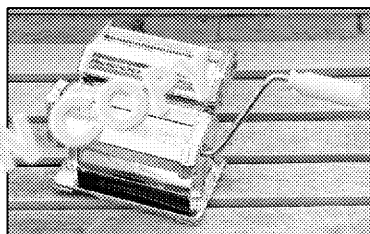
This skill is designed to help you improve your skills of making shortbread pastry, also be able to shape various kinds of baked goods, such as bread rolls or palmiers and finishing methods used when baking.

Equipment



Baking tins

Usually made of metal, sometimes ceramic, baking tins differ depending on the purpose – a flan ring is round and shallow, a bread tin will be tall and narrow, while sponge can be made in a round tin to make a torte or a rectangular tin for a roulade.



Pasta machine

Special rolling tool which presses pasta dough into thin sheets and then cuts it into thinner or wider strips

For handling most of the pastries and dough you will also need flour – this will protect your hands and to the worktop!

Health and safety (Tips to remember!)

- Make sure not to burn yourself by touching the hot baking tin – use mitts
- It is best to wear an apron, as there is a lot of flour involved.
- Handle dough with warm hands, and pastry with cold ones!

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Skill 10a: Dough – Making a dough, shaping



Shortening: coating starch molecules with fat to prevent gluten formation

Gluten formation: a process which takes place when flour is mixed with water (proteins in flour) bond, creating an elastic, net-like structure

Fermentation: process conducted by yeast, in which carbon dioxide is produced, or

Proving: a final step of dough fermentation, during which the dough is left to rest for

Instructions for making a shortcrust pastry

Shortcrust pastry is a thick mixture of flour with fat and a little liquid. It is made by rubbing the fat (butter, lard or margarine) into the flour, breaking the starch molecules of fat. After the water is added (mainly to alter the texture and taste), it cannot penetrate the fat particles as they are hydrophobic (repel the water). This way the flour has no direct contact with water and gluten cannot be formed. Thanks to this, the pastry is crumbly and crispy after cooking.

Shortcrust pastry can be used in a number of recipes, e.g. for quiche, biscuits and

See
pastry
recipe

To make a basic shortcrust pastry:

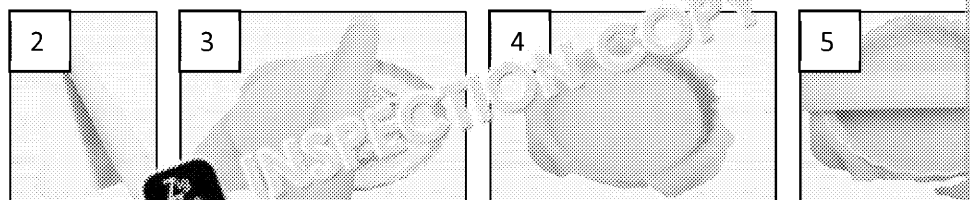
What you need:

- 225 g plain flour
 - 100 g butter or another fat
 - pinch of salt
 - water if the pastry is too crumbly (about 2–3 tablespoons)
 - a rolling pin
1. Sift the flour and salt into a bowl.
 2. Cut the butter into small cubes.
 3. If the pastry is too crumbly, add a little water.
 4. Knead gently – it is best done with your hands.
 5. Wrap the pastry in cling film and rest for 30 minutes (this is called resting the pastry).

Such prepared pastry should be rolled flat with a rolling pin, chilled in a fridge and then filled. Instead of water, you can add egg, egg yolk, cream, sour cream, yogurt, or milk. Remember that it will affect the taste and aroma of the pastry!

To line a flan dish with shortcrust pastry:

1. Roll the pastry flat.
2. Wrap it around the rolling pin and transfer over the flan dish.
3. Unroll the pastry so that it covers the whole dish.
4. Gently press it to the bottom and sides of the dish.
5. Roll the rolling pin over the edges to cut off excess pastry – use it to make a crust on top or freeze for later use.



To bake blind:

1. Roll the pastry into a flat, thin sheet.
2. Line a shallow baking tin (flan ring) with the pastry and pierce with a fork.
3. Cover with baking paper.
4. Pour over ceramic baking beans.
5. Bake at 200 °C until golden (usually about 25 minutes).
6. Remove from the oven.
7. Remove the beans and the paper and let the pastry cool down.

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This technique is used mainly to prepare sweet dishes, as their ingredients often require gelation, but not cooking (e.g. chocolate mousse, whipping cream).

Extra tip:

If you use small baking tins, you will be able to prepare small tartlet.

To bake with a filling:

1. Roll the pastry into a flat, thin sheet.
2. Line a baking tin with the pastry.
3. Bake for around 10 minutes.
4. Remove from the oven and pour over the filling.
5. Bake until the filling sets.

This technique is used to prepare savoury tarts, like quiche, and sweet ones which require cooking, like apple pie.

Extra tip:

If the edges of the crust are already brown, but the filling is still raw, you can cover or aluminium foil to protect them from burning until the filling is cooked.

Alternative methods

If you don't have ceramic baking beans, you can use lentils, dried peas or dried beans in a closed container for future use in baking, as they shouldn't be eaten any more.

Instructions for making a bread dough

Bread is the most basic food around the world – no matter what kind of flour is used, from Alaska to Japan.

The basic ingredients of bread are wheat or rye flour, water and salt. Traditionally, it is made of sourdough (leaven), which was made by mixing a small amount of flour with water for a couple of days. Nowadays, the sourdough is replaced with yeast.

The yeast in bread ferments, producing large amounts of carbon dioxide. The gas makes the dough to rise. Bread should be baked at temperatures between 200 °C and 250 °C.

To make it more interesting, you can add various ingredients into the dough (or seeds, crushed nuts, raisins and other dried fruit, and even grated cheese. Some recipes use oil instead of water, which makes the dough more delicate.

Although most recipes are quite simple, they require a lot of time, as the dough needs to rise. If you leave the dough to rise for too long, it may not rise properly during cooking. It is always best to follow the instructions.

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To make a simple bread:

What you need:

- 420 g strong flour (or mixed strong and rye flour)
- 1 teaspoon of salt
- ¼ teaspoon of instant yeast
- 350 ml warm water



1. Mix flour with salt and dried yeast.
2. Add warm water and mix with a wooden spoon until a little runny and sticky.
3. Cover the bowl with a clean tea towel and leave to rest for 12 hours in a warm place.
4. Sprinkle some flour on the work surface and roll the dough onto it.
5. Knead gently for a couple of minutes and leave to rest for 15 minutes.
6. Knead again to form a ball, cover with a clean tea towel and leave for 2 hours.
7. Heat up the oven to 230 °C and allow it to warm up.
8. Place the dough in the tin, cover with a clean tea towel and leave to rise for 2 hours.
9. Remove the cover and bake for 30 minutes.
10. Remove from the oven, place on a metal grill and remove from the tin.
11. Let cool on a metal grill to let it dry out and prevent it from 'perspiring'.

Depending on the shape of the tin you're using, you will obtain various shapes and sizes. You can also divide the dough into smaller pieces and create baguettes or bread rolls (the recipe is usually slightly sweet).

If you spread the bread dough flat, you can sprinkle it with various ingredients (like chocolate or mince or cheese) and roll into a roulade, which can be then cut into separate pinwheels.

Bread dough is also used to make pizza base – simply roll flat with your hands or a rolling pin. If you fold the pizza base in half with a filling/stuffing and bake it, you will obtain a calzone.

To make flatbread:

What you need:

- 120 g plain flour
 - 1.5 teaspoons of baking powder
 - ½ teaspoon of salt
 - 125 ml natural yogurt
1. Sift the flour into a bowl, add the baking powder and salt and mix.
 2. Stir in the yogurt.
 3. Cover with a clean tea towel and leave to rest for 10 minutes.
 4. Divide the dough into four pieces and roll out into four thick sheets.
 5. Bake in the oven or dry-fry in a pan.

**Extra tip:**

Add fresh and dried herbs, spices or vegetable extracts to the dough to alter the flavour.

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Instructions for making puff pastry

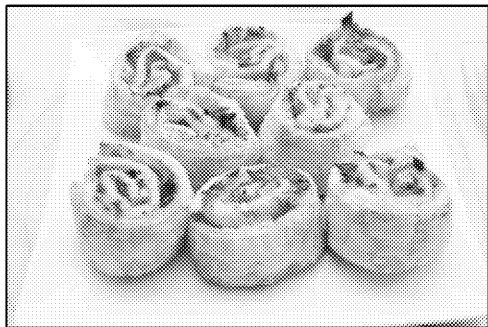
Puff pastry is most characteristic of French and Mediterranean cuisine, where it is used in palmiers, tarts and many other recipes. Traditionally, puff pastry is made by folding the pastry, but this method is quite time-consuming and difficult. An easier method is called rough puff.

When puff pastry is cooked, the butter between the layers melts, so the layers separate.

To make a puff pastry:

What you need:

- 250 g strong plain flour
- 250 g cold butter
- 50g melted butter
- 125 ml water
- 1 teaspoon of vinegar
- ½ teaspoon salt



1. Sift the flour into a bowl.
2. Add the vinegar and salt to water and stir.
3. Add the water solution and melted butter until smooth and elastic.
4. Wrap in cling film and refrigerate for 30 minutes.
5. Roll cold butter between two layers of paper (try to make it a square shape).
6. Wrap the butter in cling film and place in the fridge to melt.
7. Remove the pastry from the fridge and roll out (approximately 20 × 30cm square).
8. Place the butter in the middle of the rolled-out pastry.
9. Roll the whole mixture into a long shape, about 10 times longer than it is wide.
10. Fold the pastry inside (as if there was a filling).
11. Wrap in cling film and refrigerate for 30 minutes.
12. Remove the pastry and roll again into a long shape, fold and refrigerate.
13. Repeat up to eight times (remember to keep the pastry cold to prevent the pastry from becoming too hard).
14. When the pastry is ready, it can be used to make tarts or pies until golden (usually around 20 minutes).

The raw pastry can be frozen for a couple of weeks.

Do not put the pastry into a cold oven, as the layers will not separate and the final product will be certainly not layered).

Remember to do all the rolling quite quickly, as the pastry is best kept at 16 °C – if it gets too cold, fill it with cold water if you need more time.

If you roll the pastry flat and sprinkle with chocolate, raisins, nuts, mince or other fillings, you can make a roulade and slice to obtain small cakes.

If you cut the raw puff pastry into squares or triangles, you can fill them with jam or fruit and bake them. To leave a small opening for the steam, otherwise it will break the cakes open and the filling will come out.

You can also cut the raw pastry into various shapes and bake them 'as is', to cover with jam or jelly after baking.

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To make palmiers:

Palmiers are easy-to-make cookies made of puff pastry and icing sugar. They resemble a heart with their shape, so are a good idea for a Valentine dessert.

1. Roll the puff pastry flat and sprinkle with icing sugar.
2. Gently roll the pastry inwards from both ends at the same time, so the two rolls meet in the middle.
3. Turn the pastry upside down so that the connection is underneath.
4. Cut into even slices (approximately 0.5 cm thick).
5. Place the slices flat in the baking tin – you can shape them so they resemble hearts even more.
6. Sprinkle with icing sugar.
7. Bake for 10 minutes at 190 °C.
8. Turn over and bake for another 7 minutes until golden brown (the sugar shiny coating).

Instructions for making pasta

Pasta is a staple food in Italy. Traditionally it is made from flour mixed with water, unenriched, which gives it the difference in texture and flavour from bread.

Pasta can be aromatised with herbs and spices, and various colouring agents (e.g. beetroot paste) can be used to change its colour. Usually, pasta is served with sauces, in soups, or as a dough which has been rolled flat can be also used to prepare dumplings, ravioli and tortellini.

Various kinds of pasta are served and used in different dishes. Larger and thicker pasta is served with thicker sauces, while thin ones may be served as noodles in soups.



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To make pasta dough:

What you need:

- 400 g plain flour
 - 2 eggs
 - 160 ml water
 - a tablespoon of olive oil
 - pinch of salt
1. Sift the flour into a large bowl.
 2. Create a 'crater' in the middle and add salt.
 3. Mix roughly and knead until smooth.
 4. Refrigerate for 15 minutes.
 5. Divide into 3–4 pieces and leave to rest.
 6. After that time, roll each piece of dough through a pasta machine until it is 2 mm thick.
 7. Cut shapes.
 8. Cook in boiling water with a spoonful of oil. Drain, dry thoroughly and store in an airtight container.

Extra tips:

- Replace the water with vegetable juice, like tomato, spinach or beetroot juice for vegetable pasta.
- If you don't want to use eggs, replace them with an identical amount of water.
- If you use warm water, the dough will be more delicate and elastic, which makes it easier to roll out.

To make dumplings:

1. Roll the pasta dough flat.
2. Cut out circles with a shell dumpling cutter, a cookie cutter or a glass.
3. Put filling in the middle – it can be anything, from minced meat, through potato and cheese mash, to fresh fruit sprinkled with sugar.
4. Fold in half.
5. Pinch the edges thoroughly, either with your fingers or with a fork.
6. Boil in salted water.



To make ravioli:

1. Roll the pasta dough flat into a square shape and cut in half.
2. Place filling on one of the sheets, leaving spaces between.
3. Place the second sheet of dough on the one with fillings.
4. Cut between fillings to make square shapes.
5. Press the edges of the squares together.
6. Cook in salted water.



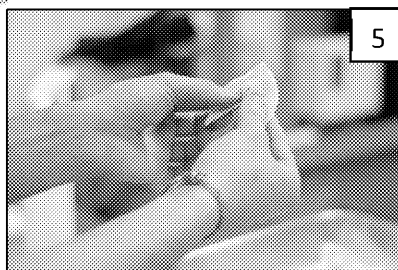
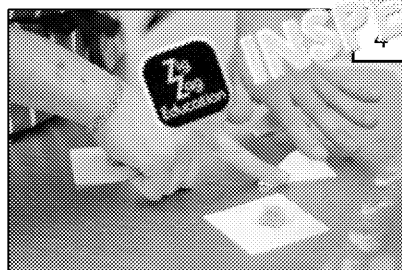
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To make tortellini:

1. Roll the pasta dough flat.
2. Cut into 4 cm squares.
3. Place filling in the middle.
4. Fold in half to create a triangle, pressing the edges together.
5. Fold again around your finger to stick the two points of the triangle together.
6. Cook in salted water.



Extra tip:

- If you don't plan to cook the dumplings immediately, sprinkle them with a dry towel.
- Raw dumplings can also be frozen.

Instructions for choux pastry

Choux is a light pastry used to make eclairs, profiteroles and cream puffs.

To make a choux pastry:

What you need:

- 125 ml water
 - 65 g butter
 - 60 g flour
 - 2 eggs
1. Pour water into a saucepan.
 2. Once boiling, reduce the gas and add butter.
 3. Stir until the butter melts and creates a smooth texture (it should be simmering).
 4. Still stirring, slowly add flour.
 5. Mix in the mass until it begins to form a ball – best done with a wooden spoon.
 6. Put the mixture into a bowl to cool.
 7. To the still-warm mixture slowly add eggs, stirring with a spoon or a mixer).
 8. The whole mixture should have the consistency of thick cream.

Such choux pastry can then be piped onto a baking tin and baked at 220 °C until golden. Use a small tip to create tiny baubles the size of chickpeas. After baking, they could be used as croutons. Use a larger tip to create round cream puffs or rectangular ones. Cut in half and filled with cream or fruit. Create round circles to make bagel-like cream puffs.

Extra tip:

If you're planning to use savoury filling, use lard instead of butter in the pastry.

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Instructions for finishing and glazing

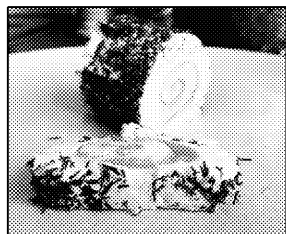
There are various methods which help to make baked goods even better. Most of them are universal and can be used both for sweet and savoury recipes.

Before cooking:

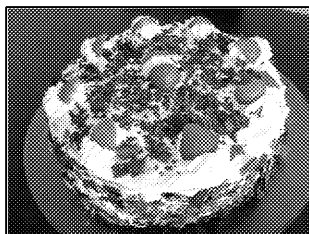
- Raw pastry or dough can be sprinkled with sugar, which will caramelise and create a golden brown, shiny coat.
- Brush with a beaten egg (eggwash), water, milk, honey or butter to make a shiny surface. This will also help the topping to stick to the surface.
- Sprinkle on top with crushed nuts, coarse sea salt, seeds or herbs to improve the look, aroma and taste.
- Pipe the mixture onto the baking tin or use cookie cutters to create different shapes.
- Roll with the filling inside and slice to make separate rolls.

After cooking:

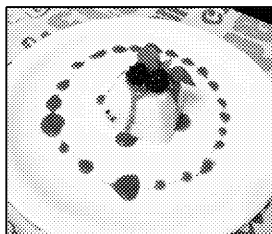
- Dust with icing sugar, cocoa powder or cinnamon.
- Cover with icing, chocolate sauce, cream or fruit glaze (apricot glaze is made of apricot jam with water, etc.).
- Fill with filling or pour whipped cream on top.
- Cover with jam or cream and roll into a roulade.
- Drizzle with sauce or vinegar.



Salmon roulade covered with chopped chives



Cake covered with buttercream, chocolate shavings and fruit



Sauce drizzled around panna cotta on a plate



Brush

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Activity 10.1: It's time to roll (in) the dough

Task 1

Prepare a basic shortcrust pastry. Divide it into four portions, then prepare and bake each portion below. Note your observations.

	Observations
Guidance 1 Roll the pastry flat, line a pastry dish and bake at 180 °C.	
Guidance 2 Roll the pastry flat and line a pastry dish. Place a sheet of baking paper on top and use baking beans. Bake blind at 180 °C.	
Guidance 3 Roll the pastry flat and line a pastry dish. Chill in the fridge for 15 minutes, then bake at 180 °C.	
Guidance 4 Roll the pastry flat and line a pastry dish. Chill in the fridge for 15 minutes, then place a sheet of baking paper on top and use baking beans. Bake blind at 180 °C.	

Task 2

Prepare a simple bread dough (see recipe below). Then divide it into three portions and bake each portion below. Note your observations.

- 170 g self-raising flour
- 170 g plain flour
- ½ teaspoon salt
- ½ teaspoon bicarbonate of soda
- 290 ml buttermilk

Mix the flour with the salt in a large bowl. Add the buttermilk and bicarbonate of soda. A smooth dough is formed. Grease and flour a baking tray. Bake for 30 minutes at 180 °C.

	Observations
Follow the recipe above (no alterations).	
Follow the recipe above. Before placing the bread in the oven, sprinkle the top with water.	
Follow the recipe above. Before placing the bread in the oven, smear beaten egg on top.	

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Skill 11: Raising Agents (Overview)

Various raising agents are added to a range of sweet and savoury foods for leavening. You need to know when and how to use them, to obtain the desired effect without affecting the flavour.

The three gases used as raising agents are **air**, **carbon dioxide** and **steam**. They help to create light, airy products. Air is usually incorporated into the food by mechanical action (such as whisking). Carbon dioxide is produced by yeast or from chemical raising agents such as baking powder. Steam plays an important role as a raising agent in very wet mixtures and batters.

Equipment

Raising agents, as the name suggests, cause the food to increase in volume.

For this reason, you may need:

- a tall bowl for mixing and proving prior to cooking (e.g. for yeast-based doughs and breads)
- a tall bowl for when you are planning to add bicarbonate of soda and acid to a warm mixture (as the warmth will cause the two substances to react)
- a warm place to allow the dough to rise (e.g. near a radiator or a cooker)

Remember not to overfill the baking tins, as the food will increase in volume even further during cooking – this may cause it to spill over and burn, producing a difficult-to-remove smell.

Health and safety (Tips to remember!)

- Be careful when dealing with hot saucepans, baking tins and other hot dishes. Wear heat-resistant gloves if handling them.

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Skill 11a: Raising agents – Chemical raising

Chemical raising agents are commonly used in various sweet and savoury recipes. They create a light, risen texture without affecting the flavour of the food, and also when the preparation is quick.

Instructions for using baking soda

Baking soda, also known as bicarbonate of soda or sodium bicarbonate, is a white powdery substance. It reacts with acid, releasing carbon dioxide and water. If not used, it will create a soapy taste (as well as when too much soda is used). For this reason, bicarbonate of soda is used in recipes which contain a source of acid, e.g. buttermilk, yogurt or lemon juice.

As soda is very reactive, it needs to be added at the end of preparing a batter/dough, otherwise all the carbon dioxide will escape and the batter will not rise properly.

Baking soda is used in making Irish soda bread, American buttermilk pancakes and

Extra tip:

If you soak a fish in soda solution for 10 minutes, it will not sputter during frying. It will also remove the smell of onion and garlic from your hands!

Instructions for using baking powder

Baking powder is a mixture of a couple of different chemical substances – usually bicarbonate of soda and ammonium bicarbonate. The latter means that baking powder can be used even in recipes which do not contain acid. The reaction is the same as in baking soda. The bicarbonate of soda reacts with ammonium bicarbonate to release carbon dioxide. As carbon dioxide expands, it rises and helps the dough/batter to rise.

Always add the baking powder at the end of the preparation process, as the chemical reaction needs to happen and you don't want the carbon dioxide bubbles to escape the mixture.

Baking powder may be used in pizza dough, flatbread dough, pancakes, oatcakes and

Instructions for using self-raising flour

Self-raising flour is nothing more than a plain or wholemeal flour which has been prepared with the correct proportions. If you are using a self-raising flour, you don't need any other raising agent.

To make a sponge cake with self-raising flour:

What you need:

- 125 g butter
 - 125 g caster sugar
 - 125 g self raising flour
 - 2 eggs
1. Cream sugar with soft butter until pale and fluffy (sugar should not be palpable).
 2. Mix in the whole eggs.
 3. Turn off the mixer and stir in flour, until mixture is too thick, you can use a little milk.
 4. Pour the mixture into two 18 cm round tins. Bake in a preheated oven for 20 minutes (180 °C if fan-assisted, 160 °C if fan-assisted).

Remove from the oven. You can spread jam, buttercream or whipped cream on one half and the other one to make a sandwich cake.

Extra tip:

If you have a large, flat baking tin, use it to make a large, flat sponge – it can be

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Activity 11.1: Will your cake cause eyebrows to rise?

Task 1

From the ingredients below, choose and tick those which could be used in recipes to enable it to produce carbon dioxide.

lemon juice	<input type="checkbox"/>	water	<input type="checkbox"/>	buttermilk	<input type="checkbox"/>	coconut oil	<input type="checkbox"/>
chicken stock	<input type="checkbox"/>	milk	<input type="checkbox"/>	sour cream	<input type="checkbox"/>	vinegar	<input type="checkbox"/>
yogurt	<input type="checkbox"/>	apple sauce	<input type="checkbox"/>	egg yolk	<input type="checkbox"/>	baking powder	<input type="checkbox"/>

Task 2

Split into four groups – each group will have to prepare a simple sponge cake using the recipe below. After the cakes are baked, set up a tasting panel to compare the sponge made by each group. Here's the recipe:

- 1 cup of plain* flour
 - 1 cup of sugar
 - 3 large eggs
- Whisk the eggs with sugar until thick and then mix in the flour and fold in gently.*

	Observations		
	Appearance	Texture	Taste
Sponge 1 Follow the recipe above (no alterations).			
Sponge 2 Use self-raising flour instead of plain flour.			
Sponge 3 Add 1 teaspoon of baking powder to the batter.			
Sponge 4 Add 1 teaspoon of baking soda to the batter.			

What conclusions can you draw from this experiment?

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Skill 11b: Raising agents – Eggs as a raising agent

Instructions for using eggs as a raising agent

Eggs contain an egg white and an egg yolk. They are a source of protein. When whisked, they can trap and trap air bubbles inside – this is why whisked eggs turn from yellow to creamy. This creates an air-in-liquid foam and is useful for many recipes, such as meringue, sponge or soufflé.

To make a meringue:

1. Separate the egg whites from the yolks.
2. Pour the whites into a large, tall bowl.
3. Whisk with a mixer until almost stiff.
4. Slowly add some sugar (usually 50g for each egg white is enough) and a tablespoon of lemon juice.
5. Beat until stiff and glossy.
6. Bake at 180 °C for 10 minutes, then reduce the temperature to 120 °C and bake for approximately 2 hours.



This way the meringue will have time to rise and denature, but then will dry and become crisp. Using a fan will be more effective, so they will need less time.

Extra tips:

- Add a handful of desiccated coconut to the mixture.
- Use the egg yolks to make a zabaglione sauce.

To make a basic sponge:

1. Take five eggs and break them, pouring into a glass.
2. Mark how much egg you have – then measure equal amounts of flour and sugar.
3. Whisk the eggs with sugar until stiff.
4. Turn off the mixer and slowly fold in sifted flour – too much stirring will collapse the mixture.
5. Bake at 160 °C until golden.

Soufflés can be both savoury and sweet. The basic rule is to create a sweet or savoury soufflé by adding egg whites. A soufflé is baked in a tall tin filled only $\frac{3}{4}$ full to prevent the top from overflowing. The best tins are ceramic, as they keep the warmth in and prevent the soufflé from burning.

- The first step is to prepare egg whites: pour them into a bowl, add a pinch of salt and whisk until stiff. The whites should be shiny (even if you turn the bowl upside down, the whites should stay intact).
- Never open the oven during the first 15 minutes of baking – cold air can cause the soufflé to collapse.
- Do not put the soufflé into a cold oven – for the same reason. Always pre-heat the oven.
- Soufflés should be served straightaway.

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To make a soufflé:

What you need:

- 20 g plain flour
- 15 g butter (plus a little to grease the tins)
- Breadcrumbs
- 2 eggs
- 1 teaspoon mustard
- 150 ml milk
- a cup of grated cheese (e.g. Cheddar)



1. Grease the tins with butter, then remove the excess by tapping.
2. Melt the butter in a saucepan and stir until smooth.
3. Slowly add the milk, constantly stirring to prevent from forming lumps.
4. Cook for a couple of minutes.
5. Remove from the hob.
6. Add cheese and mustard, stirring until melted.
7. Add salt, pepper or any other seasoning.
8. Slowly add the whisked egg whites, stirring gently to avoid deflating.
9. Pour into the tins.
10. Bake for 12 minutes at 200 °C.

Extra tip:

- Add a spoonful of corn starch to the egg whites to prevent the soufflé from collapsing.
- If you want the soufflé to rise evenly, clean the tin edges of any drips.

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Skill 11c: Raising agents – Steam as a raising agent

Steam is a gas produced when water reaches its boiling point (100 °C). It is commonly used for steaming vegetables, meats and buns, and as a raising agent. It can also be used to pasteurise food. The high temperature helps to deactivate enzymes in food. Steam can also be used to clean and sterilise kitchen utensils in the kitchen.

Instructions for using steam

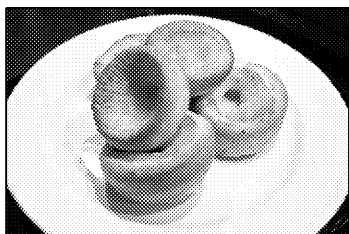
Steam is a gaseous form of water. It is used as a raising agent in dishes which contain a liquid, such as a batter or pastry. Water, like any other liquid, expands when it is heated. When the dough rises as well. As other ingredients of the dish heat up, the steam cooks them – that's why it is useful when making soft, fluffy or friky pastry. Thanks to this, it has a hollow centre ideal for filling with a filling.

Batters are mixtures of flour, egg and a liquid (usually milk), beaten together into a smooth consistency. They are used to make pancakes, coat foods (e.g. fish), make tempura (pieces of vegetable fried) and Yorkshire puddings.

To make Yorkshire pudding:

What you need:

- 4 eggs
 - 200 ml milk
 - 200 g plain flour
 - refined oil for baking (sunflower or rapeseed may be best).
1. Break the eggs into a large bowl.
 2. Pour in the milk, still whisking.
 3. Sift in flour, a little at a time.
 4. Add some salt and whisk well until the mixture is smooth and resemble single cream in consistency.
 5. Pour 3 ml of oil into each socket of the tin and pre-heat in the hot oven.
 6. Remove the tin from the oven and pour the batter into the hot oil (use a ladle or spoon).
 7. Put the tin back into the oven and cook for 15-20 minutes at 190 °C – do NOT open the oven door as it could collapse!



The Yorkshire pudding can be served with gravy as part of a traditional Sunday roast. It is best served fresh.

Extra tip:

When pouring the batter into the tin, use a tablespoon to pour in any drips – this will prevent the batter from dropping onto the hot tin, where it would inevitably burn.

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Activity 11.2: It's not such a hard egg

Task 1

From the foods below, choose and colour-code those which use eggs (blue) and st

sponge cake	gingerbread	pancakes
cheesecake	bread	brownies
scones	meringue	croissants

Task 2

Split into two groups. Prepare a sponge cake following the recipes below.

Group 1

- 4 eggs
- equal volume of flour
- equal volume of sugar

Break the eggs and pour them into a bowl. Whisk them until you have, then measure an equal volume of flour and sugar. Mix the eggs with sugar until pale and fluffy. Bake at 160 °C until golden.

Group 2

- 4 eggs
- equal volume of flour
- equal volume of sugar

Break the eggs and pour them into a bowl. Whisk them until you have, then measure an equal volume of flour and sugar. Mix the egg yolks from the egg whites (e.g. 1/2 cup). Whisk the egg yolks with sugar until thick. Mix the flour and fold in. Whisk the egg whites into the mixture. Bake at 160 °C until golden.

Set up a simple taste panel to compare the two sponge cakes.

	Group 1	
Appearance		
Taste		
Texture		
Other		

What conclusions can you draw from this experiment?

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Skill 11d: Raising agents – Biological raising

Yeast is a biological raising agent – this is because it is a live organism. As a microorganism, it needs water, warmth and time to develop. It helps to produce a specific consistency and texture (as in bread, fizzy drinks), and may help to produce a distinctive flavour (as in marmite). Yeast ferments sugars in food – this means that it uses the sugar and digests it, producing carbon dioxide (carbon dioxide and water, or alcohol).

Instructions for using yeast

Yeast is a single-celled fungus which reproduces by budding. It is used in manufacturing bread, fizzy drinks, certain types of sausage and marmite.

Yeast is available in multiple forms:

- **Fresh** – beige (light cream) colour and soft to the touch, it has to be dissolved before use; usually sold in blocks of 100 g.
- **Dried (active dry)** – These are large granules which need to be dissolved before being added to the mixture.
- **Instant** – These are small granules which can be added directly into the mixture, without prior dissolving.

To correctly use yeast, you must ensure it has:

- **Moisture** – usually yeast is dissolved in warm water or milk before being added to the dough.
- **Warmth** – will speed up budding; use warm liquid (not hot!) and place in a warm place.
- **Food** – this is usually sugar or starch; it is added to the solution, as no living organism can survive without food.



If all three conditions are met, the yeast will begin to reproduce (by budding into smaller cells). During the process, sugar is fermented and carbon dioxide and alcohol are produced.

Carbon dioxide expands and rises, causing the dough to rise. This is used in the manufacture of bread, panettone, steamed buns and other baked goods.

Alcohol produced by yeast is useful in the production of cider, beer, wine and champagne. Carbon dioxide is then visible in the form of bubbles.

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Activity 11.3: The heat is on!

Split into three groups. Each group will have to prepare a pizza dough **using a different water**, as described below. Here's what you will need:

Group 1 <ul style="list-style-type: none"> 200 g strong flour ½ teaspoon salt 200 ml boiling hot water ½ teaspoon sugar 2.5 g active dry yeast 	<p>Combine the flour with salt and sugar to a tall glass bowl. Dissolve the yeast in the water. Add the flour and knead until smooth. Stretch the dough into a circle.</p>
Group 2 <ul style="list-style-type: none"> 200 g strong flour ½ teaspoon salt 200 ml warm water ½ teaspoon sugar 2.5 g active dry yeast 	
Group 3 <ul style="list-style-type: none"> 200 g strong flour ½ teaspoon salt 200 ml ice-cold water ½ teaspoon sugar 2.5 g active dry yeast 	

Set up a tasting panel and compare the three pizzas.

	Group 1	Group 2
Appearance		
Taste		
Texture		
Other		

What conclusions can you draw from this experiment?

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Skill 12: Setting Mixtures (Overview)

Food mixtures can set thanks to the presence of two ingredients: starch and protein. You will learn how to set mixtures so they can be used in other dishes (e.g. desserts) or serve as a garnish. This skill can be applied to both sweet and savoury recipes.

Equipment

As mixtures set, they take the shape of the dish they are in – for this reason, you will need various sizes and shapes of bowls, tins and moulds to obtain a range of appealing presentations.

You could use round, square, rectangular, oval, heart shaped, and any other food presentation moulds easily from them:

- Smear the bottom and sides of the dish with oil before pouring a hot mixture into it. This will prevent the mixture from sticking to the sides.
- Place the food for a short moment into a bowl with hot water (e.g. for jelly or chocolate) to lay the food, allowing it to slip easily out of the dish.

Health and safety (Tips to remember!)

- Some mixtures require the use of raw eggs, so wash them in boiling water to reduce the risk of food poisoning.
- You can use disposable gloves when dealing with high-risk foods, such as raw meat.
- Always use mittens when cooking – especially when working with the oven.

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Skill 12a: Setting mixtures – Removal

Some foods, when chilled, set and become solid. This is thanks to the functional properties of certain ingredients that make these foods. When heated, they bind water, and when chilled they are able to release it, which helps to solidify the mixture. The most common ingredients used for setting (e.g. potato starch), tapioca, gelatine and agar.

Instructions for setting mixtures by removal of heat

Starch, when cooked with water, absorbs it and breaks open, thickening the mixture. This is known as gelatinisation and is used when thickening soups, sauces or gravies.

When such a mixture is left to cool down or to be chilled, the thickening continues and is known as **gelation**. The process is used to prepare dishes as custard cream (thick in corn starch), trifles or another layered dessert or blancmange.

The most common type of starch used in such recipes is corn starch, although potato starch or tapioca may also be used.

A specific type of gelation is used when gelatine or agar is added to the mixture, as they are both proteins, but work only when chilled. They are usually added to the hot mixture and stirred until dissolved, and then left to chill. During chilling, the mixture sets and turns into a jelly. This is used to prepare both savoury (e.g. aspic) and sweet (e.g. panna cotta or cheesecake) recipes.

For a blancmange:

What you need:

- 3 tablespoons of corn starch
 - 4 tablespoons of sugar
 - $\frac{1}{8}$ teaspoon salt
 - 500 ml milk
 - 1 teaspoon of vanilla extract or 1 vanilla pod
1. Pour 400 ml of milk into a saucepan, add the vanilla extract or the inside of a vanilla pod and simmer.
 2. Mix the remaining milk with the corn starch and sugar.
 3. Once the mixture in the pan is thick, remove the vanilla pod and slowly pour in the remaining milk, stirring constantly.
 4. Continue cooking for 15 minutes until thick and aftertaste.
 5. Pour into bowls or glasses and chill.
 6. Serve with fresh fruit or chocolate.



Extra tip:

- Add a teaspoon of butter to the mixture to improve the flavour.
- If you swap corn starch for gelatine, you will obtain a panna cotta. You can also use agar to obtain a similar taste.

See how to use gelatin at:
[zigzagged.co.uk/9289y](https://www.zigzagged.co.uk/9289y)



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For a clear jelly:

1. Read the instructions on the packet of your gelatine – usually a packet set varies depending on brand.
2. Choose the flavour – you can use either fresh juice or a squash (if the latter like the colour and sweetness).
3. Measure as much liquid as your packet says – divide it into two portions.
4. Boil one of the portions and add gelatine.
5. Stir until dissolved.
6. Pour in the remaining (cold) liquid and leave to cool.
7. You can pour the mixture into separate tins or glasses to make single portions.

Extra tips:

- Make a few colours of jelly (e.g. apple, blackcurrant, raspberry, kiwi). You can set one layer over another (of course, after it has set), or set each jelly separately for a colourful 'jelly salad'.
- If you dice the jelly, you can add it to a panna cotta mixture to make a more interesting dessert.
- Use only one of the liquid in the recipe (e.g. if the recipe says that a packet of gelatine sets 250ml of liquid, use just 125ml). When the mixture cools down, but is still liquid, whip double cream and add it to the jelly to make a nice fruity mousse.

For a fruit jelly:

What you need:

- 3 glasses water
 - 3 teaspoon sugar
 - 4 teaspoon potato starch
 - 2 glasses of fruit – you can use both fresh and frozen fruit (but not kiwi, pineapple and papaya, as they will prevent the mixture from setting)
1. Pour 2.5 glasses of water into a pan, add the fruit and bring to a simmer.
 2. Mix the rest of the water with the sugar and starch (no lumps).
 3. Pour the mixture slowly into the pan, stirring constantly.
 4. Cook until clear (transparent).
 5. Pour into bowls or glasses and leave to set.

Extra tip:

If the mixture is not thick enough, you can mix another teaspoon of starch in a little water and add it to the mixture, constantly stirring.

For an aspic:

Aspic is a savoury jelly, usually made of pork, chicken or fish, mixed with eggs and vegetables and covered with a salty gelatine solution.

1. Make a broth from a chicken (or simply from a stock cube) and season.
2. Soak gelatine in cold water until soft, then add to the hot broth (the amount of liquid should be as recommended by the manufacturer – sometimes it's a pint, but sometimes it may be less or more).
3. In a bowl, place a cooked chicken breast, quarters of hard-boiled egg and other vegetables (e.g. carrots, but also green peas and sweetcorn).
4. Pour the broth with gelatine into the bowl – the solution should cover all the solid ingredients totally.
5. Leave until totally set.
6. Serve with lemon juice or mayonnaise.

Extra tip:

Pork trotters are very rich in gelatine, so there is no need to add any more when making aspic as it will set by itself.

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Skill 12b: Setting mixtures – Use of protein

Protein has the ability to bind water – for this reason, it can also be used to set mixtures. Protein sets due to high heat (as in custard, where the mixture has to be simmered so that the protein can denature). In other cases, the protein needs to cool down so that a crystal structure can form (this happens when gelatine is used – please see previous chapter).

Instructions for setting mixtures by the use of protein

Proteins are built of amino acids, bound together into long chains and then curled into a specific shape. This protein structure can be damaged by the use of:

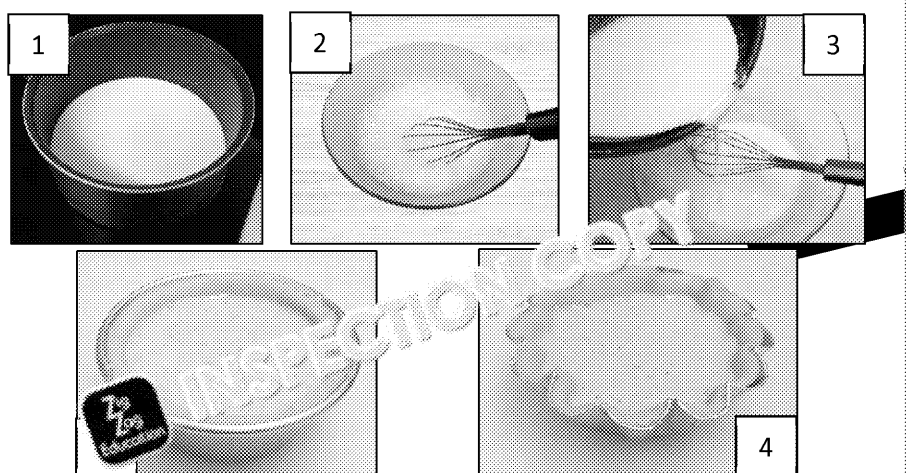
- **Heat** – when cooking
- **Acid** – when adding lemon juice or vinegar to meringue to prevent it from overcooking
- **Mechanical action** – when whisking eggs (this is sometimes reversible).

Coagulation is the process where the protein is heated. The molecules aggregate together and form a solid mass. If the mixture is overcooked, they will begin to leak the water (this is called syneresis). Protein is used to set such food products as soufflé, meringue, egg custard, quiche and terrine. Coagulation is also used when using gelatine (as gelatine is a protein, but requires the process described in the previous section).

For an egg custard:

What you need:

- 700 ml milk
 - 7 egg yolks
 - 90 g caster sugar
 - a pinch of nutmeg or cinnamon to taste
 - tartlet (ready-made or hand-made)
1. Warm the milk in a saucepan.
 2. In a large bowl, beat the egg yolks and sugar until pale yellow.
 3. Pour the warm milk slowly into the egg mixture, whisking constantly.
 4. Now you can use this mixture to fill tartlets. Bake for about 25 minutes until golden brown (you can also bake a little longer).



Extra tip:

If you sprinkle the top with sugar, it will caramelise, creating a crispy, shiny top (as seen in the image).

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For a quiche:

What you need:

- 1 leek
- 1 broccoli
- 4 eggs
- 200 ml crème fraîche
- 100 g grated cheese
- thyme
- basil
- salt
- pepper
- cherry tomatoes.

1. Line a flan ring with shortcrust ready-made one or make your own for 15 minutes.
2. Divide the broccoli into small florets for 10 minutes.
3. Chop the leek finely and fry for 5 minutes.
4. Remove the base from the tin, add beans and the paper.
5. Spread broccoli and leek on top of the paper.
6. Whisk eggs with crème fraîche and salt and pepper.
7. Pour over vegetables.
8. Cut cherry tomatoes in half and place on top.
9. Bake for 30 minutes, until golden.

It is best to use lightly fried or blanched vegetables in quiche, as there may be not enough moisture for them to cook properly.

Always bake blind for 10 minutes before pouring the filling onto the pastry – this way it will stay crispy and will not soak with the wet filling.

Extra tip:

If you struggle rolling the pastry, freeze it until hard and then grate straight into the baking tin.



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Activity 12.1: Are you set to go?

Task 1

For each of the dishes below, indicate whether it is set by removal of heat, by the

Dishes	Removal of heat (✓)	Use of protein (✓)
Soufflé		
Blancmange		
Quiche		
Aspic		
Custard cream		
Jelly		
Egg custard		

Task 2

You have been asked to prepare mini-aspics as starters for a business lunch. Draw the picture to indicate what you have prepared and how.

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Skills Checklist

Use this checklist to assess your skills – tick the following boxes:

- One star if you don't know how to do something.
- Two stars if you know a little but need to practise more.
- Three stars if you mastered the technique and could help others with it!

Skill	
1	I know how to use a measuring jug.
	I know how to use a digital and mechanical kitchen scale.
	I know how to convert units from metric to the imperial system.
	I know how and when to grease, line or flour cooking dishes.
	I know how and why to adjust cooking time for various dishes.
	I can use various methods to check if food is ready.
	I can taste and adjust food during cooking in a hygienic and safe way.
	I know how to change the texture and flavour using various techniques.
2	I know how to present the food in an aesthetic way.
	I know when and how to use the bridge hold and claw grip when using a knife.
	I can peel, slice, dice and cut foods into even pieces.
	I know how to portion a chicken, fillet a chicken breast and remove fat and skin.
3	I know how to fillet a fish.
	I can slice evenly and accurately raw and cooked meat and fish and alternate between the two.
	I can use a number of techniques to prepare vegetables and fruits.
4	I know how to control and prevent enzymatic browning, food waste and food poisoning.
	I know how to use the different settings on a grill and how to use it to cook various foods.
5	I know how to use the different settings on an oven and how to use it to cook various foods.
	I can use a blender, food processor, mixer, pasta machine and microwave in a hygienic and safe way.
6	I can cook foods using various water-based cooking methods.
	I can cook foods using various dry and fat-based cooking methods.
7	I know how to prepare, combine and shape foods, while preventing cross-contamination.
	I can cook starch-based sauces and understand how the starch/liquid ratio affects viscosity.
	I can cook reduction sauces and understand how evaporation enhances flavour.
8	I can prepare and I know how to stabilise emulsion sauces.
	I can tenderise meat, fish and alternatives using various techniques, and understand how acids denature protein.
9	I can make a shortcrust pastry and bread and pasta dough.
	I know how to roll and finish the dough/pastry when preparing various pastries.
10	I know when and how to use eggs as a raising agent.
	I know when and how to use chemical raising agents.
	I know when and how to use steam as a raising agent.
	I know when and how to use yeast as a raising agent.
11	I can set food mixtures using gelatine and starch.
	I can set food mixtures using coagulation/protein.

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Answers

Activity 1.1: Are you close enough?

Task 1

The students should notice that preparation of apple crumble does not require very precise ingredients, as all dishes made should not differ significantly.

Task 2

The students should also notice that preparation of macaroons requires much more precision to come out as desired. There should be noticeable differences between macaroons made by different students.

Activity 1.2: Ready, steady, cook!

Task 1

Dish	How to prepare the baking dish	
Shepherd's pie	May be greased with butter or oil, but essentially no preparation needed.	This is because shepherd's pie is baked in a tin, and, therefore, it is not removed from the tin.
Swiss roll	Line with baking paper.	To help remove the cake from the tin.
Meat pâté	Grease and sprinkle with breadcrumbs or flour.	Because the pâté is baked in a tin, the fat evaporates, the meat can be difficult to remove from the tin.
Croissants	No preparation needed	Because croissants are baked in a tin, during cooking, melts and helps to remove from the tin.
Quiche Lorraine	No preparation needed. Foil can be wrapped around the edges for when the quiche is baked with filling to prevent them from burning.	Because shortcrust pastry melts and helps to remove from the tin.
Profiteroles	Line with baking paper.	Because the batter is dropped into the tin, it is easily – the profiteroles are forcibly removed from the tin.
Lasagne Bolognese	Pour a thin layer of the sauce on the bottom before placing first layer of pasta.	As otherwise the pasta would stick to the tin, damaging the texture of the pasta.
Panettone cake	Grease with butter or line with baking paper.	Because yeast-baked cakes are very fat and prone to sticking to the tin.

Task 2

Students should notice that greasing the frying pan with oil affects the way the meat is cooked. It lowers the temperature, lengthening the cooking time but allowing the burger to cook evenly throughout. Without oil, the burger would cook at a very hot temperature, which could cause the burger to burn on the outside while remaining raw on the inside.

Activity 1.3: Are you cooking with gas?

Task 1

Bread:

- appearance – This should increase in volume, should be golden brown in colour and made to the surface, then should be golden and have sharp edges.
- taste – This should be slightly yeasty and salty.
- sound – The outside should be crispy, while the inside should be soft and sponge-like.
- texture – It should have small air pockets evenly distributed inside the dough.
- aroma – This should be an intense aroma, not burnt.

Broccoli:

- appearance – It should maintain its shape; should be bright green (not grey/brown).
- taste – This should be fresh and typical of broccoli, not burnt.
- sound – broccoli can be *al dente* (to the bite) or soft, no sound should be made when cooked.
- texture – This should be firm, not mushy.
- aroma – This should be fresh, not burnt.

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Chicken:

- appearance – It should have a golden brown skin and pink/white meat inside (no brown).
- taste – It should taste of fresh chicken meat, or of any herbs and spices used to marinate it. The sauce should have more flavour than the meat, as it absorbs more spices/herbs and is higher in fat.
- sound – The skin may be crispy.
- texture – This should be soft and easily coming off the bone (if it sticks firmly and needs more cooking time).
- aroma – This will depend on the spices and herbs used, but cannot be burnt.

Task 2

Students should notice that the larger the mould, the longer the cooking time needed. Also, the mould on the top shelf of the oven causes the top of the cupcake to burn and crack on top, while the bottom could leave it raw inside (i.e. would require a longer cooking time). Students should also notice that using a fan shortens the cooking time.

Activity 1.4: Will your plan go well?

Examples could include:

- Serving a roast duck with caramelised potato cubes and carrot slices – potatoes could be weighed as the potatoes would help themselves to the dish.
- Serving a thinly sliced duck breast with potatoes dauphinoise and broccoli mousseline – e.g. by the number of meat slices, the size or weight of potatoes; broccoli mousseline for single-portion dishes.
- Serving a duck leg on a bed of potato mash and garnished with julienne carrot – potatoes could be weighed by using a metal ring to place the potatoes, and the carrot could be weighed before cooking.

Activity 2.1: Chop chop!

Task 1

Vegetable	Claw grip?	Bridge hold?
Cut celery sticks into slices.		✓
Cut celery sticks lengthwise.	✓	
Cut a tomato into slices.		✓
Halve cherry tomatoes.	✓	
Dice potatoes.	✓	
Slice potatoes.	✓	
Slice carrots.	✓	
Cut carrots lengthwise.		✓
Julienne a bell pepper.	✓	
Dice garlic.	✓	
Slice a courgette.	✓	
Dice an onion.		✓
Slice an onion.	✓	

- Vegetables that are oblong/flat are best cut with the claw grip, as it holds the vegetable in the same position.
- Vegetables that are round or irregular in shape are best cut with the use of bridge hold.

Task 2

The difficulty of this task will depend on the general ability of students; however, most of them will find it difficult to control the knife when cutting raw onion. Raw onion is tough and its soft texture.

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Activity 2.2: Are you able to cut it?

Examples could include:

- wings: grilling, roasting, using for stock
- drumsticks: grilling, roasting, deep-frying, shallow-frying
- thighs: roasting, stewing, deep-frying, shallow-frying
- breast: roasting, grilling, stewing, steaming, deep-frying, shallow-frying, stir-frying
- carcass: simmering, using for stock or sauce

Activity 2.3: A (short)cut to meat preparation.**Task 1**

Advantages of removing fat/rind:

- makes meat easier to handle (less slippery)
- makes meat easier to cut (fat is often difficult to cut and stringy)
- improves the nutritional value of the meat (makes it lower in cholesterol) and low

Disadvantages of removing fat/rind:

- may result in a loss of fat-soluble vitamins in the meat
- may cause the meat to stick to the cooking dish, as there is no fat to prevent it
- may require the cook to add another source of fat (e.g. vegetable oil) to prevent
- may affect the flavour of the meat (fat is a solvent for many aromatic compounds)

Task 2

Students may notice that knives with serrated blades are not suitable for cutting meat as they make the meat look unappetising. They may also notice that using flexible knives, such as the paring knife, may easily slip off the meat (especially raw). Small knives, such as a paring knife, are suitable for making small cuts of meat, but will be too small for handling larger meat cuts.

Ways to cut food waste could include:

- cooking all the meat scraps and turning them into a pâté
- cutting all the meat scraps into even smaller pieces and turning them into a meat bourguignon)
- cooking all the meat scraps and mincing them into a dumpling (tortellini, ravioli)

Task 3

This is because fresh fish may be infected with viruses and parasites. The temperature in the freezer must be low enough to ensure that the dangerous organisms are killed and the fish is safe to eat after defrosting.

Task 4

Dishes that use raw fish include:

- sushi/sashimi
- ceviche
- tartare
- gravlax (unsmoked salmon in sugar, salt and dill)
- poke (Hawaiian bowl-style dish)
- carpaccio

Activity 3.1: It's not just a potato!**Task 1**

Students should notice that each potato variety produces a different mash. Some of them (e.g. Maris Piper) will be more starchy. Varieties such as russets should produce the

Task 2

Students should notice that the texture and overall palatability of the sauce will differ depending on the type of pesto used. The blended pesto will be smoother, while the crushed pesto may have larger pieces of

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Activity 3.2: A slice of life in the kitchen

Task 1

Examples could include:

- Cutting the melon into cubes – difficult and messy process – one could scoop melon with a melon baller (same applies to watermelon).
- Kiwi – could be sliced or diced, depending on the desired size of the pieces.
- Grapes – can be left whole or cut into halves; also seeds from the inside could be removed.
- Blueberries – could be blended with honey to make a coulis.

Task 2

The process should include:

- washing and peeling the vegetables and apples, e.g. to remove damaged, tough or bruised parts
- shredding the cabbage
- grating the carrot
- grating or julienning the apple
- scissor snipping or chopping the parsley
- adding sauce (e.g. dressing)
- mixing and seasoning

Activity 3.3: Will this be a pretty sight?

Task 1

Food	Garnish suggestion	
Vanilla cheesecake	chocolate sauce, fruit coulis, powdered sugar, caramel basket	This is a very simple dish, so the garnishes should be simple and elegant.
Wafer with chocolate ice cream	caramel sauce, fruit coulis, fresh fruit pieces (e.g. blueberries)	Anything that adds a pop of color to this dish; for example, fresh fruit adds freshness to the dish and makes it more rich.
Raspberry teacake	fresh raspberries and other fruit	The teacake is a simple, sweet (spiced) cake, so fresh fruit would be a good garnish.
Tuna pasta bake	fresh parsley or dill, lemon wedge, grated cheese	Parsley, dill or lemon wedge while the cheese is melted on top of the cheese.
Cream of tomato soup	fresh parsley, coriander, crushed pepper, cream / sour cream / crème fraîche, croutons, roasted seeds	Green and white garnishes to contrast the red color of the soup, pepper and flavour.
Salmon carpaccio	fresh dill, lemon, soy sauce, capers	All these garnishes complement the salmon and add visual appeal.
Beef steak	fresh herbs, scoop of butter / herb butter / garlic butter, crushed pepper and salt, gravy/sauce	As beef steak is a simple dish, the garnishes should be simple and elegant.
Pizza margherita	fresh basil, sliced mozzarella cheese, white sauce (e.g. béchamel), seeds	The garnishes complement the pizza and cheese.

Task 2

Students should be aware that it is easiest to peel a tomato when it has been stored at room temperature for a few days and is slightly broken prior to blanching.

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Activity 3.4: Food in the pipeline

Task 1

strawberries (the green stalks must be removed), bananas, oranges, mangos, clementines

Task 2

Examples could include:

- salmon, tuna or trout made into a mousse or pâté
- cottage cheese mousse (could be flavoured, e.g. with paprika)
- egg mousse
- meat pâté (e.g. chicken liver pâté)
- green pea mousse
- tomato jelly / mousse
- sour cream / crème fraîche

Activity 4.1: Meaty discussion

Task 1

Advantages could include:

- preventing the food from burning
- preventing the food from dropping into the charcoal
- allowing a larger selection of foods (e.g. small pieces of vegetables, nuts, seeds)

Disadvantages could include:

- The aluminium could potentially 'leak' into the food, making it unhealthy.
- More waste is produced.
- It is less environmentally friendly.
- The food may lack flavour/smokiness.

Task 2

blade chuck, shoulder, brisket, short rib – This is because these cuts are tougher and require more tender cuts of meat.

Activity 5.1: (Not quite a) spaghetti western

Task 1

Advantages could include:

- faster than kneading the dough by hand
- helps to keep the hands clean
- distributes the ingredients more evenly throughout the dough

Disadvantages could include:

- You need to use very slow settings (at least at the beginning).
- The flour may puff around if not using the guard.
- The eggs may splash around if not using the guard.
- It is difficult to judge if the consistency is correct (only visual assessment, cannot taste).

Task 2

Students should notice that gradually increasing the thickness of the pasta dough helps to cook the pasta (see cases 1 and 4). Using narrow settings to begin with may prove difficult and affect the final result.

Activity 6: How you're cooking!

Some of the cooking methods used could include:

- boiling, simmering or steaming rice or pasta for minestrone soup, simmering vegetables for Bolognese, simmering the sauce
- boiling pasta, simmering vegetables for Bolognese, simmering the sauce
- simmering cream for ice creams, boiling sugar to make caramel
- blanching vegetables and fruits for decorations and garnish

Accept any other suitable examples (dependent on students' chosen recipes and methods)

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Activity 6.2: Do you know which side is buttered?

Task 1

Examples could include:

	Dry-frying	Shallow-frying	Stir-frying
Fish	fish <i>en papillote</i>	fish goujons	noodles w
Chicken	chicken breast strips wrapped in bacon	breaded chicken breast	chicken a stir-fry
Mushrooms	not suitable for dry-frying	mushroom steaks (breaded large flat mushrooms)	noodles w mushroom
Eggs	omelette	scrambled	egg fried
Broccoli	not suitable for dry-frying	breaded broccoli florets	noodles w sprouting
Tomatoes	not suitable for dry-frying	fried green tomatoes	vegetable cherry tom

Task 2

Fats suitable for frying:

- coconut oil, lard, goose fat (very high in saturated fatty acids)
- peanut oil (high smoke point, neutral taste)
- ghee (purified butter – higher smoking point)
- refined olive oil (high in monounsaturated fatty acids)

Fats not suitable for frying:

- rapeseed oil, sunflower oil (These are very high in polyunsaturated fatty acids.)
- fish oil (This produces fetid aroma, very high in polyunsaturated fatty acids.)
- extra virgin olive oil, unrefined linseed oil (These are high in healthy substances cooking.)

Activity 7.1: Roll your sleeves up!

Task 1

Examples could include:

Piece of equipment	Why/how
<i>e.g. saucepan</i>	<i>to simmer spinach before</i>
rolling pin / pasta machine	to roll the pasta dough
knife / ravioli cutter	to cut out ravioli from the
blender	to blend the spinach before
fork	to help stick the edges of
large pan	to boil the ravioli
slotted spoon	to remove the ravioli from

Task 2

Examples of difficulties could include:

- filling spilling out of the wrap
- filling being too wet, making the wrap soggy
- pulling the wrap too tight and tearing it
- putting too much filling in, so that the burrito could not be closed

Examples of easy tasks could include:

- crushing avocado into guacamole
- grating cheese
- dicing/slicing vegetables

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Activity 7.2: It's a W(t)rap!

Task 1

Students could use a range of fruits to prepare the shashlik, as long as they can be skewered (not too fragile); for example, watermelon, melon, white and dark grapes, strawberries, banana, papaya.

When using bananas, students need to remember to sprinkle them with lemon juice to prevent browning. For pears/apples, students need to choose varieties which are not too crisp, i.e. will not fall apart. Small fruits like blueberries, raspberries, etc. should not be used due to their size.

Task 2

Students should notice that the chicken roll which was not secured with a skewer/thread will lose its shape and spill the filling. They may also notice that, although useful in keeping the roll together, it is difficult to remove and, therefore, not very convenient to use.

Activity 7.3: Too many cooks spoil the broth!

Task 1

	What equipment/ingredient I need
Drain the chickpeas and blend them into a smooth paste.	colander to drain, blender or food processor to blend
Thicken the chickpea paste and bind it.	Add some cornstarch or breadcrumbs to thicken the mixture, and use yogurt to bind it.
Mix the chickpea mass with...	... the use of a large wooden spoon.
Shape the falafels.	Use a silicone ice cube tray to portion the mass, then roll into balls.
Coat the falafels.	Use breadcrumbs or flour to coat, possibly with added spices.

Task 2

Examples of savoury dishes could include:

- shepherd's pie, cottage pie, fish pie
- lasagne
- layered salad e.g. in a jar
- pasticcio (greek-style dish made from pasta, meat and béchamel)

Examples of sweet dishes could include:

- tiramisu
- trifle
- upside-down cakes and desserts
- non-baked cheesecake

Task 3

Examples could include:

- meatballs and vegetarian balls
- burgers, meat patties and vegetarian patties
- kebabs
- fish cakes
- Glamorgan sausages, meat sausages and various vegetarian sausages
- truffles
- some breads or bakery products, e.g. bread rolls, plaits

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Activity 8.1: Sauce parlor

Task 1

Students should notice that the roux retains its light colour for quite a long time; however, colour changes from white through golden to brown very quickly, and it is necessary to pay attention to the heat used, as it may turn out that the sauce in the largest pan will evaporate especially when blond roux is desired (and to prevent the roux from burning).

Task 2

Students should notice that the larger the pan, the quicker the sauce evaporates, and the attention to the heat used, as it may turn out that the sauce in the largest pan will evaporate the experiment.

Activity 9.1: Don't get yourself in a pickle!

Task 1

The ingredients and time of marinating should be noted for various items of food (longest for beef). Examples could include:

- beef: oil, lemon juice, Worcestershire sauce, buttermilk, basil, parsley, thyme, rosemary, mild mustard
- pork: oil, Worcestershire sauce, garlic, black pepper, marjoram, oil, hot mustard, clove, ginger, orange peel and juice
- chicken: oil, hot pepper, smoked pepper, garlic, honey, lemon juice, oregano, thyme, vinegar, curry
- fish: oil, white vinegar, soy sauce, lemon juice, parsley, dill, salt, curry, turmeric

Task 2

Students should notice that for most foods, the longer the time of marinating, the more tender the food becomes. This may not be true for beef, pork and chicken.

Students should also notice that marinating fish for longer than 1 hour may not improve the texture. If the marinade was high in acid, the fish may denature entirely even without being cooked.

Activity 10.1: It's time to roll (in) the dough!

Task 1

- Students should notice that chilling the pastry in the fridge before baking helps to keep its shape, and does not shrink during baking.
- Students should also notice that baking blind with baking beans helps to keep the shape without the beans rising and losing its shape (may not be suitable for filling).

Task 2

Students should notice that water adds shine to the bread surface. The egg adds both shine and a golden colour.

Activity 11.1: Will your cake cause eyebrows to raise?

Task 1

Lemon juice, buttermilk, sour cream, yogurt, apple sauce (if very tart), apple vinegar. These are all sources of acids, which during cooking react with bicarbonate of soda, producing carbon dioxide.

Task 2

Students should notice that the cake made with baking soda has a worse flavour (slightly soapy) than the one made with no raising agents should rise less than sponge cake made with raising flour and baking powder.

Activity 11.2: It's not such a hard egg!

Task 1

- Foods which use eggs as a raising agent: sponge cake, meringue, soufflé
- Foods which use steam as a raising agent: pancakes, croissants

Task 2

Students should notice that the batter made with separately whisked egg whites produces a lighter, fluffier cake. The final result will depend on their accuracy and precision when preparing the batter.

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Activity 11.3: The heat is on!

Students should notice that the dough made with hot and cold water rises less than the dough made with warm water. This is because yeast is a living organism, and the extreme temperatures kill the yeast cells, making the dough unable to rise.

Activity 12.1: Are you set to go?

Task 1

Dishes	Removal of heat	Use of protein	Both
Soufflé		✓	
Blancmange	✓		
Quiche		✓	
Aspic			
Custard cream	✓		
Jelly			✓
Egg custard		✓	

Task 2

Examples could include:

- aspic with pieces of roasted salmon, carrot and green peas, served with crème fraîche. (Aspic can be then made from fish bones, or from a ready-made fish stock and gelatin.)
- aspic with pieces of roasted chicken breast, sweetcorn and red pepper, served with a green salad. (Aspic can be made from chicken wings, or from a ready-made chicken stock and gelatin.)
- vegetarian aspic with broccoli and asparagus, served with green peas and soy cream. (Aspic can be made from vegetable stock set with pectin.)

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