2016 specification
first exams in 2018

Food Challenges

For GCSE OCR Food Preparation and Nutrition: Tricky Desserts

zigzageducation.co.uk

POD 8007

Contents

Teacher's Introduction

Food Challenges: Tricky Desserts is designed to support students in preparing the most challenging desserts found around the world. ***Food Challenges: Tricky Desserts*** was written for those who choose to study the new OCR GCSE Food Preparation and Nutrition specification. We believe that completing the tasks included in this pack will help the students to develop their investigative skills and pass their non-exam assessments with ease as they are able to explore the challenges faced in the kitchen, such as *time pressures, temperatures, finishing, cooking methods and many more.*

What it covers

Food Challenges: Tricky Desserts covers 15 tricky desserts, carefully chosen to differentiate them in difficulty level, skills needed to complete the challenge and scientific principles they are based upon. By completing the challenges students will develop the skills required by the OCR GCSE Food Preparation and Nutrition specification, gain confidence in cooking and prepare for their future career in the food industry. Each challenge is engaging and creative, supports further learning and allows critical evaluation of students' preparation and cooking skills. Each challenge is followed by a list of questions which help to fix and broaden the knowledge of the students.

How to use this resource

Each challenge consists of three parts:

1. **Teacher's guidance –** includes the aim of the lesson and student outcomes, resources required (including equipment and ingredients), approximate time each challenge will last, a difficulty level, and suggested answers and teaching tips. This can be used to support planning of your sessions.
2. **'The challenge overview'** – includes the ingredient list, the correct procedure and questions to think about – sometimes you might be asked not to give these to students straight away, as developing a procedure might be a part of the challenge.
3. **'Your task'** student worksheets help to structure the work during the lesson(s). Each task is built upon a main focus point, which helps students to recognise and understand the learning objectives of the lesson.

To make the challenge a little bit easier, we suggest you begin each lesson by providing a short introduction of the lesson objectives (what the lesson/topic is about).

You can also schedule this as a homework for students so that they can prepare theoretically for the lesson. Encourage students to research the newest information and professional advice according to the newest scientific data, health professional associations, culinary professionals, etc.

Further points on logistics

- Before completing any task, make sure you have all resources needed – either provided by the school or brought in by students.
- In the task description we suggest to split the students into pairs or into small groups – this is a guidance only and can be changed due to organisational or safety reasons. Always consider these when planning your lesson, as you might need more or less ingredients, tools and kitchen appliances, etc.
- On the ingredient list it is specified how many portions the recipe is for (when possible). Feel free to amend it if you don't need as much – and don't forget to amend the cooking time!

Further points on health and safety

- Before completing any challenge, make sure students are familiar with the school's health and safety rules.
- Make sure all groups have all the necessary equipment, access to running water and soap, ovens and power supply.
- Provide paper towels, clean kitchen cloths and kitchen gloves, or ask students to bring some from home.
- Make sure there is a working, certified fire extinguisher and/or fire blankets available, especially when handling hot oil.
- Remind students about safety issues when handling raw eggs or other high-risk products and when dealing with hot ovens / tins / blow torches / cookers.
- Make sure that students allergic to any food ingredients do not actively participate in activities which use them! Allergens are **bolded** on each ingredients list.
- Remind students about Good Hygiene Practice standards

November 2017

Ice Cream

Teacher's Guidance

What's covered in this session:

- ✓ protein denaturation and coagulation
- ✓ safety precautions in prevention of food poisoning when dealing with high-risk foods
- ✓ the use of food temperature probe
- ✓ changing the texture

Learning

Students should be able to:

- ❑ identify the main ingredients
- ❑ explain the function of eggs
- ❑ follow good practice procedures for quality and safety
- ❑ understand how to set up

Safety Tips

! Make sure that students allergic to any food product do not actively challenge (encourage them to measure times and write notes, but not taste). The allergens in this session include **milk** and **eggs**.

! Remind students about the safety rules when handling high-risk foods and apply them to prevent cross-contamination of foods.

Guidance for Delivery

- It might be necessary to freeze the ice creams overnight, so it would be beneficial to split the session for two consecutive days.
- The ice cream could be used as part of the Baked Alaska challenge instead of sponge.
- Since the recipe only uses the yolks of the eggs, consider using the egg whites to make macaroons.

What you will need:

Equipment:	Ingredients:
✓ saucepans with thick bottom	✓ **double cream**
✓ large bowls	✓ **whole milk**
✓ whisks and/or hand mixers	✓ vanilla pods (or vanilla extract)
✓ strainers	✓ caster sugar
✓ containers or boxes suitable for freezing	✓ **egg yolks**
✓ measuring jugs, kitchen scale	
✓ food temperature probe	
✓ cooker	
✓ spoons, cups or bowls to set up the taste panel	
✓ water-proof markers or stickers to label the boxes	

ACTIVITY ANSWERS

1. The table below shows exemplary quality and safety checks which might be consider

Procedures	Quality checks	
Place milk, cream, vanilla pod and half of the sugar in a saucepan	• checking the fat content of milk and cream, checking the type of sugar, checking that the milk is not curdled and smells fresh	•
Bring the mixture to a simmer and remove from the hob	• ensure the sugar is dissolved • ensure the mixture is smooth (i.e. no lumps of vanilla seeds are present)	•
In a clean bowl, whisk the egg yolks with the other half of the sugar until pale and fluffy	• break the eggs into a separate bowl one by one to check their quality and freshness • ensure the mixture is properly creamed before proceeding	• • •
Once the eggs are whisked, slowly pour in one-third of the cream mixture and whisk	• ensure the cream mixture is cool before adding it to the eggs	•
Pour the eggs into the saucepan and gently heat (do not boil!)	• check the temperature with a food thermometer • control the heat of the hob	•
Strain the mixture into a container suitable for freezing. Remember to clearly label the boxes.	• ensure the mixture is smooth (i.e. there are no lumps)	• •
Chill until cold, and freeze	• cover the boxes to prevent tainting • ensure the mixture is cool before putting it into the freezer (otherwise large crystals will form, affecting the texture of the ice cream)	•
After 30 minutes, take one of the containers out of the freezer and whisk again to add extra volume	• use an electric mixer to incorporate larger amount of air into the mixture	• •
Freeze until the mixture sets completely	• cover to prevent tainting	•

2. Students should notice that the creams which were whisked twice are more fluffy and those which were not whisked again.

3. i) Students can decide to use various scales, such as 1–5 or 1–9 scale. It is important scale so that the results are comparable.

   ii)
   - Students should ensure the proper temperature of the food samples – ice frozen (it is unacceptable to serve melted ice creams).
   - Also, students should label the food samples accordingly so that they can made by different groups and between ice creams which were whisked a

4. Calorific value of the ice cream can be lowered by:
   - using different kind of cream, e.g. a mixture of double cream and single cream
   - using skimmed or semi-skimmed milk instead of whole milk
   - using less sugar or substituting it, e.g. with stevia or xylitol

QUESTIONS TO THINK ABOUT ANSWERS

2. Double cream is rich in fat, so helps to obtain the smooth, creamy texture due to the

3.
   - Freezing should take place at -18°C.
   - Covering the ice cream will help to prevent tainting (taking the smell of other foods) and protect the ice cream from freezer burn and crystals of water forming on top.

4.
   - This recipe provides around 390kcal/100g.
   - The main sources of energy in the recipe are fats from double cream, milk and egg yolks (16g/100g).
   - There is also some energy from protein from milk and eggs (3.7g/100g). Calculate that egg yolk weighs app. 25g.

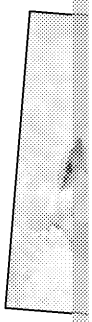
5.
   - There are two types of flavouring used in production of ice creams: natural and synthetic.
   - Natural flavourings include vanilla, cocoa, fruit and vegetable juices and extracts.
   - An example of a synthetic flavouring is ethylvanillin (which is identical to vanillin but made in a laboratory rather than from the plant), menthol (added to obtain mint flavour) and isoamyl acetate (banana flavour).

6. Boiling would cause the protein in eggs to denature, and that would turn the mixture

Ice cream

The Challenge Overview

Making an ice cream seems easy but is it really? Think about what can go wrong! The cream can curdle, the eggs can set too early, the sugar can crystallise... and the use of raw eggs is a little risky don't you think?



Will yo

Your challenge is to make this tricky dessert. Your task is to make it s safety rules when dealing with raw eggs to avoid foo

Ingredients

Makes 10 servings (90g each)

Ice cream:

- ❑ **500ml double cream**
- ❑ **150ml whole milk**
- ❑ 1 vanilla pod
- ❑ 125g caster sugar
- ❑ **5 egg yolks**

You can choose other flavours, such as orange zest, melted chocolate, fruit, etc.

	Procedure
1	Place milk, cream vanilla po in a saucepan
2	Bring the mixture to a simm the hob
3	In a clean bowl, whisk the eg half of sugar until pale and f
4	Once the eggs are whisked, s third of the cream mixture a
5	Pour the eggs into the sauce (do not boil!)
6	Strain the mixture into two freezing
7	Chill until cold, and freeze
8	After 30 minutes, take one o the freezer and whisk again
9	Freeze until the mixture set 2 hours)

Questions to think about

Discuss these questions with a partner or write notes in your books.

1. What is the role of double cream in making ice crea (Section C: 1)
2. What temperature should we freeze ice crea ? Why is it important to co freezer? (Section C: 3)
3. How many calories are in th ice cream? What ingredients (macronutrients) ice cream? Use an to calculate this! (Section A: 4, Section A: 11)
4. What agents can you use when making ice cream? (Section B:
5. Why sh you boil the mixture once eggs are added to it? (Section C: 1)

Ice cream – Safety abo

Your Task

Get into te three and work together to compete against others in the class to
safety of th cream. What do you have to pay attention to? What should you a
highest risk, and why? Complete the table to make sure you considered about every
delicious, but also safe to eat! The first row of the table has been filled in already to n

1. When preparing your ice cream, fill in the table below to identify checks necessary to obtain the d

Procedures	Quality checks
Place milk, cream, vanilla pod and half of the sugar in a saucepan	*e.g. ch the fat content of milk and crean ty of sugar, checking that the milk is not smells fresh*
Bring the mixture to a simmer and r hob	
In a clean bo wh olks with the other half of the suga le fluffy	
Once the whisked, slowly pour in one-third of the cream mixture and whisk	
Pour the eggs into the saucepan and gently heat (do not boil!)	
Strain the mixture into two containers suitable for freezing. Remember to clearly label the boxes.	
Chill until cold, and freeze	
After 30 minutes, take one of the contai ut freezer and whisk again to add e volume	
Freeze unti mi mpletely	

During the lesson you will need to set up a tasting panel for all the ice cream made in class.

2. **Begin by comparing your own ice creams** – the one which was whisked aga which wasn't. Describe any differences in the table below.

Whisked again (box 1)	Not whi

3. **Now it's time to compare the ice creams made in class**. Use the table belo against those made by two other groups.

   i) What scale will you use to assess the samples?

   .....

   ii) Are there any special conditions which need to be met when setting up

   .....

   .....

   .....

   .....

	My Ice creams		Group 1:	
	My ice cream 1	My ice cream 2	Ice cream 1	Ice cream
Colour				
Appearance				
Sweetness				
Texture				
Other				
er				
Total				

4. Whose ice cream scored the most?

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5. How was this achieved? Compare the tables on quality and safety checks to production process!

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6. In *Questions to think about – Question 4* you were asked to calculate the cal What could you do to lower it?

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Take the time to evaluate this challenge, noting down anything you learnt from change next time.

Swiss Roll

Teacher's Guidance

What's covered in this session:

- ✓ using mechanical [illegible] g meth
- ✓ adjust[illegible]oking time and temperature

Learning ou

Students should be able to:

- ❑ identify various raising agents an
- ❑ describe the working characteris chemical properties of sugar in c
- ❑ explore the use of various types
- ❑ explain why certain outcomes m to prevent the failure in the futu
- ❑ correctly use the star profiling m of food products

Safety Tips

- ! Make sure that students allergic to any food product do not ac challenge (encourage them to measure times and write notes used in this session include **wheat** and **eggs**.
- ! Remind students about the safety rules whe[illegible]andling high-risk they apply them to prevent cross-co[illegible]tion of foods.
- ! Ensure that students follow s[illegible]les when handling hot food

Guidan[illegible]or Delivery

- **Do NOT** hand the challenge overview page to the students as working out th challenge. You can give it to them after the lesson.
- Consider handing the overview page earlier to lower-ability students to help

What you will need:

Equipment:	I
✓ oven	✓ different types of
✓ large bowls	icing, demerara, a
✓ kitchen scale	✓ different types of
✓ rectangular large metal baking tins	purpose, plain flo
✓ baking paper	✓ **eggs**
✓ clean kitchen cloths	✓ strawberry jam (o
✓ knives	✓ icing sugar
✓ spoo[illegible]	

Activity Answers

1. Depending on ingredients used, the final effect will differ.
   - For example, certain types of sugar will not cream as nicely as others, causing t
   - Similarly, certain types of flour will produce a tougher cake than others.

2. See the challenge overview page for the correct procedur

3 i)
   - Whisking egg yolks and whit[e] separately is not the best idea when maki cake to rise too mu[ch] and [it] would make it difficult to roll (consider th sponge ca[ke]
   - [If] the cake happens to rise too much (is too thick), try to cut it in half to o d into two Swiss rolls).
   - Next time when baking a sponge, consider what you will use it for – and a (e.g. add baking powder when making a Victoria sponge, but don't add a

ii)
   - This, again, could cause the cake to rise too much, making it impossible t
   - If your cake rose too much, consider cutting it in half to obtain two flat sp

iii)
   - This could cause the cake to stick to the tin, making it impossible (or at le
   - Next time grease and line the baking tin evenly before pouring the batte
   - If the cake stuck to the bottom, try to remove it with a spatula

iv)
   - During cooling, water evaporates from the cake, making it dry and less man and, therefore, rolls more easily, while maintaining its structure (the cake is
   - If your sponge cooled down anyway, you can make it moist again by eith spreading double cream mixed with sugar (not whipped!) on it and leavi sponge will absorb the moisture from the jam/cream and it will be easier
   - You can also consider sprinkling your sponge with a mixture of tea with s leaving it for 2–3 hours to absorb the moisture

v)
   - This would produce a short but very thick roll, which would be difficult t more possible to remove the filling out of the cake.
   - [C]ut the cake from the longer edge.
   - [If] you happened to roll the cake from the shorter edge, leave it overnight moisture from the jam/cream, and will be easier to slice.

vi)
   - This causes the filling to leak out of the cake.
   - If you see the jam leaking out, stop rolling – spread the cake, spread the this time, less tight; cover the surface of the cake with cream or chocolat of jam.

4. To make the star profile more useful, consider using the same profile to assess all S different coloured pens you could easily identify differences between them.

Questions to Think About Answers

1. Mechanical raising methods, such as whisking, beating [air] in and sieving. The rec or biological raising agents (although other recipes can call for baking powder or ot

2. The sugar is a bulking agent, gives texture, improves aeration and provides sweet fl

3. Baking [with] other raising flour would cause the cake to rise, and in Swiss roll we than a [Victoria] sponge, which would make rolling very difficult (and sometimes in

Swiss roll

The Challenge Overview

The process of making a sponge is simple, but requires a couple of tricks to make it fluffy and light. It can sink, it can peak and crack, it can be dry or have holes inside... Rolling it up into a Swiss roll doesn't make it any easier!

Your challenge is to make this tricky dessert. Can you make it soft and light under the pressure?

Ingredients

Makes 6 servings

Sponge cake:

- ❑ 125g caster sugar
- ❑ **125g plain flour**
- ❑ **3 large eggs**
- ❑ 200g strawberry jam
- ❑ 2 tbsp of caster or icing sugar to sprinkle on top

	Procedure
1	Preheat the oven to 200°C
2	Whisk the eggs with sugar until
3	Fold in the flour, adding a spoo
4	Grease a large, flat baking tin and line with baking paper
5	Place the sponge onto the tin and cover
6	Bake for 10–12 minutes
7	Place a damp, clean cloth on the
8	Spread a piece of baking paper sprinkle with caster or icing sug
9	Place the baked cake upside do sprinkled baking paper, and ge baking paper from the bottom
10	Trim the edges of the sponge to dried bits
11	Stir the jam vigorously and spr sponge
12	Using the damp cloth underne a roulade

Questions to Think About

Discuss these questions with your teacher or write notes in your books..

1. What raising agents are used in the above recipe for sponge cake? (Section C: 1)
2. What is the role of sugar in the recipe? (Section C: 1)
3. Why can't we use baking powder or self-raising flour when making a Swiss roll

Swiss roll – Caution! Ho

Your Task

Work in groups of four to make the bes Swiss roll and prevent it from handling hot sponge! Focus on the ingredients and their quality to what do you need to make a good sponge, suitable for rolling? The strategy to keep the sponge nice and intact!

1. **From the list below, choose what ingredients you will use to make your sp** choose one type of sugar and one type of flour only.

125g of:	125g of:
❑ Icing sugar	❑ Self-raising flour
❑ White crystal sugar	❑ Strong flour
❑ Caster sugar	❑ All-purpose flour
❑ Demerara sugar	❑ Plain flour
❑ Other:	❑ Other: .....

2. **The next stage is to develop the procedure for mak e sponge.** What d later? Do you use whole eggs or just the whites/yolk? Find some tips in the you chose!

Step 1	Preheat the oven to 200°C	❑	Preheat the ov
Step 2	Whisk the yolks with sugar until pale and fluffy, and whisk the whites into a meringue.	❑	Whisk the who pale and fluffy.
Step 3	Add the flour spoonful by spoonful.	❑	Sift in the flour
Step 4	Grease a large, flat baking tin and line with baking paper.	❑	Grease a large,
Step 5	Add the meringue to the batter and pour into the tin.	❑	Pour the spong
Step 6	Bake for 10–12 minutes.	❑	Bake for 30 mi
Step 7	Place a damp cloth on the working surface.	❑	Place a dry clot surface.
Step 8	Spread a piece of baking paper on the cloth and sprinkle with icing sugar.	❑	Spread alumini
Step 9	Place the baked cake upside down on the sugar-sprinkled baking paper, and gently remove the baking paper from the sponge.	❑	Place the bake the aluminium breadcrumbs.
Step 10	Cut off the edges of the sponge with a potato masher.	❑	Trim the edges remove the ha
Step 11	Spread the jam on the hot sponge.	❑	Cool the spong over.
Step 12	Using the damp cloth underneath, roll up the hot sponge from the longer end inside.	❑	Using the alum cooled sponge inside.

Do not panic! At the end of the lesson your teacher will hand you the cha
ingredients and procedures, so you can compare them and spot possible m

Once you have made your Swiss roll, you can continue to this exercise.

3. There are a couple of common mistakes made when making Swiss rolls. Try
considered mistakes, how to prevent them – or how to remedy the situatio

Low temperature of the oven...
... is a mistake because it length... e ... e of baking and makes the cake dry

Next time, prehea... ve correctly. If the sponge is too dry or cracked, us
than a ... ro... ...tiramisu.

i) Wh... egg yolks and whites separately...

.....

.....

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ii) Sifting the flour in with a sieve...

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iii) Not greasing the baking tin...

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.....

iv) Waiting until the sponge cools down before rolling...

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.....

v) Rolling from the shorter edge...

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vi) Ro... oo...

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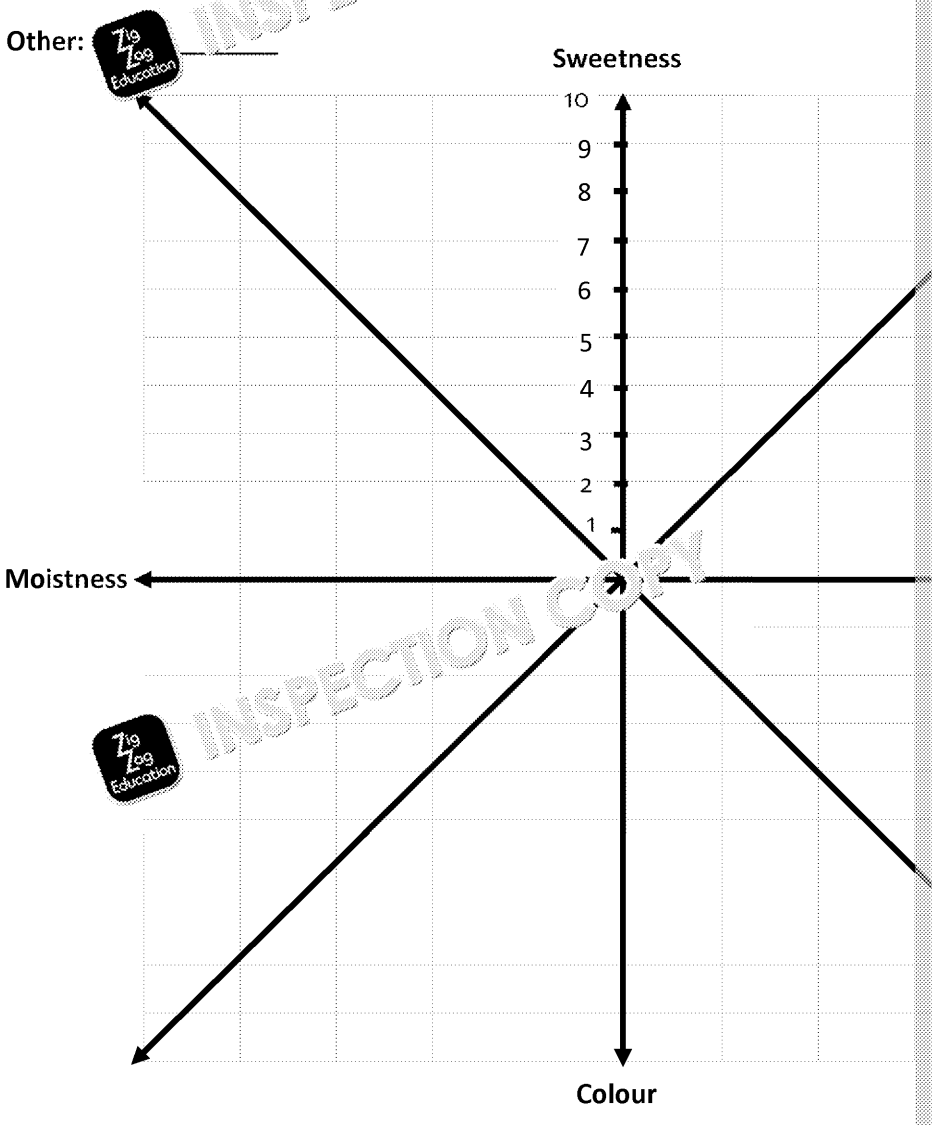
4. **Once your Swiss roll is ready, assess it using the star profile diagram below.** Assess each feature indicated on the scale from 1 (weak) to 10 (strong) and m different coloured pen for each Swiss roll made in class, e.g. green for Swiss r orange for Swiss roll 3). You can also add your own features to describe the c

Once all features are assessed, connect the dots referring to the same cake w create a star profile. Repeat for other cakes made in ... to easily spot diffe Swiss rolls.



Other: _____

Take the time to evaluate this challenge, noting ... thing you learnt from change next time.

Panna Cotta

Teacher's Guidance

What's covered in this session:

✓ setting a mixture wit...
✓ substit... g... ...or a vegan diet
✓ upsid... desserts
✓ how fa... affects the texture
✓ the use of food temperature probe

Learning

Students should be able to:

❑ name various upside-do...
❑ identify gelling agents us... down desserts
❑ describe the function of f... and mouthfeel of food p...

Safety Tips

! Make sure that students allergic to any food ingredient do not ... challenge (encourage them to measure times and write notes, ... used in this session include **milk** and **nuts**.
! Remind students about the safety rules when handling high-risk ... they apply them to prevent cross-contamination of foods.

Guidance for delivery:

- **Do NOT** hand the challenge ov... ...ge to students as working out the p... You can give it to the... ...h... lesson.
- You may ...si... ...ing the challenge on the first lesson during the day, couple... ...rs and continuing on the last lesson the same day instead of o...
- When p...ng this lesson, consider one hour to prepare and bake the pudd... the dish and the tasting panel. Make sure these are on consecutive days.

What you will need:

Equipment:	
✓ cooker	✓ **double cream**
✓ fridge with a freezer (to speed up setting process)	✓ **single cream**
✓ saucepans	✓ **whole milk**
✓ whisks or spoons	✓ plant milk (e.g. ... **cashew** milk)
✓ kitchen scales	✓ caster sugar
✓ measuring jugs	✓ vanilla pods (o...
✓ cling film	✓ gelatine (cryst...
✓ cooking oil (optional)	✓ agar flakes
✓ brushes	
✓ knives	
✓ chop... ...ar...	
✓ small ... e.g. glasses, ramekins, bowls to speed up the setting process – provide many different kinds for students to choose from	
✓ food temperature probe	
✓ timer (students can use timers in their smartphones)	

Activity Answers

1. Students should be able to use kitchen scales (both electronic and mechanical), me
(millilitres and ounces) and measuring spoons. Students who are more confident ca
such as glasses, teaspoons and tablespoons (e.g. two standard glasses measure 500
50g of sugar, etc.).

2. i) It is best to preheat the milk first, dissolve th at , and only then add the
that the cream will curdle.
ii) Carefully cooking milk with ow heat should allow good results. Ho
burn them when co er.

4. This de n the type of gelatine used:
- Pow crystal gelatine can usually be added straight to the mixture.
- Gelatine leaves usually need to be pre-soaked.

6. i) The gelatine may sometimes be difficult to dissolve.
ii) One might consider various methods to speed up the process. For example:
    - continue stirring energetically
    - gently (!) heat the mixture and stir again
    - strain the mixture through a fine sieve or a coffee filter to remove the ge
    the texture later, as there won't be enough gelatine to bind all the liquid

7. The choice of dishes is important as it may speed up setting of the mixture. It is bes
flat, rather than large and deep.

8. Dishes for panna cotta usually don't require greasing or lining. However, some stud
with cling film to facilitate removal.

10. This depends on the method used previous yp dish, consistency of the food,
under hot water / placing it over m be helpful as it dissolves the outer part
uneven surface may be e ficult to handle.

12. Studen d ce that panna cotta made with double cream has a more crea
panna c

Questions to Think About Answers

1. Examples linked to current season, depending when this challenge is taken place:
- **For spring:** rhubarb, bananas, kiwi, passion fruit, blood oranges
- **For summer:** apricots, blueberries, strawberries, raspberries, cherries, gooseb
watermelon, currants
- **For autumn:** apples, elderberries, damsons, quinces, figs, grapes, pears, plums
- **For winter:** apples, pears, clementines, oranges, cranberries, pomegranates, p
satsumas, dried fruit

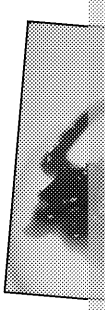
2. - Panna cotta is not suitable for lactose-intolerant people because it contains m
naturally occurring in milk).
- To make it suitable for lactose-intoleran e milk has to be substitute
lactose-free cow milk, or a pla lk coconut or almond.

3. Whole milk:
- is e um, necessary for the proper growth and development of th
- pr itamin A, necessary for the eyesight, and good condition of the skin
- provides vitamin D, which improves calcium absorption and strengthens bone
- is a source of vitamin B12, which processes folic acid and prevents pernicious a
- has neutral pH, so helps to prevent tooth decay by increasing pH in the mouth
- high in omega 3 fatty acids, that are linked with many health benefits, such as he
- provides cholesterol, necessary to build cell membranes, especially in the nerv

Panna cotta

The Challenge Overview

Panna cotta is an upside-down dessert made with milk or cream. But if you don't make it right it won't set and you won't get it out of the dish!



Will

Your challenge is to make this tricky dessert. You will need to choo
quantities so that your panna cotta has a perfect textur

Ingredients

Each recipe makes about eight small portions

Vanilla panna cotta:

- ❑ **Double cream**
- ❑ **Single cream**
- ❑ **Whole milk**
- ❑ Plant milk (e.g. coconut, **almond**, **cashew**)
- ❑ Caster sugar
- ❑ Vanilla
- ❑ Gelatine
- ❑ Agar flakes

	Procedure
1	Scrape off vanilla seeds from th
2	Place vanilla seeds, milk, cream saucepan
3	Heat gently until the sugar is di boiling
4	Remove from the heat and add
5	Stir until the gelatine is fully dis
6	Pour into small dishes – glasses
7	Refrigerate for about an hour fo set

Questions to Think About

Discuss these questions with a partner or write notes in your books.

1. Panna cotta is a very simple dessert, so to improve its flavour it is often serve fruits are characteristic for the current season? (Section B: 1)
2. Is panna cotta suitable for lactose-intolerant people? If not, how can it be m
3. What are the nutritional health benefits of drinking whole milk? (Section A: 1)

Panna cotta – How to nail the

YOUR TASK

Divide into four groups. Each group will make a panna cotta using
task is to obtain the perfect textu[illegible] the dessert out of the
At the end of the lesson you will need to set up a tasting panel for
see how the basic ingredients changes its texture/mouthfeel.

Group 1 – use 400ml double cream and 100ml whole milk, 50g of s
Group 2 – use 400ml single cream and 100ml whole milk, 50g of sug
Group 3 – use 500ml whole milk, 50g of sugar and 10g of gelatine
Group 4 – use 500ml plant milk, 50g of sugar and 8g of agar flakes

1. The perfect texture of panna cotta is achieved due to the perfect proportion

   Draw (or attach a picture of) the tools which you will use to measure your in

2. The se[illegible]ep[illegible] to combine the ingredients and heat them up.

   i) Do you preheat the milk first and add cream later, or cook everything t

   .....

   .....

   ii) What went well?

   .....

   .....

   iii) What went badly?

   .....

   .....

3. Measu[illegible]emperature of the mixture with a food temperature probe:

   .....

4. Then it's time for the gelatine to make its magic! Do you...
   - ❑ add it straight to the saucepan?
   - ❑ soak it first in cold water?
   - ❑ Other: .....

5. How long did you stir the mixture for?

   .....

6. i) Did all the gelatine crystals dissolve?

   .....

   ii) If not, is there anything you can do to help?

   .....

   .....

7. Now you need to pour the mixture into dishes.

   What dish do you choose? A glass, a bowl, a ramekin, or something else? Do they are important for measuring the setting time!

8. Did you grease your dish with anything before pouring the mixture in?
   - ❑ Yes
   - ❑ No

   If yes, what did you use?

   .....

9. i) Put your panna cotta into a fridge and check every 10 minutes to see if it

   ii) How long did it take for your panna cotta to set completely?

   .....

Time to get it out of that pot!

10. How to get the dessert out of the dish? Run a knife along the edges, submerge Maybe you know a different method? Describe how you did it and what the re piece, whole and intact? Or did it break apart and stick to the dish? Or maybe

    .....

    .....

    .....

    .....

11. Now it's time to set up a tasting panel for all the desserts prepared in the cl

Remember to be professional and objective. This time you are going to use
below to rank the samples depending on their **creaminess**.

1 – not creamy at all
2 – a little creamy
3 – quite creamy
4 – very creamy

Add the marks given by each perso... which panna cotta turned out to

Person	Group 1	Group 2	Grou
ex...	*2*	*1*	*4*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total			

12. Now that you know which panna cotta is the creamiest, you can answer the
of this lesson: how does the choice of ingredients affect the texture of pann

.....

.....

.....

.....

Take the time to evaluate this challenge, noting down a... ng you learnt from
change next time.

Crème Brûlée

Teacher's Guidance

What's covered in this session:

- ✓ altering the textur
- ✓ safet pre n of food poiso en dealing with high-risk food products
- ✓ using the oven and blowtorch

Learning

Students should be able to:

- ❑ understand the function
  cooking
- ❑ describe how moisture m
- ❑ understand the importa
  desired results

Safety Tips

- ! Make sure that students allergic to any food ingredient do not
  challenge (encourage them to measure times and write notes,
  used in this session include **eggs** and **milk**.
- ! Remind students about the safety rules when handling high-risk
  they apply them to prevent cross-contamination of foods.
- ! Ensure that students follow safety rules when handling hot food

Guidance for delivery:

- **Do NOT** hand the ... overview page to the students as working out th
  challe ou give it to them after the lesson.
- You ma der beginning the challenge on the first lesson during the day
  couple of hours and continuing on the last lesson the same day or on the ne
  consecutive days.
- Since the recipe only uses the yolks of the eggs, consider using the egg whit
  lemon meringue pie, baked Alaska or macaroons.

What you will need:

Equipment:	I
✓ oven	✓ **egg yolks**
✓ large bowls	✓ caster sugar
✓ whisks, hand mixers or food processors	✓ vanilla pods (or v
✓ kitchen scale	✓ **double cream**
✓ measuring jugs	✓ **whole milk**
✓ ramekins in different sizes t st ents to choose	✓ brown soft sugar
✓ blowtor	

Activity Answers

1. Although recipes vary, the temperature for making crème brûlée should be rather l
This is to ensure that the protein from eggs denatures gently, which helps to obtain
temperature would set the protein entirely, giving a tough, rubbery texture.

2. In this case, only egg yolks are used to ensure creaminess of the dessert.

3. The milk and cream used should be at r... temperature – they shouldn't be too c
baking) or too hot (as this could ... the eggs).

4. In this cas... can be filled up to the brim. The cooking temperature is l
and the ... certainly not rise (unlike in soufflé, for example).

5. The classic recipe used when preparing this challenge calls for one hour of baking.
by increasing the temperature, and by using smaller ramekins. Using a water bath i
recipes, as it allows even cooking and helps to maintain a smooth surface (not set o

7.
   - Coconut sugar should not be used as it would not caramelise.
   - Icing sugar is also not recommended, as it would produce a coat rather than a
   - It is best to use caster sugar, crystal sugar, brown sugar or demerara.

8. Usually recipes call for a blowtorch; however; it may be acceptable to place the ram
Baking is not recommended as it would affect the final texture of the dessert.

Questions to Think About Answers

1. Chemical processes step by step:

Procedures	Ch
Pour the egg yolks into a large bow... whites for a meringue or another rec...	-
Add sug... nd ... pale and fluffy	Denaturation of prote... fat
Extrac... eds from vanilla pod and add to the eggs	Infusion
Slowly p... in milk (should be room temperature)	-
Whisk in the double cream (also at room temperature)	Creaming of the fat
Pour the mixture into flat ramekins	-
Bake for an hour (or 15 minutes longer if necessary)	Denaturation and coa... of sugar
Remove the ramekins from the oven and leave overnight to cool	Setting (coagulation) o
Sprinkle each ramekin with soft brown sugar	-
Caramelise the surface with a blowtorch	Caramelisation of sug

2.
   - Double cream is rich in fat, which makes the dessert creamy.
   - Single cream would make the mixture too watery,
   - crème fraiche would make it sour.
   - Double cream cannot be replaced, unless b... cream.

3.
   - The dish is high in sugar a... appropriate for people on low-calorie
   cholesterol diets ... sity, hypertension, type 2 diabetes, coronary hea...
   - Sin... on ... it is not suitable for people with lactose intolerance or m...
   a... s.
   - The ... ence of eggs makes it unsuitable for lacto vegetarians, vegans and pe...
   - It may also be unsuitable for Rastafarians, who do not drink milk.

4. Eggs are a source of high-biological-value proteins, vitamins A, D, E and K, essential f
haem iron, zinc, selenium and lecithin. For this reason, they provide numerous hea

- Protein – supports growth and development of all cells and tissues, helps to build
- Vitamin A – supports proper vision, and healthy skin and mucous membranes
- Vitamin D – improves calcium absorption, helps to build strong bones and tee
- Vitamin E – antioxidant, helps to prevent ageing, supports functioning of the r
- Vitamin K – supports blood health, helps blood clot, also plays a role in vitamin
- Essential fatty acids (e.g. omega 3) – help to build healthy cell membranes, esp system, prevent heart disease
- Cholesterol – helps to build healthy cell membranes, especially in the brain and
- Vitamin B12 – helps to build red blood cells, prevents anaemia
- Haem iron – helps to build red blood cells, transports oxygen in the body, preve
- Zinc – helps to build proteins in the body, supports functioning of the reproduct
- Selenium – antioxidant, supports proper functioning of the thyroid gland; some prevent cancer
- Lecithin – enables transmission of signals between cells and nerves, improves cholesterol levels

Crème brûlée

The Challenge Overview

Crème brûlée is a classic French dessert which presents a challenge... or actually a couple of challenges even for the most experienced chefs! There are many common mistakes which can turn this dessert into a catastrophe, from the use of the correct equipment, through the type of sugar, to the actual baking – there is a lot that can go wrong!

Your challenge is to make this tricky dessert. Try to obtain the perfect texture and avoid common mistakes on the way! Are you ready to make your own crème brûlée?

Ingredients

Makes 6 servings

Crème brûlée:

- ❑ **5 egg yolks**
- ❑ 100g caster sugar
- ❑ 1 vanilla pod
- ❑ **250ml double cream**
- ❑ **250ml whole milk**
- ❑ 1 tbsp. icing sugar

Method

1	Preheat the oven to 1
2	Pour the egg yolks int the whites for a meri
3	Add sugar and whisk
4	Extract the seeds fro to the eggs
5	Slowly pour in milk (s temperature)
6	Whisk in the double c temperature)
7	Pour the mixture into
8	Bake for an hour (or necessary)
9	Remove the ramekin leave overnight to co
10	Sprinkle each rameki
11	Caramelise the surfac

Questions to Think About

Discuss these questions with a partner or write notes in your books.

1. What chemical processes take place during the cooking of crème brûlée, step
2. Explain why double cream is used in the recipe. Can it be replaced with single c
3. Who may this dessert be suitable for? (Section B: 6, Section A: 1)
4. What are the health benefits of eating eggs? (Section A: 1)

Crème brûlée – Challenge after ch

Your Task

When making a dessert which uses only a few very basic ingredien attention to detail. Work in pairs and face the challenge of makin Your task is to develop the best procedure for obtaining a puddin pictures on the way to describe the effects of your choices.

In the kit it is very often that you have to make choices and amendments on the go. Let's see whether you choose the right path... and don't forget to justify your choice!

1. **Preheating the oven**. What temperature do you set it to, and why?

   Temperature chosen: _____

   Justification: .....

   .....

2. **Whisking the eggs with sugar**. Do you use whole eggs, yolks or whites only?

   .....

   Justification: .....

   .....

3. **Adding milk and cream**. Do you add them cold or preheat them? Which on

   .....

   Justification: .....

   .....

4. **Filling the ramekins.**
   Draw the ramekin you are going to use. Don't forget to label its dimensions it with the crème brûlée – will you leave some room or will you fill it to the f

5. **Baking**. How long will you bake it for? Will you use a water bath? If so, how from water leaking in?

.....

.....

.....

.....

6. Once the dessert is [illegible] time to cool and chill it. Leave it in the fridge next ex[illegible]o[illegible]ext day.

Yesterday you prepared your crème brûlée pudding. It is time to finish it and e

7. **Sprinkle the top with sugar** and… hold on. What kind of sugar do you need?

Sugar to use: .....

Justification: .....

.....

8. **OK, sugar is chosen, time to caramelise it.** How do you do it? Do you bake

Chosen method to caramelise: .....

Justification: .....

.....

9. Prepare a [illegible] for all the desserts your classmates made, assessing t where 1 is 'poor' and 5 means 'excellent'. Then add the marks to see wi

	My crème brûlée	Crème brûlée 2	Crème brûlée 3	Cr
Appearance				
Colour				
Texture				
Sweetness				
Overall palatability				
Other				
Other				
Total				

i) Whose dessert scored the most?

.....

ii) Compare the cooking process of the best crème brûlée to yours (unless all potential differences below.

.....

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.....

.....

.....

Take the time to evaluate this challenge, noting down anything you learnt from change next time.

Baked Cheesecake

Teacher's Guidance

What's covered in this session:

- ✓ altering the tex… chan… tre…ents
- ✓ mecha… raising methods

Learning ou…

St…dents should be able to:

- ❑ identify raising agents and method… cheesecakes
- ❑ explain the function of fat in estab… of a food
- ❑ describe the differences between v… cream cheese, cottage cheese), bo… characteristics and production met…
- ❑ use a range of sensory testing met… of a food product

Safety Tips

! Make sure that students allergic to any food ingredient do not … challenge (encourage them to measure times and write notes, … used in this session include **milk**, **wheat**, **oats**, **eggs** and **sulfur dio…**

! Remind students about the safety rules when handling high-risk … they apply them to prevent cross-contam…tion of foods.

! Ensure that students follow safety r…les w… handling hot foods

Guidance for Teaching:

- Drain t… …se off the cream/whey using a strainer lined with gauze. The … mass of cheese (without the liquid). It's best to blend the cheese in a food p… the texture of the cheesecake – you can do this prior to the lesson to save ti…
- Also, prepare the ingredients early so that they are all at room temperature … the cheesecake.
- The preparation of the cheesecake will take around two hours. Allow to cool i… another one-hour session to complete the taste panel (e.g. in the afternoon or…

What you will need:

Equipment:	I…
✓ food processor	✓ **butter**
✓ kitchen scale	✓ **digestive biscuits**
✓ measuring jug	✓ caster sugar
✓ saucepans	✓ **eggs**
✓ spoons	✓ potato starch
✓ round m…al l… …s	✓ vanilla pods (or v…
✓ strai…	✓ **raisins** (optional)
✓ gauze …rain the cheese	✓ various types of c…
✓ whisks or hand mixers	standard cream c…
✓ oven	standard cottage …
	cheese, or other)*
	*subject to availa…

Activity Answers

1. Students should notice differences in the nutritional value of different types of chee protein and calcium content.

   Students should conclude that cottage cheese can make a good ingredient to inclu energy value and high calcium content. Students may notic t at it might not be su allergic to milk or suffering from lactose intolerance.

8. Students may notice that objective and subjective assessments may differ – this is a personal preferences affect food choice.

Questions to think about Answers

1. The egg whites are very rich in protein, which – during whisking – uncoils and traps a egg white is a suitable raising agent in many recipes – including cheesecake. Whisk texture to the cake.

2. Potato starch is a thickening agent and helps to set the cheesecake after baking.

3. **The advantages of locally produced foods:**
   - No need for transportation
   - Lower carbon footprint / gas emission
   - Lower price
   - Fresher
   - Supports local agriculture and farmers
   - Supports local communities

   The disadvantages of locally produced foods:
   - Low variety
   - May be more expensive
   - May be contamin t d with chemicals, pesticides, antibiotics (local does not eq
   - Us va ly seasonally (low availability)

4. **Product cottage cheese:**
   - Pasteurisation (and/or microfiltration) of milk
   - Cooling to 30°C
   - Adding starter bacteria cultures
   - Adding rennet
   - Cutting curd and draining off whey
   - Pressing the remaining whey out and chilling
   - Eventually adding flavouring (e.g. salt, chopped herbs)

Baked cheesecake

The Challenge Overview

Cheesecake is a classic dessert in many countries but in many of them it is made without baking. This challenge focuses on its main ingredient – cheese – and how it affects the cheesecake's texture.

Sm

Your challenge is to make a baked cheesecake using different kinds

Ingredients

Makes 10 servings

Base:

- ❑ **85g butter**
- ❑ **140g digestive biscuits or oatcakes**

Cheesecake:

- ❑ **500g cottage cheese (drained) or cream cheese**
- ❑ **100g butter**
- ❑ 125g [illegible]er
- ❑ **2 la[illegible]s**
- ❑ 1 tbsp potato starch
- ❑ 1 vanilla pod
- ❑ **½ cup raisins** (optional)

Procedure

For the base (optional):	
1	Crush the biscuits in a food
2	Melt the butter over low he biscuits
3	Stir until the mass resemble
4	Place t[illegible] base in a round ba ga[illegible]st the bottom. Make s
To make the cheesecake:	
5	Preheat the oven to 160°C
6	Drain and blend the cottage processor until smooth (ski cream cheese)
7	Cream soft butter with suga
8	Pour in egg yolks and vanill the vanilla pod and beat un
9	Slowly add in the cheese an
10	Add raisins and stir
11	In a separate bowl, whisk th and white
12	Slowly add the egg whites t carefully
1.	Pour the mass onto the base you're not using the base, gr
14	Bak[illegible] around 45 minutes

Questions to think about

Discuss these [illegible] a partner or write notes in your books.

1. Explain [illegible] whites are whisked and added separately from the rest of the m
2. What is the function of the potato starch in the recipe? (Section C: 1)
3. Cottage cheese is usually produced locally – what are the advantages and di sourced food products? (Section B: 1)
4. Describe the production process of cottage cheese. (Section B: 2)

Baked cheesecake – Face the ingre

Your Task

When making a cheesecake, everything is important! From the se preparation of and timing when ba ing each step requires preci effect. This time you will fo the quality of cheese used – eve for all groups.

Divide ir groups. Each group will use a different kind of che end you need to conduct a tasting panel for all the cheeseca lunch!

Group 1 – use low-fat cream cheese
Group 2 – use standard cream cheese
Group 3 – use low-fat cottage cheese
Group 4 – use standard cottage cheese
Group 5 – use high-protein cottage cheese

Your teacher may prepare the cheese for you. If not, make sure y strainer and blend it for three minutes in a food processor.

1. Before you begin the bake off (or when you're wai the cheesecake to the kind of cheese you're using.

   i) You can use an online d a food table to check it. Then calcula recommended for your gender and age group is provided w ca on **www.nutrition.org.uk** website.

   ii) Yo also colour-code the table with the traffic light system to see if a daily basis. The instruction for colour coding can be found on **www.n**

	Per 100g	
Energy (kcal)		
Fat (g)		
Saturates (g)		
Carbohydrates (g)		
Sugars (g)		
P n (		
Fibre (g)		
Calcium (mg)		

2. **Prepare your cheesecake using the procedure on the Overview page.**

Here are a couple of additional tips which you might find useful when makin to tick the box next to each tip you used!

- ❑ Make sure all the ingredients have the same temperature – this will pre
- ❑ During baking, put a tin with water into the oven – high moisture will prev
- ❑ If the surface is too dark, but you think the cheese[illegible]ke is still raw inside, continue baking
- ❑ To check if the cheesecake is re[illegible] use a skewer – it will always the tin – if the cheesecake[illegible]s, it is still raw.

3. Once you[illegible] done, attach a picture of (or draw) it here:

Make sure you label all the dimensions and point out possible cracks on the

4. After the cheesecakes are baked (and c[illegible] a tasting panel for all th

Complete the table below to see how the choice of the basic ingredient – ch cheesecake. You can also compare other features and add additional groups scale, where 1 means 'poor' and 9 means 'excellent'.

Remember to remain professional and assess the cheesecakes objectively!

	Group 1	Group 2	Group 3
	Low-fat cream cheese	Standard cream cheese	Low-fat cottage cheese
Moisture			
Creaminess			
Crumbliness			
Overall texture			
Colour			
Other			
Other			
Other			
Total marks:			

5. Overall, which cheesecake scored the most, and why? Was it because it wa
Or maybe it was the only one without a cracked top?

.....

.....

.....

6. i) Which cheese produced the cr... texture?

.....

ii) W... eese produced the least creamy texture?

.....

iii) How many marks did your cheesecake score?

.....

iv) What went wrong?

.....

.....

v) What went well?

.....

.....

7. Prepar... ference test to see which cheesecake is liked the most.

Simply ask 10 of your classmates to rank the cheesecakes on the scale from
most'). Then add up all the marks and see which cheesecake scored the mo

*We filled in the first row to give you an example. As you can see, Mark liked th
the high-protein cottage cheese, and the least – the standard cottage cheese c
test, as the cheesecakes are ordered from the least to the most liked one, and*

	Group 1	Group 2	Group 3	
Student's name	**Low-fat cream cheese**	**Standard cream cheese**	**Low-fat cottage cheese**	**St**
e.g. *Mark*	*2*	*4*	*3*	
Total marks				

You assessed the cheesecakes using two different types of sensory testing: a ra
strength of the sensory properties of cheesecakes, and a rating test to see whic

8. Is the cheesecake indicated as best in the first panel the same as indicated a
panel? If not, can you think why it is so?

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Take the time to evaluate this challenge, noting down anything you learnt from
change next time.

Croissants

Teacher's Guidance

What's covered in this session:

- ✓ making a dough
- ✓ yeast as a raising agent
- ✓ rolling the dough
- ✓ folding the dough
- ✓ timing
- ✓ keeping the temperature low to obtain the desired texture
- ✓ using the food temperature probe

Learning

Students should be able to

- ❑ identify various types
- ❑ describe the differences between rough puff pastry
- ❑ explain the role of fat in croissants and other
- ❑ use a rolling pin in a

Safety Tips

- ! Make sure that students allergic to any food ingredient do not challenge (encourage them to measure times and write notes used in this session include **wheat**, **milk** and **eggs**.
- ! Remind students about the safety rules when handling high-risk they apply them to prevent cross-contamination of foods.
- ! Ensure that students follow safety rules when handling hot food

Guidance on delivery:

- Preparation of croissants is fairly complex, as it requires some work on three when planning your lessons. We suggest planning at least 20 minutes on day two hours on day 3.

What you will need:

Equipment:	Ingredients:
✓ fridge or freezer	✓ **strong flour**
✓ cling film	✓ salt
✓ markers to label the samples	✓ sugar
✓ oven	✓ fast-action yeast
✓ baking paper	✓ **butter**
✓ flat baking tins	✓ **eggs**
✓ rolling pins – plastic, wooden, silicone, filled with water, marbles (a few for students to choose)	✓ cold water
✓ kitchen scales	
✓ measuring jug	
✓ food temperature probe	
✓ rulers or measuring tape	

Activity Answers

1. It is important to roll the dough quite quickly to prevent the butter from melting. S that their hands are cold, e.g. by washing them in cold water.

2. It might be a good idea to use a silicone rolling pin, which can be filled with ice and in the dough from melting and could allow more time for ...g for less-confident s

3. i) The working surface should be flou... it... with plain wheat flour, or with ... in the original recipe (in th... ...r.g wheat flour).

   ii) The dough sh... ...ed (ideally) every 2–3 strokes. However, this will de...

   iii) Th... ...n can be kept quite thick until the final folding, when it needs to be c... Ho... rolling it thinly means there can be more layers, which will then crea...

   iv) During rolling, the centre of the dough can be kept thicker than the edges. Th... placed on top of it, the layer of pastry under the butter and on top of it will be ... created by the pieces of pastry folded over butter). If no more butter is added,

   v) The dough should be rolled from the centre outwards.

   vi) Ideally, the dough should be rolled into a rectangular shape, as this will allow i... the same number of layers throughout.

4. Students should notice rising yeast activity (the higher the temperature, the faster t... croissants will be).

5. Croissants which were glazed should have a shiny, golden finish. The unglazed crois... (not shiny).

Questions to think about answers

1. • Strong flour ... ...m...e gluten and, therefore, is better when making bread
   • Pl... ...r is ...w...n gluten and is better used in production of pastry, shortcrust

2. Growth conditions for yeast include: warmth, moisture (presence of water), food (p... these, yeast will not grow.

3. Folding helps to improve the texture of the pastry in two ways:
   - By trapping air between layers
   - By trapping butter between layers, which will melt during cooking and produce... raising agent between the layers of pastry

4. - Mechanical (folding)
   - Biological (yeast)
   - Physical (steam)

Croissants

The Challenge Overview

Mmmmm... There is nothing better than a fr... ...ery croissant with crunchy crust and soft ... in-the-mouth interior! But can you make th... ...ing croissants is very labour-intensive and ti... ...ming, and it will take you a couple of ... ... you will be able to sink your teeth in one...

A goo...

Your challenge is to make this tricky dessert. Pay special attention to prevent the butter in the croissants from melting! Will your croissa...

Ingredients

Makes 12 croissants

Croissants:

- ❑ **500g strong flour**
- ❑ 1½ tbsp salt
- ❑ 50g sugar
- ❑ 2 sachets of fast-action yeast
- ❑ **300g butter**
- ❑ **1 egg**
- ❑ 300m... w...

Procedure

Day 1	
1	Place flour, salt, sugar, yeast and
2	Mix and then knead for around ... smooth
3	F... a b...l, cover with cling film
4	Put the butter between two shee... parchment and roll into a flat re...
5	Roll the dough into a rectangle l... one
6	Place the butter on top of the do...
7	Fold the dough around the butte...
Day 3 (double session)	
8	Roll the dough and fold again (re... and chill
9	Roll the dough flat and cut it into ... knife
10	Roll the triangles to form croissa...
11	Place the croissants in a lined ba... rise for 30 minutes
12	Preheat the oven to 200°C
13	Glaz... ... of the croissants with ...
14	B... for 15 minutes or until gold...

Questions to Think About

Discuss the... ...tions with a partner or write notes in your books.

1. What is the difference between strong and plain flour? (Section A: 11, Section C: 1)
2. Identify the growth conditions for yeast. (Section C: 1)
3. Why does the pastry have to be folded so many times? (Section C: 1)
4. What three different raising methods are used when making croissants? (Sect...

Croissants – Battle against h

Your Task

When making a puff pastry such as this, t[illegible]ture is key. You ne[illegible] pastry quickly and effectively, so [illegible] doesn't melt and stick to yo[illegible] – the more times you fold it [illegible]e flakes your croissants will have[illegible] compete against th[illegible] and the temperature! Keep a food te[illegible] to measu[illegible]e [illegible]perature of the dough after each rolling and fo[illegible] to check [illegible]ong it took you. You will also need a measuring tap[illegible] compare [illegible]e size and weight of your croissants.

1. At each stage of making the dough, make sure you check the core temperat[illegible] completion. Use the table below to record your data.

	Time taken	
Day 1 – making the dough (steps 1–3)		
Day 2 – folding the dough with butter (steps 4–7)		
Day 3 – rolling 1		
Day 3 [illegible]g 2		
Day 3 – rolling 3		

2. Your teacher will provide you with various kinds of rolling pin.

   Which rolling pin are you going to use, and why? Make the decision before g[illegible] and use the same rolling pin each time.

   Rolling pin used: .....

   Why? .....

   .....

   .....

3. What is [illegible]est technique for rolling the dough? Each cook has their own...

   Let's begin by preparing the working surface.

   i) Do you flour it or not? ❑ Flour ❑ Don't flour

      If yes, what kind of flour do you use for this? .....

ii) Do you rotate the dough? ❑ Yes ❑ No

If yes, how often do you do it? .....

iii) How thick do you make the dough before folding it again?

.....

iv) Is the dough even?

❑ Yes ❑ The centre is thicker ❑ N

v) Which direction do you roll the dough?

❑ From the centre outwards ❑ From the edge inwards

vi) What shape do you roll the dough into?

❑ Rectangle ❑ Square ❑ Circle ❑

4. Once you have cut out (step 9 from the procedures) and rolled the croissants compare their size and weight. You can use a measuring tape or a ruler to c kitchen scale for the weight.

	Size (dimensions)	
Before leavening (before step 11)		
After leavening (right after step 11)		

5. At step 13 you are asked to glaze the croissants with egg wash. Once a picture of or describe the difference in appearance between glazed and no

6. Compare your croissants with ones made by your classmates. Are they any d of the differences? Compare your worksheets to discover differences betwe

.....

.....

.....

.....

Take the t evaluate this challenge, noting down anything you learnt from change next time.

Macaroons

Teacher's Guidance

What's covered in this session:

- ✓ making a meringue
- ✓ setting of protein
- ✓ baking [illegible] – flour substitute in cooking
- ✓ the function of sugar in cooking
- ✓ use of a food processor

Learning

Students should

- ❑ use various
- ❑ make an
- variety of
- ❑ use a pi

Safety Tips

- ! Make sure that students allergic to any food ingredient do not
- challenge (encourage them to measure times and write notes
- used in this session include **nuts** and **eggs**.
- ! Remind students about the safety rules when handling high-risk
- they apply them to prevent cross-contamination of foods.
- ! Ensure that students follow safety rules when handling hot food

Guidance for Delivery:

- Prior to the lesson e[illegible] the ingredients are room temperature.
- If possible use [illegible] egg whites – e.g. leftovers from making crème brûlée.
- for 2–3 [illegible] This is because during 'ageing' water evaporates from the egg
- between proteins are intact; this makes the proteins more elastic and easie
- Please pay attention to the icing sugar – use pure icing sugar, not a mixture
- would potentially affect the final texture of the macaroons, making them to
- Since the recipe only uses the egg whites, consider using the egg yolks to ca
- this pack, e.g. ice cream or crème brûlée.

What you will need:

Equipment:	
✓ Baking paper	✓ **almond**
✓ Large flat metal baking tins	✓ pure ici
✓ Pencils	✓ **egg wh**
✓ Piping bags with various sizes and kinds of tips for students to choose from	✓ cream o ✓ caster s ✓ pink fo colour)
✓ Large bowls	✓ fresh ra
✓ Oven	fruit)
✓ Food [illegible] so	✓ raspber
✓ Hand [illegible] or whisks	preserv
✓ Kitchen scale – classic and electronic for students to choose from	
✓ Timers – students can use the timers in their smartphones!	

Activity Answers

1. As indicated by the challenge overview page, this can be done by drawing small circ
dividing it into equally sized squares.

2. When making macaroons, precision is key. Otherwise the mixture can become too
product might differ in texture (e.g. be too crumbly or too wet, lose shape during b

3. It might be best to use a pulsation setting to grou[illegible]onds. This way almond
not paste or butter.

4. Although it takes more time, it might be best to use a traditional wire whisk, as it al
egg whites to be c[illegible] constantly. Using a hand mixer or a food processor can
may le[illegible]ne[illegible]s (break-up of chemical bonds in the protein, which are no long
mixture[illegible]es watery).

5. Icing sugar should be added a spoonful at a time, one after another, to ensure that
mixture. Using a sieve might seem a good idea, but it could introduce too much air
texture.

6. This may depend on the quality and quantity of the food colourant. Usually only ve
texture should not change. Adding too much of a food colourant can change the te
colourants contain, for example, citric acid, which may denature the protein in eggs

7. The almonds should be gently folded in with a spatula. The texture of the mixture
be fluffy.

8. The size of the tip will determine the size of the baked macaroons – the larger the t
cookies. The kind of tip doesn't matter as much as the mixture will 'melt' in baking

10. The temperature will vary depending on the type of oven used. It should be lowere
macaroons are larger (otherwise they will burn on the o[illegible]de and be raw inside).

12. Students should observe that at the beginn[illegible]s n[illegible]thing really happens, but after ar
macaroons begin to rise and form [illegible]fa[illegible]stic 'foot'.

Questions to Talk About Answers

1. Sugar is [illegible]or many reasons:
   - As a sweetener / flavouring agent
   - As a bulking agent
   - To improve texture (by enabling creaming and aeration)
   - To improve colour (by caramelisation, dextrinisation and Maillard reaction)
   - To preserve the food and prevent food spoilage (e.g. in jams)
   - To extend the shelf life of food
   - To speed up fermentation, e.g. in bread or yeast buns

2. i) Flour can be substituted by using almond flour (ground almonds), soy flour, gr

   ii) This may be necessary, e.g. when developing recipes for gluten-intolerant peo
   the texture, flavour or nutritional value of the final product.

3. Natural colourants used in the food industry include:
   - Vegetable extracts, e.g. beetroot, carr[illegible]sp[illegible]ach, onion husks
   - Herbal extracts, e.g. mint, sti[illegible]ne[illegible]
   - Spice extracts, e.g. [illegible]n[illegible]prika
   - Flower extr[illegible]s e.g. [illegible]amomile
   - In[illegible]g. [illegible]tmeal
   - An[illegible].g. octopus ink
   - Caramel

4. Cream of tartar is a kind of acid and speeds up denaturation of protein in the egg whi

Macaroons

The Challenge Overview

Macaroons are delicate, small, round, colourful and delicious... but the batter is very tricky and can go wrong easily, creating an unappetising, melted and spoilt puddle. Precision is key.

Macaroons

Your challenge is to make this tricky dessert. An ideal macaroon will be crisp and gooey on the inside! Are you up for this challenge?

Ingredients

Makes 30 macaroons

Macaroons:

- ❑ **100g almond flakes**
- ❑ 180g pure icing sugar
- ❑ **3 egg whites (app. 100g)**
- ❑ ¼ tsp cream of tartar
- ❑ 35g caster sugar
- ❑ Pink food colourant

Filling:

- ❑ 100g fresh raspberries
- ❑ 100g raspberry jam

Procedure

For the macaroons:	
1	Line large baking tin with baking p… on it, spreading them evenly all ov… squeeze your macaroon batter
2	Put the almonds and caster sugar … ground until very fine using the 'pu…
3	In a large bowl, whisk the egg white…
4	Add cream of tartar and whisk for …
5	Slow… …ing sugar and beat u… …ld stiff
6	Add food colourant and whisk for …
7	Gradually fold in the almond/suga…
8	Fill a piping bag with the mass and … prepared baking paper
9	Let stand for 30 minutes
10	In the meantime, preheat the ove…
11	Bake the macaroons for 10–12 min… separate from the paper
12	Remove the macaroons from the … wire rack
For the filling:	
13	Place the raspberries and jam in a … until smooth
14	Use the mixture to glue two macar…

Questions to Think About

Discuss these questions with a partner or write notes in your books.

1. What is the function of sugar in … (Section C: 1)
2. Some recipes do not use …
   i) What can you substitute flour with? (Section B: 6)
   ii) What might be necessary to substitute flour in recipes? (Section B: 6)
3. List some natural colouring agents that are used in the food industry. (Section …
4. What is the function of cream of tartar in the macaroons recipe? (Section C: 1)

Macaroons – Smooth crimi

Your Task

Macaroons are tiny meringue-like cooki[illegible] of only three ingre[illegible] and almond flour. A perfect ma[illegible] will have a crunchy surfac[illegible] will be perfectly smooth or [illegible] in shape. When making this de[illegible] there are many tri[illegible] way to success! We will guide you thr[illegible] that be[illegible]

1. **Begin by preparing your baking tin**. You want every macaroon to be the sa[illegible]

   What size are your macaroons going to be? .....

2. **Now carefully measure the ingredients**.

   Do you use a classic kitchen scale or an electric one? .....

   How precise is that scale? .....

3. It's time to grind the almonds with sugar.

   i) How long are you going to grind them for? .....

   ii) What is the consistency of the mixture after... (write n/a if you're doing

   - ❑ 1 minute of grinding .....
   - ❑ 2 minutes of grindi[illegible] .....
   - ❑ [illegible] grinding .....
   - ❑ 4 minutes of grinding .....
   - ❑ 5 minutes of grinding .....

4. Next step – whisking the egg whites.

   i) What do you do it with?

   - ❑ Whisk
   - ❑ Hand mixer
   - ❑ Food processor

   ii) How long do you whisk the egg whites for? .....

5. How do you add the icing sugar into th[illegible]

   - ❑ By the spoonful
   - ❑ All at once
   - ❑ W[illegible]
   - ❑ Ot[illegible] .....

Adding the food colourant.

6. i) How much do you use? .....

   ii) Did the texture of the mixture change after adding the colourant? .....

7. **Now you need to add the almonds with sugar to the mixture.** How do you vigorously and quickly, e.g. with the whisk provided or used for whisking, just

.....

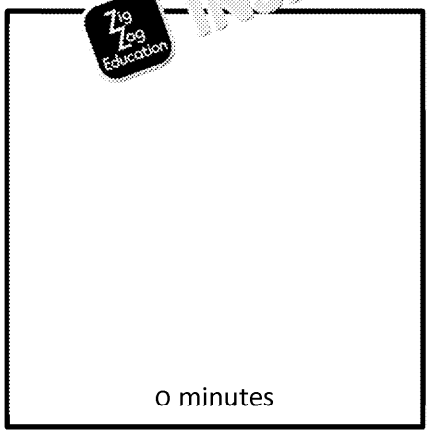
.....

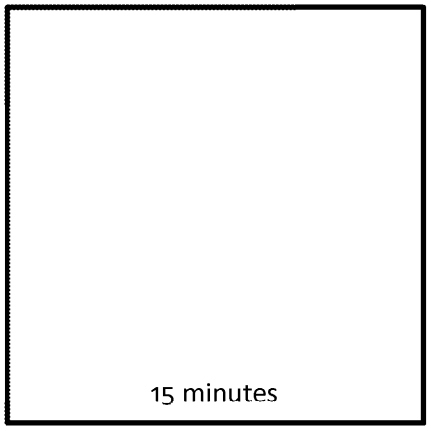
Time for piping

8. i) What size of tip do you use with your piping bag? .....

   ii) What kind of tip do you use? Draw it below.

9. **Once you have piped the mixture onto the baking tray, it needs to stand for** pictures at the beginning, after 15 minutes and after 30 minutes to see how the macaroons changes with time. Stick the pictures below (or save them somewhere always get back to them when revising for your exams!).





Finally, you can bake your macaroons.

10. Did you set the oven to the temperature indicated in the procedures or did you

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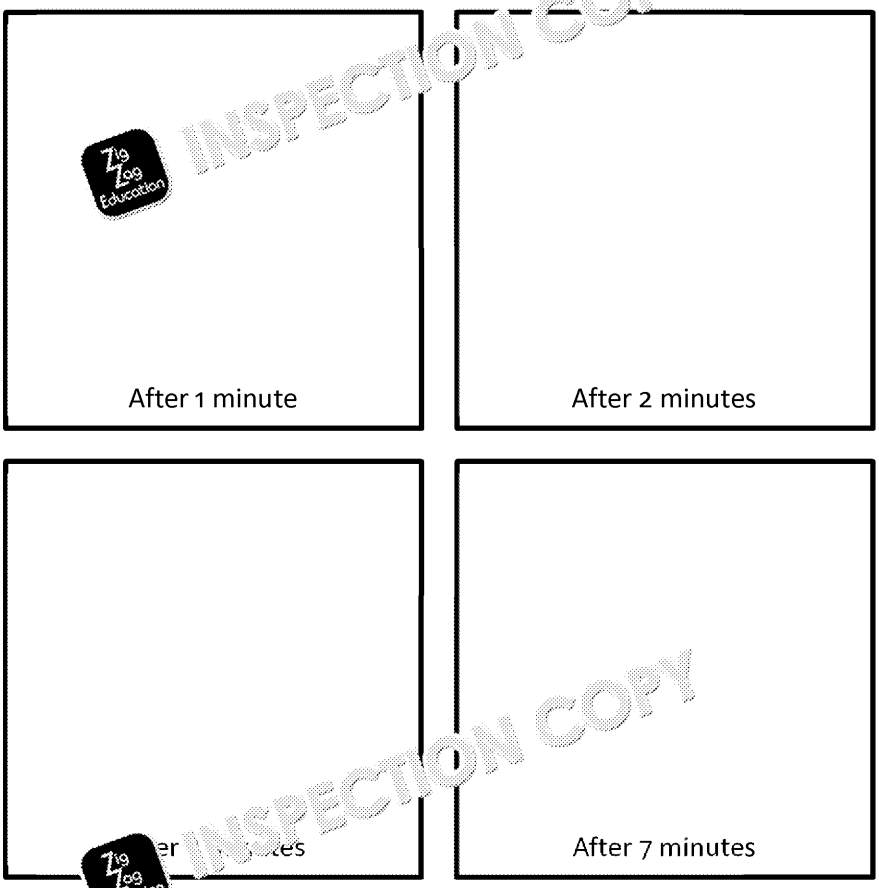
11. How long did you bake the macaroons for?

.....

12. **Get your timer ready! Take a photograph of your macaroons in the oven a** 3, 4, 7 and 10 minutes, respectively). Remember not to open the oven for th exercise)! Write n/a if you baked your macaroons for a shorter time.



13. Once the macaroons have cooled slightly, assess them on a scale from 1 to 5 and 5 stands for 'yes, perfect'. Remember to be professional and objective

Feature/characteristic
The macaroons are equal in size
The macaroons have the same shape
The macaroons separate easily from the baking paper
The macaroons have a crunchy crust
The macaroons have a gooey centre
The macaroons do not break apart when lifted from the tin
The macaroons are not hollow
The macaroons are smooth in texture (no bits or whole almond can be felt)
The colour is bright and intensive
The shells do not separate from the foot of the macaroon when you stick them together with jam
Total score

14. Compare your result with others and try to detect what they did differently that was better.

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Take the time to evaluate this challenge, noting down anything you learnt from to change next time.

Lemon Meringue Pie

Teacher's Guidance

What's covered in this session:

- ✓ making sauces
- ✓ starch as a thickening agent
- ✓ setting temperatures
- ✓ use of acids in cooking

Learning

Students should be able to:

- ❑ use various thickening ag
  preparation of sauces an
- ❑ understand interactions b
  ingredients

Safety Tips

- ! Make sure that students allergic to any food ingredient do not c
  challenge (encourage them to measure times and write notes.
  used in this session include **wheat**, **milk** and **eggs**.
- ! Remind students about the safety rules when handling high-risk
  they apply them to prevent cross-contamination of foods.
- ! Ensure that students follow safety rules when handling hot food

Guidance for delivery:

- To save time, prepare
- **Do NOT** give th
  curd.
  overvie
- Assessment should take place in the next lesson (ideally afternoon of the sa

What you will need:

Equipment:	I
✓ oven ✓ round baking tins ✓ whisks, hand mixers and food processors for students to choose from ✓ large bowls (three for each group) ✓ baking paper ✓ saucepans ✓ grater/zester and hand juicer ✓ kitchen scale ✓ measuring jug ✓ rollin ✓ bakin or other equipment for blind baking (e.g. dried peas)	✓ corn starch ✓ caster sugar ✓ lemons ✓ **eggs (raw)** ✓ cold water ✓ **plain flour*** ✓ **butter*** ✓ icing sugar* *instead you can choo

Activity Answers

1. A basic recipe for a shortcrust pastry includes plain flour and butter, sometimes wit cooked), cold water and salt/sugar.

2. Blind baking means that the pastry is baked without a filling. Instead, to prevent it baking beans or other heavy equipment; for example, a m baking tin of similar s pulses (e.g. lentils).

3. This is because the other ingredi curd and meringue – do not require l (almost completely) bak the whole cake is assembled.

4. The co ce re is shown on the challenge overview page.

6. Students may consider adding some starch (either plain flour, corn starch or potato instantly, or to simmer it to evaporate extra water, if too liquid.

8. i) The process is denaturation.

   ii) Denaturation caused by mechanical action (whisking) is partially reversible. D (heat or acid) is not reversible.

   iii) The egg whites will whisk faster if you add a tiny pinch of kitchen salt.

10. Given the ingredients, the reactions could include:
    - caramelisation (of the sugar in meringue)*
    - *dextrinisation* of the starch in the shortcrust
    - Maillard reaction between protein and sugar in the meringue

    *although not required by the specification, this is an important pr s used when cooking

13. Some descriptive words could be zesty, cru y, ris , fruity, gentle, soft, moist, g

Questions to this Week Answers

1. Corn st th ckening agent. It is used to increase viscosity (thickness, texture)

2. Because it is low in gluten, so the pastry will stay crunchy. Other types of flour, e.g. the pastry would be too soft.

3. A portion of lemon meringue pie provides roughly:
    - 398kcal
    - 13.1g of fat
    - 68.8g carbohydrates (inc. 47g sugars)
    - 5.7g of protein
    - 0.9g fibre

4. Top producer countries include India, Mexico, Argentina, China and Brazil.
   The transportation of food affects the environment in many w ys:
    - By emitting greenhouse gases (e.g. carbon dioxid er burning fuel (e.g. gas warming and climate change
    - By emitting heavy metals (e.g. le , c um) it contributes to environment c main routes
    - By emitting oth t s (e.g. soot, hydrocarbons, nitrogen compounds) it
    - By ng makes many places unsuitable for animals (including peop to n and/or extinction of species, and degradation of habitats
    - By building of roads and bridges it contributes to deforestation and loweri have no habitats to live in

Lemon Meringue pie

The Challenge Overview

Lemon meringue pie is an American classic. Ir[illegible], made, this dessert can turn into a pool rather tho[illegible]s, come on! Mixing lemon juice and starch? [illegible] really work together, should it?! Also the meri[illegible] can be underbaked, making the slicing a real c[illegible]... (and a health hazard, too!).

Am[illegible]

Your challenge is to make this tricky dessert. Can you adjust the tex[illegible] doesn't fall apart when sliced? Or will yours collapse in[illegible]

Ingredients

Makes 8 servings

Lemon curd:

- ❑ 35g corn starch
- ❑ 125g caster sugar
- ❑ 3 lemons (zest + juice)
- ❑ **3 egg yolks**
- ❑ 225ml cold water

Meringue:

- ❑ **4 egg whites**
- ❑ 220g caster sugar

Shortcrust pastry (use a ready one or make your own)

- ❑ **175g plain flour**
- ❑ **100g cold butter**
- ❑ 1 tbsp icing sugar
- ❑ **1 egg yolk (raw)**

	Procedu[illegible]
1	Mix the ingredients of the[illegible] food processor until smoo[illegible] a ready one)
2	Preheat the oven to 190°C
3	Roll the pastry until 0.5cm[illegible] round baking tin
4	[illegible] with baking paper a[illegible] [illegible]inutes; remove from the[illegible]
[illegible]r the curd:	
5	Mix lemon juice and zest [illegible] thick paste
6	Boil the water in a saucep[illegible]
7	Add the starch mixture to [illegible] simmer until thick, remov[illegible]
8	In a large bowl, mix the eg[illegible]
9	Slowly add the eggs into t[illegible] constantly
10	Simmer the curd for a cou[illegible] thick) and then pour over [illegible]
For the meringue:	
11	In a large bowl, whisk the [illegible] stiff
12	Slowly add in the sugar
13	Pour the meringue onto t[illegible]
14	Bake for 30 minutes or un[illegible]

Questions to Think About

Discuss these questions with a part[illegible] write notes in your books.

1. What is the function of [illegible] in the recipe? (Section C: 1)
2. Why is pla[illegible] flo[illegible] a shortcrust pastry? (Section C: 1)
3. Calcula[illegible] calories and the amount of macronutrients in a portion of the pie. white c[illegible] weight is 25g, and the lemon juice weighs approx. 90g.) *Use an[illegible] calculate this* (Section A: 4)
4. Lemon is a citrus fruit imported to the United Kingdom from other countries. C[illegible] world's largest lemon producers and then list the environmental effects of fooc[illegible]

Lemon meringue pie – A pie, not a

Your Task

Logically thinking, lemon juice and starch do not work together. The acid from lemon juice hydrolyses* chemical bonds in the starch chains, breaking the granules apart. Due to this the starch granules cannot swell and thicken and they lose their thickening properties!

Your task is to correctly adjust the amount of juice and starch (and cooking order) so that your lemon curd is thick enough not to turn into a puddle but runny enough to have a nice mouthfeel. Divide into groups and try to experiment with methods – whose pie will appear best?

**hydrolyse: to break down a chemical substance in a reaction with water.*

Making a lemon meringue pie begins by making a shortcrust pastry.

1. **Try to remember the ingredients and proportions of a shortcrust pastry, and write them down.**
   It is also possible that your teacher will provide you with a ready-made shortcrust pastry. Read the label carefully and list the basic ingredients and food additives used in the pastry, such as flavour or colour.

   .....

   .....

2. **The procedures call for blind baking the crust.**

   i) What is blind baking?

   .....

   .....

   ii) What equipment can you use for blind baking?

   .....

   .....

3. Why is it important to blind bake the crust before adding other ingredients?

   .....

   .....

4. **The most important task today is to prepare lemon curd.**
   It is a key ingredient in a lemon meringue pie, as if is too runny it will leak out of the pie crust and making the meringue soggy, while too thick will provide an unpleasant, tough mouthfeel. Below we will provide you the list of ingredients, but you will have to work out proportions yourself.

Remember to measure all the ingredients carefully and note in what order you

Ingredients: how much?

- ❑ Corn starch ……..
- ❑ Caster sugar ……..
- ❑ Lemon zest ……..
- ❑ Lemon juice ……..
- ❑ Egg yolk ……..
- ❑ Water ……

Equipmen

The procedure:

	PROCEDURE
1.	
2.	
3.	
4.	
5.	
6.	

5. i) What went well? Did you manage to make it perfect the first time?

……

……

……

ii) W…en…g? Or did you have to throw it away and start again?

……

……

……

6. There is a possibility that the curd did not come out well – is there a way to

……

……

7. Once the curd has the proper taste and texture, you can pour it onto the sh… time to cool.

At the end of the lesson your teach… and you the correct ingredient lis… with yours and try to spot possible mistakes or differences.

……

……

……

8. It's time to make the meringue. You will need to whisk four egg whites with
a meringue.

   i) What is the chemical process that takes place when whisking the egg w

   ii) Is this process irreversible? .....

   .....

   iii) Can you do anything to speed u... rocess?

   .....

   .....

   iv) What utensil did you use to whisk your egg whites? .....

   v) How long did it take you to obtain the required texture? .....

9. Once the meringue is ready, scoop it out on the curd, creating peaks, or eve
skewer to obtain the chosen pattern on the pie.

10. Bake the pie for around 30 minutes, or until golden brown.

    Can you name the reaction(s) which makes the crust and the meringue brow

    .....

    .....

    .....

    .....

11. Take the ... oven and let cool before completing the next task (cuttin

12. **The pie is cool and ready to eat... or is it?** Remove the ring from the tin and

    Take a picture of your pie before and after cutting.

    Or simply describe the look of your pie, paying extra attention to the texture

Before:	**After:**

13. How would you describe your pie? Use as many descriptive words as possib
professional! 'Good' or 'bad' doesn't make it!

Take the time to evaluate the challenge, noting down anything you learnt from
change next time.

Chocolate Éclairs

Teacher's Guidance

What's covered in this session:

- ✓ making choux pastry
- ✓ cream and decoration
- ✓ making éclairs
- ✓ coating and decoration techniques
- ✓ setting up a taste panel
- ✓ choosing tasting methods

Learning

Students should be able to:

- ❑ understand how various t and consistency of a past
- ❑ use a broad variety of skil
- ❑ use creativity and skills t flavoured desserts
- ❑ use a variety of sensory t

Safety Tips

! Make sure that students allergic to any food ingredient do not challenge (encourage them to measure times and write notes used in this session include **wheat**, **milk** and **eggs**. Chocolate m or other allergens, depending on the producer. Read the labe

! Remind students about the safety rules when handling high-risk they apply them to prevent cross-contamination of foods.

! Ensure that students follow safety rules w handling hot food

Guidance for Delivery

- Since t ens are encouraged here to develop new flavours and recipes, i worksh prior to the lesson so that they can plan what they are going to use from home.
- When planning this session, consider one hour to prepare the éclairs and or complete the tasting panel. We think it's best to organise a double session.

What you will need:

Equipment:	I
✓ oven	✓ water
✓ food processors, hand mixers, whisks, wooden spoons	✓ **milk**
✓ large bowls	✓ **butter**
✓ piping bags	✓ **plain flour**
✓ baking tins	✓ **strong flour**
✓ baking paper	✓ **eggs**
✓ saucepans	✓ caster sugar
✓ sieve	✓ vanilla pods (or v
✓ mark	✓ **dark chocolate**
✓ kitchen scale	✓ **double cream**
✓ measuring jug	*This session requires s various tastes and tex other ingredients from*

Activity Answers

The combining and tasting!

Students can choose to carry out various sensory tests to assess the éclairs, e.g. preferen

The scales used can also vary, although it's important that all st[illegible]ts use the same scal

Questions to think about Answers

1. Some p[illegible]ef[illegible]ould include (although the negatives far outweigh the positiv
   - Pr[illegible] vitamins A and D from milk, cream and butter
   - Pro[illegible]ng magnesium from chocolate
   - Providing vitamin B group and fibre with flour
   - Providing calcium with milk and flour
   - Providing haem iron with eggs, and non-haem iron with flour
   - Providing omega-3 fatty acids with eggs

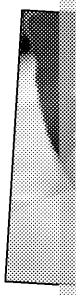
2. Other popular French desserts could include:
   - Crème brûlée
   - Puff pastry
   - Tarte tatin
   - Crepes
   - Croissants
   - Madeleines
   - Chocolate soufflé

3. Other dishes which call for choux pastry could in[illegible]ud[illegible]
   - savoury choux buns with mush[illegible]om[illegible]hicken sauce
   - cream puffs (sweet, sm[illegible]l roun[illegible]houx buns with whipped cream and icing)
   - mini choux bu[illegible]ed[illegible]stead of croutons with cream soups
   - pr[illegible]les[illegible], small, round choux buns filled with cream and covered in
   - Pa[illegible]t (sweet choux buns filled with praline cream)
   - gougères (savoury choux buns to which grated cheese is added)
   - beignets (deep-fried choux buns – not baked)
   - churros (deep-fried choux 'fingers')
   - pommes dauphine (savoury choux buns made by adding potato mash to the c

Chocolate éclairs

The Challenge Overview

Chocolate éclairs are a perfect combination of choux pastry, crème pâtissière and chocolate ganache. All of those strange-sounding names come from the French language. Today you will work in pairs to make them all... by hand! Beware – they aren't that easy to make! The choux can go soggy, the crème can be too runny, and the sauce can make the whole dessert unbearably sweet.



The c

Your challenge is to make this tricky dessert. Your task is to m component to assemble perfect éclairs at the end o

Ingredients

(number of servings depends on the size of éclairs made)

Choux pastry:

- ❑ Water
- ❑ **Milk**
- ❑ **Butter**
- ❑ **Plain and/or strong flour**
- ❑ **Eggs**

Crème p e:

- ❑ Sugar
- ❑ **Flour**
- ❑ **Eggs**
- ❑ Vanilla pods
- ❑ **Milk**

Chocolate ganache:

- ❑ **Dark chocolate**
- ❑ **Double cream**

Proced

The model procedures for e given on the student's work

Exp nt with ingredients various results!

Questions to Think About

Discuss these questions with a partner or writ e your books.

1. Éclairs, like other sweets, should be eaten too often due to their high calo the ingredients and try to identify some positive health benefits of eating é
2. Éclairs are a cla characteristic of French cuisine. List other popul France (Section B: 5)
3. List thre er dishes that could use choux pastry. (Section B: 5)

Chocolate éclairs – Dont break a

Your Task

Divide into three groups – each group will have a different task. **Gr** pastry, **group 2** will make the cream / filling and **group 3** will make There is a basic recipe for chocolate éclairs provided, but in each methods, recipes or ideas.

At the end of the lesson, the components will be assembled togeth provide you with a basic recipe for chocolate éclairs, but don't be bit more! Maybe you will come up with a better combination?

Group 1 – the bakers

The basic recipe for choux pastry is given below. Divide into 2–3 subgroups an Will you add extra ingredients (e.g. another kind of flour, salt, milk, sugar) or cha mixer instead of a wooden spoon)? Or vary the size of the puffs?

Remember to note down all differences, as you will need to compare the outcon to complete this task.

Your recipe for delicious choux:

Ingredients (basic):

- ❑ 60g str[illegible] p[illegible]
- ❑ 150[illegible] r
- ❑ 50g b[illegible]
- ❑ 2 eggs

	PROCEDURE
	[illegible]our the water into a saucepan and a until the butter is melted
2	Tip the flour in and beat vigorously wi until the mixture comes out easily off t walls
3	Take off the heat and whisk in the egg
4	Pipe the mixture out onto a lined bak
5	Bake at 200°C until golden and firm t *the time will depend on the size of your puff

Ingredients:

- ❑
- ❑
- ❑
- ❑
- ❑
- ❑

Other important info

	PROCEDURE
1.	
2.	
3.	
4.	
5.	

Group 2 – the confectioners

Your task is to prepare various kinds of filling for the éclairs. Below you can find pâtissière. What other fillings can you make? Will you use different ingredients (flour), or vary the texture, colour or flavour (e.g. add cocoa or lemon zest)? How and tasty? Maybe you can think of a savoury filling? **Divide into 2–3 subgroups**

Remember to note down all differences, as you will need to compare the outcom to complete this task.

Ingredien asic):

- ❑ 125g caster sugar
- ❑ 50g plain flour
- ❑ 1 egg yolk
- ❑ 1 whole egg
- ❑ 500ml milk
- ❑ 1 vanilla pod

	PROCEDURE
1	Remove the seeds from the vanilla po saucepan together with milk, and brin
2	In a large bowl, combine together the sugar, and whisk until pale and cream
3	Sift the flour into the eggs and mix vig
4	Once the milk is boiling, pour it gently combine (quickly!)
5	Transfer the mixture into the saucepa five minutes, stirring constantly

Your recipe for a yummy filling:

Ingredients:

- ❑
- ❑
- ❑
- ❑
- ❑
- ❑
- ❑

Other important info

	PROCEDURE
1	
2	
3	
4	
5	
6	

Group 3 – the decorators

Your task is to prepare a delicious sauce to spread, sprinkle or pour over the éc… procedure for a basic chocolate ganache. Don't be afraid to experiment a little b… texture, viscosity, colour or flavour of the topping? Maybe you will make a savou… decoration method? Let your imagination be your guide! **Divide into 2–3 subgr…**

Remember to note down all differences, as you will n… …mpare the outcom… to complete this task.

Ingredien… …ic):	PROCEDURE	
❑ 100g … cocoa chocolate	1	Pour the cream into a saucepan and b…
❑ 100ml double cream	2	Crush the chocolate into a bowl
	3	Once the cream is boiling, pour it over… whisk until smooth

Your recipe for the best coating:

Ingredients:	PROCEDURE	
❑	1	
❑	2	
❑	3	
❑	4	
❑	5	
❑	6	
❑	7	
Other imp… …t info		

The combining and tasting!

Now it's time for all of you to cooperate. Assemble the different components m
labelling each one. Then prepare a tasting panel and work out which compone
time it is up to you to choose what kind of a tasting method you're going to use, c
judge the samples and how to set up the tasting panel.

Use the table below to describe the éclairs you manage[illegible]e in class. We have

	[illegible]	Filling
	3 inch x 1 inch puffs, 2 inch high, hollow	*Banana cream with cinnamon*
Sample 1		
Sample 2		
Sample 3		
Sample 4		
Sample 5		
Sample 6		
Sample 7		
Sample 8		
Sample 9		
Sample 10		
Sample 11		
Sample 12		
Sample 13		
Sample 14		

THE TASTING PANEL

Method: ..... Scale .....

Take the time to evaluate this challenge, noting down anything you learnt from it next time.

Tiramisu

Teacher's Guidance

What's covered in this session:

- ✓ creaming
- ✓ remedying kitchen f...
- ✓ baking ... and food proce...
- ✓ making ...yered dish

Learning

Students should be able to:

- ❑ modify recipes to obtain t...
- ❑ use their skills and knowle... given dish
- ❑ assess how temperature a... consistency/texture of a d...
- ❑ identify common mistake... remedy the situation in ea...

Safety Tips

! Make sure that students allergic to any food ingredient do not active... challenge (encourage them to measure times and write notes, if poss... session include **wheat**, **milk** and **eggs**.

! Remind students about the safety rules when handling high-risk foods ... them to prevent cross-contamination of foods.

! Ensure that students follow safety rules when handling hot foods and ...

Guidance for delivery:

- **Do NOT** give the challenge overview page to st... ...ight away. Instead, let ... ingredients from the pantry first, and ... ...d them the overview card. Th... so that they can obtain a good ... ...even if they don't have the ingredients s... get strong flour inste... ...our, or chose raspberry aroma instead of vanill...
- Prior to t... ...ss ... ...can ask students to bring some of the ingredients from h... to use ... their recipe.
- Chilling ... desserts overnight improves the texture and helps the biscuits soak u... cream – you can choose to cut the dessert earlier so that students can see how cl...
- Plan at least one hour to cook and one hour to complete the tasting panel. Mak... days (or at least on the first and last lesson the same day).
- Since the recipe calls for egg yolks only, consider using the egg whites to carry out anot...

What you will need:

Equipment:	In...
✓ ovens	Must-have ingredients:
✓ fridge	✓ **eggs**
✓ food processors, hand mixers, whisks	✓ caster sugar
✓ cling film	✓ vanilla extract
✓ baking paper	✓ salt
✓ large baking tins	✓ **plain flour**
✓ tins or dishes to assemble the ...	✓ **mascarpone chees...**
✓ large bowls	✓ coffee
✓ kitchen s...le	✓ cocoa powder
✓ meas... ...g	Additional ingredients:
✓ piping ...	✓ various food colour...
✓ sieves	✓ fresh or frozen frui...
✓ a timer to time students' 'shopping time'	✓ **different types of f...**
✓ shopping baskets or large carton boxes or trays	✓ different types of s...
	✓ other types of chee... cheese, ricotta)

Activity Answers

2. To speed up the process, you may also choose to use ready-to-use Savoiardi biscuit
Students may wish to experiment with different types of flour and sugar to obtain v

3. Short biscuits should, generally, bake faster, although this depends on oven setting

4. Students may choose to use different types of ch or cream, or even try to make
that – whichever they choose – it has the correct consistency (not too thick and not
the texture of the biscuits later

5. i) Some descriptive words could include thick, smooth, sweet, creamy, bland, swe

ii)
- Some cooks suggest to refrigerate / lightly freeze a curdled cheese and th
- Others suggest to heat it up until melted and then let cool and whisk ligh
- The efficacy of the method will depend on the ingredients used, their qua

6. Again, the method used will affect the texture/consistency of the final dish. If the c
enough to only sprinkle the biscuits lightly with coffee, while if the cream is very he
roll or dip them in coffee first.

Questions to Think About Answers

1. Egg whites can be used for the following (examples):
- A *meringue*, e.g. for Pavlova dessert
- Macaroons
- Egg white omelette
- To glaze bread, bagels or bread rolls
- To make frosting
- To replace gelatine in mous
- To make egg white f
- Any other s ple, for example

2. Some It eeses include:
- Mozzarella
- Ricotta
- Parmesan
- Gorgonzola
- Grana Padano
- Pecorino
- Taleggio

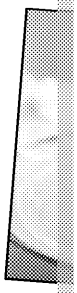
Some British cheeses include:
- Cheddar
- Red Leicester
- Double Gloucester
- Stilton
- Dorset blue
- Caerphilly
- Swaledale
- Cornish blue
- Dun he
- La
- Co
- Sage derby
- Wensleydale

3. That's because caster sugar has smaller crystals, which improve the texture, and ma

Tiramisu

The Challenge Overview

Tiramisu is an Italian dessert made of lo[illegible] biscuits and cream, sprinkled with cocoa or [illegible] shavings. And, although it may seem e[illegible] is one of the trickiest desserts out there! The bis[illegible] go soggy, the cream can curdle… and the whole [illegible] can come out more as a pudding than a cake!



Tira[illegible]

Your challenge is to make this tricky dessert by choosing the correct [illegible] obtain the best quality tiramisu in class.

Ingredients

Makes 8 servings

Ladyfingers:

- ❑ **4 eggs**
- ❑ 125g caster sugar
- ❑ 1 tsp vanilla extract
- ❑ 1/8 tsp salt
- ❑ **115g plain flour**

Cream:

- ❑ **500g [illegible]pe cheese**
- ❑ 150g c[illegible]ugar
- ❑ **6 egg yolks**
- ❑ 500ml strong coffee
- ❑ Powdered cocoa

Procedur[illegible]

For the ladyfingers:	
1	Preheat the oven to 190°
2	Beat the egg yolks with v[illegible] th[illegible]ar
[illegible]	[illegible] separate bowl, whisk [illegible] gradually adding salt and [illegible]
4	Combine the whisked egg[illegible]
5	Sift in the flour and gentl[illegible]
6	Pipe out on a baking tin a[illegible] minutes
For the cream:	
7	In a large bowl, whisk the [illegible] until pale and fluffy
8	Slowly add the cheese
To assemble the cakes:	
9	Dip the ladyfingers in coff[illegible] dish
10	Spread half of the cream [illegible]
11	Arrange another layer of [illegible]
12	Sprinkle the top with a th[illegible] n[illegible]r or chocolate shav[illegible]

Questions to think [illegible]

Discuss these [illegible]st[illegible] a partner or write notes in your books.

1. The re[illegible]s for egg yolks only. To prevent food waste, list at least five d[illegible] egg whi[illegible] (Section B: 3)
2. Mascarpone is a classic Italian cheese. List five other cheeses that originate [illegible] originate in Britain. (Section B: 5)
3. Why do recipes for baking usually call for caster sugar, and not for regular w[illegible]

Tiramisu – The balancing a

Your Task

As simple as it can seem, tiramisu can be very whimsical. This classic two layers of biscuit and cream topped with cocoa powder. The p assembling the ingredients as it can easily come out soggy and ho rather than a cake. Your task is to choose the ingredients and meth the cake does not... a cake. Remember – balance is key!

Divide into three groups – in each group you can divide again so th biscuit and the other subgroup makes the cream.

1. **Let's start by doing the shopping**. Grab a tray or a basket and run to the pa Remember, you only have five minutes… and can't go back!

   We prepared a little shopping list for you, but feel free to amend it or add a

The shopping list:

- ❑ 10 eggs

Sugar – choose from:
- ❑ caster
- ❑ icing
- ❑ brown
- ❑ white
- ❑ other……

Flour – choose from:
- ❑ plain
- ❑ all purpose
- ❑ strong
- ❑ self-raising
- ❑ other……

Powder choose fr
- ❑ milk
- ❑ 50%
- ❑ 70%
- ❑ othe

Cheese – choose from:
- ❑ 500g mascarpone cheese **OR**
- ❑ mascarpone cheese and double cream **OR**
- ❑ other type of cheese ……

Black coffee – choose fro
- ❑ ground
- ❑ instant
- ❑ decaf
- ❑ other flavouring ….

Other ingredients:
e.g. vanilla extract, fresh or frozen fruit, salt

2. **Once you're back to your worktop, prepare for step 1 of the procedures –**

   Ladyfingers, also known as Savoiardi biscuits, are sponge like, firm, sweet, lo crunchy crust.

   i) Your teacher will provide you with a procedure for making them. Do yo

   ii) If not, how will you solve the problem? Did you try to amend the textu fr r classmates? Or maybe you chose not to make the ladyfinger ins

   Use the space on the following page to describe and justify all your cho the basic recipe.

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3. i) **Once the pastry is done, you need to pipe it out**. Line a baking tin with pastry. Do you go for long stripes or rather short ladyfingers which might later on?

.....

.....

ii) Did that affect baking time? Was it shorter or longer than for others?

.....

.....

Set the ladyfingers aside to let cool – it's time to make the cream!

4. Once again, ask yourself if you have all the ingredients. If not, what are you going to borrow from somebody else? Or maybe you will make a different kind of cream?

Describe and justify all changes made to the basic recipe provided, as this may

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5. i) **Complete the spider diagram below to describe the consistency of yo**
creamy, runny? Or maybe it curdled? Use as many descriptive words a

ii) If the cream didn't come out well, is there a way to save it, or would yo
anew? If you're trying to remedy the situation, describe what you're d

.....

.....

.....

.....

6. **The bis and cream should be ready by now. It's time to assemble the**
(or not so perfect) tiramisu.

Originally, the biscuits should be covered with coffee. How do you do this?

- ❑ Soak them in a bowl of coffee
- ❑ Dip them for a short time in coffee
- ❑ Roll them lightly in coffee
- ❑ Arrange them in the dish and sprinkle or pour the coffee on top
- ❑ Other method: .....

7. Spread half of your cream on top, arrange another layer of biscuits and crea

8. What do you choose to coat the cake with? oc owder, instant coffee, s
chocolate shavings, something el

.....

.....

Once the cake is done, cover it with cling film and refrigerate overnight. You w
lesson.

9. During the last lesson you prepared tiramisu dessert. It is time to take it out your cooking choices worked out well… or not so well.

   Set up a taste panel. Use a 1 to 5 scale, where 1 stands for 'no/poor' and 5 s the marks to see whose cake scored the most.

	My tiramisu	Tiramisu 2
Overall texture is good – the cake doesn't fall apart when cut		
The moistness of ca good – to and r		
The cr is creamy and set, not runny, curdled or tough		
The biscuits are still a bit crunchy, not soaked or mushed, but not hard either		
Total:		

10. Whose cake scored the most? Compare preparation and cooking stages to d made this cake better than the others.

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.....

Take the time to evaluate this challenge, noting down anything you learnt from change next time.

Crème Caramel

Teacher's Guidance

What's covered in this session:

- ✓ caramelisation
- ✓ setting mixtures
- ✓ use of oven

Learning

Students should be able to:

- ❑ assess how the size of a dish affects the setting time for a dessert
- ❑ use skills and knowledge to

Safety Tips

! Make sure that students allergic to any food ingredient do not participate in the challenge (encourage them to measure times and write notes). Common allergens used in this session include **milk** and **eggs**.

! Remind students about the safety rules when handling high-risk foods and that they apply them to prevent cross-contamination of foods.

! Ensure that students follow safety rules when handling hot food.

Guidance for Delivery:

- Explain to students what a bain-marie is and what it is used for in cooking.
  - A bain-marie (also known as a water bath) is a method in which a large pan of water and placed in the oven, while another saucepan is placed upon it. This method is used to gently heat ingredients, such as chocolate, which could easily burn if heated directly. It is commonly used in the catering industry.
- Watch carefully while students prepare caramel, as the high heat may pose a risk.
- When planning this session, reserve one hour to cook and one hour to set up if they are on consecutive days.
- Give students access to the samples between lessons – they will need to check between.

What you will need:

Equipment:	Ingredients:
✓ saucepans or deep frying pans	✓ **eggs**
✓ cooker	✓ vanilla extract
✓ oven	✓ caster sugar
✓ deep baking dishes	✓ **whipping cream**
✓ fridge	✓ water
✓ small ramekins – one per person or all	
✓ whisk	
✓ butter or cooking oil (optional)	
✓ brush (optional)	

Activity Answers

1. It is worth considering greasing the sides of the ramekins with butter. This should h sticking to the sides, while the caramel will protect it from sticking to the bottom.

2. i) The ingredients needed to make caramel include sugar, and a small amount o (e.g. 60g of sugar and 20ml of water, or 75g of sugar and 25ml of water).

   ii) It is best not to stir caramel during cooking as it lowers the temperature and ca

   iii) It might be best to use medium heat as it helps to control the process. Low he sugar, and high heat will cause the sugar to burn very quickly.

3. Students should observe that the caramel cools and sets very quickly, forming a har with flan.

4. i) This helps to remove air bubbles from the flan, making its texture very creamy.

   ii) It uses whole eggs, while crème brûlée uses egg yolks only. Also, the baking ti (it's shorter for crème caramel). The recipe for crème caramel calls for the use brûlée it is optional.

   iii) There are various types of custard, which differ in texture and consistency (alt unchanged). These could include:
   - crème anglaise (light pouring custard sauce)
   - crème pâtissière (spreading cream used in cakes and desserts)
   - set custards, such as semifreddo

5. i) The flan should be lightly set on the surface, but may still be liquid in the centre

   ii) No changes should be observable yet.

   iii) The flan may already start to set – but the caramel at the bottom is still very thi

   iv) The caramel might be slightly softened enough to remove it comfortably from t

   v) The surface should the caramel is softened, creating an attractive pouring s

Questions to Think About Answers

1. Dextrinisation of starch – examples include: toasting bread, browning of crust when Maillard reaction (not strictly required by the specification) – examples include: baki coffee and cocoa beans, roasting cereals in beer production (the reaction takes plac will take place in all foods which contain the two, given that the temperature is high

2. Examples:

   Granulated white sugar – white, purified (refined) sugar with large crystals
   best for sweetening beverages and sprinkling on top of cereals

   Caster sugar – white, purified (refined) sugar with small crystals
   best for baking and creaming

   Icing sugar – white, purified (refined) sugar powdery (very fine); often mixed with s
   best for delicate desserts which require a smooth texture and to create icing

   Brown sugar – fine with added molasses
   best for making sauces and glazes

   Muscovado – dark brown, fine crystals, sticky and moist
   best in fudge, coffee and heavy desserts such as gingerbread

   Demerara – raw refined sugar, with large crystals
   best to sprinkle on top of cereals

Crème caramel

The Challenge Overview

Crème caramel is a classic Spanish upside down dessert made of set custard with caramel topping. The challenging part of this dessert relates to the caramel. How to make it properly? How to get it out of the dish and prevent it from turning rock hard? How to give it the perfect colour?

Your challenge is to make this tricky dessert. Can you prepare the caramel top and golden caramel colour, and manage to get it out of the dish in one piece without it falling apart?

Ingredients

Makes 6 small servings

Crème caramel:

- ❑ **2 eggs**
- ❑ ¼ tsp vanilla extract
- ❑ 15g caster sugar
- ❑ **300ml whipping cream**

Caramel:

- ❑ 75g caster sugar
- ❑ 25ml water

Procedure

For the caramel:	
1	Prepare six small ramekins
2	Pour the sugar into a frying pan gently heat and stir until dissolved
3	Increase the heat and boil until golden
4	Immediately pour into ramekins and coat bottom evenly
For the custard:	
5	Preheat the oven to 150°C
6	Whisk slightly the eggs with sugar in a large bowl
7	Heat the cream gently and add vanilla
8	Whisk the mixture until smooth and pass through a fine sieve to remove lumps
9	Pour onto the caramel in the ramekins
10	Place the ramekins in a deep tray and pour warm water into the tin, not the ramekins
11	Bake for 20 minutes, remove from oven and refrigerate overnight
12	Remove the pudding upside down

Questions to think about

Discuss these questions with a partner or write notes in your books.

1. Caramelisation is a chemical reaction which produces a dark brown colour. Name other chemical reactions produce a dark brown colouring. (Section C: 1)
2. List and describe at least five different types of sugar and suggest what they (Section C: 1)

Crème caramel – To wait or not to wait? That

Your Task

Your task is to make a crème caramel dess...

The first step is to prepare car...el ... it only contains two ingredie... out yourself what they ... are, how much to use! As it requires ver... hesitate to ask ... teacher for help.

The seco... step is to prepare the custard, and bake and chill the ... one more thing – make sure that your caramel comes out of the ra... done – you will need to put it upside down!

Work in pairs and see who made the best crème caramel!

1. **So, here it goes… Begin by preparing the ramekins**.

   i) How big are your ramekins? .....

   ii) Are you going to grease them?

   ❑ yes, whole ❑ yes, bottom only ❑ yes, sid...

   Remember to note whether it made the whol... ...ion easier… or not.

   .....

   .....

2. **Time to ... are the key component – caramel.**

   i) You already know only two ingredients are needed to make it… what ar...

   Ingredient 1: ..... amount: ...

   Ingredient 2: ..... amount: ...

   ii) When making the caramel, do you stir it?

   ❑ yes, constantly ❑ yes, from time to time ❑

   iii) How do you cook it?

   ❑ on a low heat ❑ on medium h... ❑ on high ...

   .....

   iv) How long d... ...you to make it golden brown (not burnt)? Time:

3. **Once t... ...mel is ready, carefully pour it into your ramekins**. Swirl them ... surface. Let cool. What do you observe?

   .....

   .....

You're halfway there! It's time to make the custard.

4. Follow the procedure to obtain the custard. Once done, pour into the rame around 20 minutes. In the meantime, try to answer the following questions

   i) Why does the recipe call for straining the mixture through a sieve?

   .....

   .....

   ii) How does the rec[illegible] crème caramel differ from that for crème brûl

   .....

   .....

   .....

   .....

   iii) What other kinds of custard do you know?

   .....

   .....

5. **Remove the baked crème caramel from the oven. You have six ramekins, so**

   The time plays a very important role in setting this d[illegible]t. Remove the pud what happened...

   i) straight after baking (1st ra[illegible])

   .....

   .....

   ii) 30 minutes later (2nd ramekin)

   .....

   .....

   iii) 1 hour later (3rd ramekin)

   .....

   .....

   iv) after 6 hours (4th ramekin)

   .....

   .....

   v) af[illegible]ours (5th ramekin)

   .....

   .....

6. **Use the 6th sample to prepare a simple tasting panel**. Compare your crème caramels made in class (you don't have to try them all, we know they are sw means 'not at all' and 5 means 'yes, perfect'.

	My crème caramel	Crème caramel 2	Crème caramel 3
The pudding is completely set			
The caramel dissolved com			
The pudding is creamy, not tough			
The pudding is not too sweet			
The pudding is not curdled			
The caramel created a puddle of sauce on the plate			
Total marks:			

7. Whose crème caram[illegible] out to be the best? .....

How d[illegible]oduction process differ from others? Did they use different tools

.....

.....

.....

.....

.....

.....

Take the time to evaluate this challenge, noting d[illegible]ything you learnt from change next time.

Chocolate Soufflé

Teacher's Guidance

What's covered in this session

- ✓ protein denaturation
- ✓ use of equipment
- ✓ use of the oven
- ✓ mechanical raising methods
- ✓ steam as a raising agent
- ✓ safety principles when dealing with high-risk foods

Learning

Students should be

- ❑ identify major
  explain how th
- ❑ correctly use s
  marie, oven) t

Safety Tips

- ! Make sure that students allergic to any food ingredient do not
  challenge (encourage them to measure times and write notes,
  used in this session include **milk** and **eggs**. Chocolate may also
  allergens, such as **peanuts** and **nuts**. Read the label carefully.
- ! Remind students about the safety rules when handling high-risk
  they apply them to prevent cross-contamination of foods.
- ! Ensure that students follow safety rules when handling hot food

Guidance for delivery:

- Prior to the lesson, rem ingredients from the fridge so that they are
- Pay special attention when dealing with hot ovens and ramekins.

What you will need:

Equipment:	Ingredients:
✓ 4cm high ramekins – at least four per group	✓ **dark chocolate (**
✓ brushes	✓ icing sugar
✓ cloths	✓ **eggs**
✓ large bowls	✓ **butter**
✓ saucepans	✓ caster sugar
✓ whisks, hand mixers or food processors	✓ cream of tartar
✓ ovens and cookers	*Other kinds of chocol*
✓ kitchen scale	*useful, especially if yo*
✓ ruler or measuring tape	*re than two groups*
✓ broad knife	
✓ spatulas	
✓ timer – students can use th their smartphones	

Activity Answers

1. Carefully following procedure 1 should ensure satisfying results.
   - Greasing the ramekins will prevent the soufflé from sticking and will help it rise
   - Preheating the oven will ensure that the soufflé is baked for the correct amou temperature.
   - Using a double boiler (bain-marie) will prevent the chocolate from frothing/bu
   - Beating the egg yolks with sugar will ensure a thick, creamy foaming and airy texture
   - Overbeating the egg whites can cause them to collapse and leak water (this is soufflé might turn out a bit rubbery – that's why it's important to only whisk it u
   - Gently folding the egg whites in supports the light, airy texture. Stirring them and beating them will knock the air out.
   - It is important that there are no air pockets or spaces left, as the air would exp soufflé to rise unevenly.
   - The surface must be levelled for the same reason.
   - Cleaning the edge will prevent the soufflé from sticking to it, and will enable p
   - It's best to place the soufflé at the bottom of the oven, where the temperatur Placing it on top may cause the top to crack and the centre to set too quickly.

2. The soufflés made using procedure 1 should be well-risen, with an even, level top. T ramekin's edge.

3. The soufflés made using procedure 1 should have a moist, light centre.

4. Procedure 1.

5. Mistakes are outlined above, see Q1.

6. This is because during baking the air inside the soufflé expands, causing it to rise. O the air 'shrinks' back, causing the mixture to collapse (more or less, depending on h denatured).

Questions to Think About Answers

1. Steam (physical).

2. Best before – unlike all other fresh foods.

3. Some of the food safety principles in this case include:
   - Checking the date mark on the eggs
   - Checking if the eggs are stamped with the Red Lion logo to ensure the hens w
   - Checking that the eggs are not broken or cracked
   - Washing the eggs in hot soapy water
   - Washing hands before and after handling the eggs
   - Cleaning all spillage immediately with hot soapy water

4. Examples may include:
   - soufflé
   - crème brûlée
   - meringue
   - bread pudding
   - za
   - ice
   - custard
   - eggnog
   - lemon curd
   - omelette
   - egg custard tarts

Chocolate soufflé

The Challenge Overview

Soufflé is a very light and airy dish made with a base of eggs, invented in the eighteenth century in France. Chocolate soufflé is considered one of the trickiest desserts, which doesn't forgive any mistakes and requires a lot of attention and patience. Wrong temperature, insufficient time of whisking, too much chocolate and boom! You end up with a sunken soufflé!

Your challenge is to make this tricky dessert. Can you prepare the hi top of the class? Get your ruler ready, get set

Ingredients

Each batch makes 3–4 small servings

Chocolate soufflé:

- ❑ dark chocolate
- ❑ icing sugar
- ❑ eggs
- ❑ butt
- ❑ caster sugar
- ❑ cream of tartar

Proced

The edures are given on heet. Each group will procedure to spot the mista they negatively affect the so

Questions to Think About

Discuss these questions with a partner or write notes in your books.

1. What is the main raising agent in a soufflé? (Section C: 1)
2. What kind of a date mark is used on eggs? (Section C: 3)
3. What are the food safety principles which have to be applied when dealing
4. List five other desserts which are based on eggs. (Se

Chocolate soufflé – Dont get

Your Task

Your task is to prepare a chocolate soufflé. This dessert is perceived as being very trick
myth has a lot of truth to it!

You will be divided into two groups, each one following a different procedure. At the
see why certain actions have to be taken to ensure the soufflé is fluffy and rises evenly
stage as this will help you to spot the mistakes sooner.

In this science experiment you will check how a dark chocolate soufflé acts during ba
kinds of chocolate, e.g. white or milk!

Make sure you're following the procedures below carefully!

1. In the fields provided, tick which procedure you are following.

   Write down your observations as you go, e.g. how long did it take you to whisk the egg whites, wh

Procedure 1 ❑	Procedure 2 ❑	
Take a tall ramekin (about 4cm high), grease evenly with butter and sprinkle with caster sugar	Take a tall ramekin (about 4cm high) Do not grease or line	
Preheat the oven to 180°C	Preheat the oven to 140°C	

Procedure 1 ❑	Procedure 2 ❑	Observations
Break 100g of chocolate into pieces, place in a bowl or a small saucepan together with 25g of butter and melt over a double boiler	Break 100g of chocolate into pieces, place in a bowl or a small saucepan together with 25g of butter and melt on a hob	
Beat two egg yolks with 50g of icing sugar until pale and fluffy	Lightly whisk [illegible] with 50g of icing [illegible]	
Pour the melted chocolate and butter into the egg yolks and whisk	Pour the melted chocolate and butter into the egg yolks and whisk	
Whisk three egg whites with a pinch of cream of tartar until **soft** peaks form	Whisk three egg whites until **stiff** peaks form	
Fold the egg whites gently into the chocolate mixture	Whisk the egg whites vigorously into the [illegible] mixture	
Pour the mixture into the ramekins until full, making sure there are no air pockets or spaces	Pour the mixture into the ramekins until full	
Level the surface of the mixture with a flat knife or spatula	Do not level the surface of the mixture, leave a small peak on one side	

Procedure 1 ❑	Procedure 2 ❑	Observations
Clean the edge of the ramekin with a cloth or your finger		
Bake for 10 minutes on the bottom shelf of the oven (not fan-assisted)	Bake for five [illegible] on the bottom shelf [illegible] (not fan-assisted)	
	Place the ramekins on the top shelf of the oven and bake for another five minutes	
Remove from the oven and compare the results	Remove from the oven and compare the results	

2. Once the soufflés are baked, measure them with a ruler to check how high t

   Attach a picture of both soufflés and label them with their height and the pr
   were made.

3. Now take the soufflés out of their dishes and cut them in half to compare th
   a picture or describe it below.

4. Which procedure was the c[illegible]

5. List all [illegible] mitted when using the incorrect procedure. Explain

   Mistake 1:.....

   .....

   .....

   Mistake 2:.....

   .....

   .....

   Mistake 3:.....

   .....

   .....

   Mistake 4:.....

   .....

   .....

Mistake 5:.....

.....

.....

Mistake 6:.....

.....

.....

Mistake 7:.....

.....

.....

Mistake 8:.....

.....

.....

Mistake 9:.....

.....

.....

Mistake 10:.....

.....

.....

6. **Bonus ...ion**

Try to e...n why ALL soufflés sink (more or less) after they have cooled do...

.....

.....

.....

.....

Take the time to evaluate this challenge, noting down anything you learnt fro... change next time.

Lava Cake

Teacher's Guidance

What's covered in this session:

- ✓ setting a mixture
- ✓ adjusti[illegible]
- ✓ handl[illegible]h-risk food products
- ✓ time management when cooking – preparation for the NEA

Learning

Students should be able to:

- ❑ adjust the cooking temp[illegible] desired results

Safety Tips

! Make sure that students allergic to any food ingredient do not [illegible] challenge (encourage them to measure times and write notes, [illegible] used in this session include **milk, wheat** and **eggs**. Chocolate m[illegible] other allergens, such as **peanuts** and **nuts**. Read the label care[illegible]

! Remind students about the safety rules when handling high-risk [illegible] they apply them to prevent cross-contamination of foods.

! Ensure that students follow safety rules wher[illegible]ndling hot food[illegible]

Guidance for Delivery

- For gr[illegible]si[illegible]g the microwave) – the ramekins should be baked one afte[illegible] might b[illegible]cult to fit them all at once into the microwave oven; however, [illegible] adjust the timing to obtain the desired result when cooking

What you will need:

Equipment:	I[illegible]
✓ oven	✓ **dark chocolate o**[illegible]
✓ cooker	✓ **unsalted butter**
✓ saucepans	✓ **eggs**
✓ large bowls	✓ caster sugar
✓ ramekins in three different sizes	✓ **plain flour**
✓ microwave	✓ vanilla extract
✓ brush	*Optionally: fresh seas*[illegible]
✓ fine sieve	
✓ whisks, hand mixers [illegible]d p[illegible]ocessor	
✓ kitchen s[illegible]le	
✓ timer[illegible]en[illegible] can use the timers in their smart[illegible]s	
✓ knives	

Activity Answers

Group 1
Since the ramekins used are very small, the cooking time should be accordingly shorter – that time the dessert will be fully baked/set – and couldn't be called a lava cake any more delicious chocolate cupcake!).

Group 2
The time of cooking should be around 8–9 minutes.

Group 3
The time of cooking should be around 10–11 minutes.
Remember that ramekins removed from the oven are very hot and continue to cook their contents even after removing them from the oven even if they look still raw.

Group 4
The time of cooking will depend on the power of the microwave. Usually 2–3 minutes are enough.

Conclusions
1. The smaller the dish, the shorter the cooking time. Also, as the ramekin gets hot, it continues to cook after it has been removed from the oven, so it may be necessary to take the cake out when it is still slightly uncooked.

2. i) Fruit coulis is a type of smooth, strained fruit sauce.

   ii) To prepare a coulis one might need a blender, and a fine sieve/strainer to remove pips (from strawberries and raspberries) and pieces of skin.

   iii) Benefits of adding a fruit coulis:
   - The fruit coulis improves the flavour of the dessert,
   - adds colour and improves appearance, making the dessert more appetising
   - and improves the nutritional value by providing vitamins and minerals (depending on the fruit).

Questions to Think About Answers

1. Although lava cake is technically an under-baked cake, it can be considered safe as long as the middle reaches at least 75°C. However, we suggest not to try to eat the uncooked batter (those which were baked for too short of a time) due to a small risk of food poisoning. Ask them to check the temperature inside the under-baked cakes and assess whether they consider them safe to eat.

2. The main steps in production of flour include:
   - Harvesting the grains and transporting them to the mill
   - Purification, e.g. rinsing out and sieving out dirt, stones, sticks and other
   - Washing in warm water and drying to soften the grains
   - Tempering – to adjust the moistness of the grains
   - Grinding
   - Separating into farina, semolina and so called 'middlings'
   - Processing, e.g. bleaching, fortifying, adding improving agents, packing into bags

3. Examples:

	Dry cocoa solids	C
White chocolate	-	A
Milk chocolate	At least 25%	-
Plain chocolate	At least 35%	A
Dark chocolate	From 50% up	-

4. Butter (from milk), eggs, gluten (from flour), wheat (from flour) are allergens which must be on the label.

Lava Cake

The Challenge Overview

This dessert should welcome you with a warm flow... flowing out of it when cut... But making the l... w isn't that easy! From the size of the dish, to th... ...perature and the cooking time – everything ma... ...your dessert to be a fail!

Will ...

Your challenge is to make this tricky dessert. Can you adjust the cook... up with a cake with a liquid centre?

Ingredients

Makes 4 large servings

Lava cake:

- ❑ 135g dark chocolate
- ❑ 65g unsalted butter
- ❑ 2 eggs
- ❑ 45g caster sugar
- ❑ 25g plain flour
- ❑ 1 tsp vanilla ext...

You c... pr...pare a fruit coulis to serve w...is dessert.

Note: Allergens have not been bolded in this ingredients list, due to Q4 below. See answers for allergens.

Proce...

1	Preheat the oven to 2...
2	Grease ramekins with ...
3	Break up the chocola... with butter in a doub...
4	...at the eggs with su... until pale and fluffy
5	Add the chocolate an... eggs and whisk until s...
6	Sift the flour into the ...
7	Pour the batter into t... full
8	Bake on the middle sh...
9	Remove the cakes ge... placing them upside d...

Questions to Think About

Discuss these questions with a partner or write notes in your books.

1. Can lava cake be considered high-risk food? (Section C: 3)
2. A lot of dessert recipes call for the use of flour. Outline how flour is made.
3. Chocolate is available in many varieties. Investigate ...abels of various typ... white, dark) to see how much cocoa butter a... ...solids is used to make ...
4. List allergens present in lava cake ... mandatory or non-mandatory p... on a food label? (Section C: ...

Lava cake – Show me a good

Your Task

Divide into four groups. Each group will experiment with a different and cooking method. Your task is to adjust them so that you obtain a liquid centre and soft sponge around. You can prepare one large batter to make sure the ingredients do not affect the texture. Follow completely the scientific experiment!

Make sure you compare your outcomes with those of your classmates done, and answer the question: how do you adjust the cooking time for the dish used?

Group 1

1. **Your group will use 100ml ramekins. Prepare at least six of them to make sure at each stage**. Remove one ramekin from the oven after 2, 4, 6, 8, 10 and 12 minute or two until cooled and take out of the ramekin. Cut in half to see w

2. Fill in the table below to describe the texture after different baking times.

Baking time	Texture
2 minutes	
4 m	
6 minutes	
8 minutes	
10 minutes	
12	

3. What is the perfect time to bake a lava cake in 100ml ramekins? .....

Group 2

1. **Your group will use 150ml ramekins. Prepare at least six of them to make s at each stage**. Remove one ramekin from the oven after 4, 6, 8, 10, 12 and 1 minute or two until cooled and take out of the ramekin. Cut in half to see w

2. Fill in the table below to describe the texture after differ nt baking times.

Baking time	Texture
4 minutes	
6 minutes	
8 minutes	
10 minutes	
12 minutes	
14 m	

3. What is the perfect time to bake a lava cake in 150ml ramekins?.....

Group 3

1. **Your group will use 200ml ramekins. Prepare at least six of them to make s at each stage**. Remove one ramekin from the oven after 6, 8, 10, 12, 14 and 1 minute or two until cooled and take out of the ramekin. Cut in half to see w

2. Fill in the table below to describe the texture after differ nt baking times.

Baking time	Texture
6 minutes	
8 minutes	
10 minutes	
12 minutes	
14 minutes	
16 m	

3. What is the perfect time to bake a lava cake in 200ml ramekins?.....

Group 4

1. **Your group will use 150ml ramekins but will bake the dessert in a microwa**
   Prepare at least six ramekins to make sure you can check the texture at each
   from the microwave after 1, 2, 3, 4, 5 and 6 minutes, wait a minute or until c
   ramekin. Cut in half to see what's inside! Make sure the microwave is set o

2. Fill in the table below to describe the texture at different microwaving tim

Microwaving time	Texture
te	
2 minutes	
3 minutes	
4 minutes	
tes	
6 minutes	

3. i) What is the power of the microwave?.....

   ii) Is a microwave a good way of making a lava .....

   iii) If so, what is the perfect time t a lava cake in 150ml ramekins in

Conclusions

1. How should you adjust the cooking time accordingly to the size of the dish u

.....

.....

2. In the overview we mention that you can pre[illegible] a fruit coulis to serve with

i) What is a fruit coulis?

.....

.....

ii) What equipment/tools do you need to prepare it? Draw or list them be

iii) W[illegible] t[illegible] benefits of adding a fruit coulis to a chocolate dessert suc

.....

.....

.....

.....

.....

Take the time to evaluate this challenge, noting down anything you learnt from change next time.

Napoleons

Teacher's Guidance

What's covered in this session:

- ✓ blind baking
- ✓ use of the oven
- ✓ adjusti[ng] ext[ure]
- ✓ maki[ng] [pas]try
- ✓ raising methods – preventing rising by the use of weights, piercing the pastry with a fork, or weighing the pastry down with another baking tin (to brown the top)

Learn

Students should b

- ❑ use skills and desired resul raising)
- ❑ prepare a sim pastry

Safety Tips

- ! Make sure that students allergic to any food ingredient do not c challenge (encourage them to measure times and write notes, used in this session include **milk** and **wheat**.
- ! Remind students about the safety rules when handling high-risk they apply them to prevent cross-contamination of foods.
- ! Ensure that students follow safety rules when h[a]ndling hot food

Guidance for Delivery:

- Consider [u]sing ready-to-use puff pastry to save time.
- When planning this session, reserve two hours to prepare the puff pastry and (assembly) the cake.

What you will need:

Equipment:	I
✓ flat metal baking tins	✓ **butter**
✓ ovens	✓ **plain flour**
✓ baking paper, cling film, aluminium foil for students to choose from	✓ water
✓ baking weights, dried beans, lentils, rice, penny coins or other potential weights for students to choose from	✓ salt
✓ ready-to-use puff pastry (if used)	✓ **whipping cream**
✓ whisks, hand mixers or food pro[cessor]	✓ icing sugar
✓ spatulas	✓ vanilla pod (or va
✓ large bowls	✓ orange zest
✓ rollin[g pin]	✓ cocoa powder
✓ zester	

Activity Answers

2.
- Flaky pastry rises thanks to butter, which melts and produces steam.
- During baking the steam expands and causes the layers of pastry above it to ri
- Flaky pastry uses mechanical raising methods (folding, rubbing-in) and steam.

3.
- This can be done, for example, by covering the raw [illegible] with baking paper a on top.
- They will allow it to rise very gentl[illegible]ay flat, while not making it soggy.
- Some cooks also place an[illegible]g tin on top of the pastry to prevent it fro the tin will heat [illegible] the pastry from the top.
- Re[illegible]er [illegible]g too many baking beans / weights can prevent the pastry ar[illegible].

6. i) This depends on the quality of the cream prepared, and on the quality of the f knife or a spatula to spread the cream, and use only light touches to spread it a
   ii) The cake may fall over if the pastry is uneven or if the cream is unevenly sprea cream is too wet/runny.
   iii) Students should identify methods different to those used during this session, w accurate/efficient when making this kind of a layered dessert.

Questions to Think About Answers

1. Shortening

2. Usually the fat content of cream is as follows:
   - single cream usually has 18% fat (**not** suitable for [illegible])
   - whipping cream 36% (suitable for whipping)
   - double cream 48% (suitable for [illegible])
   - soured cream from 12% to [illegible] (not suitable for whipping)
   - crème fraiche [illegible] (suitable for whipping)

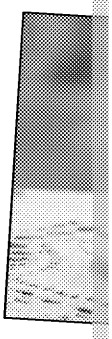
   Low-fa[illegible]es [illegible] not suitable for whipping, unless a stabiliser is added to them.

3. The dessert originated in Naples (Italy) where it is called *millefoglie* (from French *mi*

Napoleons

The Challenge Overview

A Napoleon is a type of cake traditionally consisting of three layers of puff pastry and two layers of cream, topped with icing sugar. In most desserts it is all about making them rise. This dessert has a different challenge – we want to prevent it from rising [illegible] the whole construction would be really difficult to handle). Perfectly flat sheets of flaky pastry are key for making good napoleons.



How

Your challenge is to make this tricky dessert. You will discover how from rising, and to keep the whole dessert flat a

Ingredients

Makes 8 servings

Flaky pastry:

- ❑ **75g butter**
- ❑ **110g plain flour**
- ❑ 3 tbsp cold water
- ❑ Pinch of salt

Cream:

- ❑ **300 ml whipping cream**
- ❑ 2 tbsp sugar
- ❑ 1 vanilla pod
- ❑ Orange zest

Icing:

- ❑ 100g icing sugar
- ❑ Warm water
- ❑ 1 tsp cocoa powder

Procedure

For the flaky pastry:	
1	Sift the flour and salt into a
2	Grate the cold butter into th spoon to coat all butter with
3	Pour ice water on the mixtu with a spoon
4	Finish kneading the pastry w in cling film and refrigerate
5	Take out of the fridge, roll f rectangular sheets
6	Blind bake until golden
For the cream:	
7	Whip the cream until fluffy
8	At the end add sugar, vanilla the pods and some orange z
For the icing:	
9	Mix the icing sugar with wat double cream)
10	Divide between two bowls a them, stir until smooth
11	Coat the cake with white ici the cocoa icing

Questions to think about

Discuss these questions with a partner or write notes in your books.

1. What is the name of the chemical process used to make a pastry crumbly?
2. Some recipes call for double cream, some for whipping or single cream. What is of cream? Which of them are suitable for whipping? (Section C: 1)
3. What is the other name for Napoleons and where does this dessert come fr

Napoleons – Dont get mad, get

Your Task

A traditional Napoleon cake is made of [illegible] layers of puff pastry [illegible] between, coated with icing and [illegible]-like patterns. It is similar to [illegible] the cream is substituted with [illegible]gipane – like almond – based n[illegible] made flaky pastry [illegible] ready-to-use one.

Your tas[illegible] prevent the cake from rising so that the layers of the [illegible] and easy [illegible]ssemble with the cream. Divide into four groups to s[illegible] efficient!

1. Begin by indicating what pastry you are going to use.

   - ❑ Hand-made (you can make it in class or prepare it at home and bring it [illegible]
   - ❑ Bought-in (ready-to-use pastry)

   Indicate what raising agents and methods are used in a puff pastry:

   .....

   .....

2. Ok, so you want to make your pastry as flat as possible – but still light and fl[illegible]

   i) Use this opportunity to experiment with [illegible] methods of doing it. D[illegible] making the pastry so that it ba[illegible] layers and rises less? Or maybe y[illegible] temperature? Descri[illegible] how you are going to prevent your pastry from [illegible]

   .....

   .....

   ii) Sometimes chefs use special techniques for blind baking, such as using b[illegible] you use to weigh down your puff pastry (and yet allow the layers to for[illegible]

   .....

   .....

   iii) How much of that substance/item are you going to use? Weigh it using[illegible]

   .....

   iv) Are you going to cover your pastry for th[illegible] baking? If yes, what [illegible]

   .....

   .....

   iv) Ho[illegible] did it take you to bake your pastry?

   .....

As a test, you can bake one sheet of pastry without any weights to see how it act[illegible] as a control sample during the taste test.

4. Once your pastry is baked, compare it with those made by your cl mates.

	Group 1	Group 2	Group
For blin w used... *(e g of baking weights)*			
The height of the baked pastry is... *(e.g. 5mm)*			
The pastry is... *(e.g. moist, soggy, sticky, crumbly, even, uneven, bumpy, golden brown, pale, burnt)*			

5. Let the pastry cool down before assembling it with the cream and coating w

6. Once the pastry is cooled, place it on a tray or board and assemble in order – pastry – icing.

   i) How did you find the experience? Was it easy to spread the cream on t

   .....

   .....

   .....

   .....

   ii) Is the pastry stable, e.g. does it fall over to one side after assembling w

   .....

   .....

   .....

   .....

   ii) Can you think of other methods of preventing the cake from rising that

   .....

   .....

   .....

   .....

Take the t evaluate this challenge, noting down anything you learnt from change next time.

Baked Alaska

Teacher's Guidance

What's covered in this session

- ✓ protein denaturation wh[en] ma[king] a meringue
- ✓ creaming and aer[ation] w[hen] making a sponge cake
- ✓ deali[ng] h[igh]-risk food products (eggs, ice cream)
- ✓ timing [to] pare for the NEA exams

Lear

Students shou[ld]

- ❑ control t[he] tempera[ture] results
- ❑ plan and [carry out] preparat[ion]

Safety Tips

! Make sure that students allergic to any food ingredient do not [undertake] challenge (encourage them to measure times and write notes, [etc.]) used in this session include **milk** and **wheat** and **eggs**.

! Remind students about the safety rules when handling high-risk [foods] they apply them to prevent cross-contamination of foods.

! Ensure that students follow safety rules when handling hot food[s]

Guidance for Delivery:

- We advise you to [complete] the Ice Cream challenge prior to this one, so tha[t] cream[s]

What you will need:

Equipment:	I[ngredients]
✓ large bowls to prepare chocolate sponge base	✓ **eggs**
✓ large bowls to prepare meringues – allow glass, plastic and metal bowls for students to choose from	✓ caster sugar
✓ whisks, mixers or food processors	✓ vanilla pod (or va[nilla])
✓ round metal baking tins	✓ **butter**
✓ blowtorch (in case someone feels adventurous)	✓ **self-raising flour**
✓ fine sieves	✓ cocoa powder
✓ kitchen scale	✓ **ice creams** (boug[ht] separate challeng[e])
✓ oven	
✓ timer (ideally one for each [group] so students can use the timers in thei[r] [phones])	

Activity Answers

1. Turning the temperature up might result in the surface of the cake cooking before t
cake starts rising, the top will crack.

3. Usually sieving the flour once is enough. Not sieving it at all can cause lumps to for

5. It is best to let the cake cool in the tin – the proce ll e more gentle, and the ca

6. It is best to use a glass or metal b . as ic bowls are often difficult to clean and t
whisking the egg whites

7. Additic c accelerate denaturation of protein, causing the eggs to whisk s

8. It might be best to add sugar a spoonful at a time, but this depends whether you're u

9. The cake must be assembled pretty quickly to prevent the ice cream from melting a

10. Although the recipe includes baking the cake, some may choose to blowtorch it to c

Questions to Think About Answers

1.
- Baking to make the cake
- Boiling and simmering to make the ice cream
- Baking to bake the assembled cake

2.
- The eggs are rich in protein
- When eggs are whisked, the protein in them unfolds and stretches out (denatu
- During whisking, the air bubbles a tr ped between the fibres of prote
- These processes cause the ega come fluffy, and light in colour

3. The dish no appropriate to:
- Ve ho do not eat eggs/milk
- Lac egetarians who do not eat eggs
- Ovo-vegetarians who do not eat milk.
- Individuals who are allergic to egg protein or milk
- Lactose-intolerant people
- Individuals who are allergic to wheat
- Gluten-intolerant people (coeliacs)

4.
- Enriched cage production is the most cost-efficient method of egg production small cages at all times. These eggs are labelled with number 3.
- In barn production, hens are allowed to roam freely inside the barn. They are are often fed artificial/enhanced/fortified feed to improve the quality of the e number 2.
- Free range eggs guarantee that the hens are kept in h e conditions (animal have access to natural sunlight and are allow ro outside the barn during number 1.
- In organic production, the s ts for free range production have to be fed organic feed, a given any artificial substances (e.g. GM feed c labell wi o.

Baked Alaska

The Challenge Overview

Chocolate cake base topped with ice cream that is covered in meringue and baked. But won't the ice cream melt, I hear you call? And how does the meringue not burn? Well, the challenge is over to you!

Not a

Your challenge is to make this tricky dessert. Timing will be key challenge?

Ingredients

Makes 12 servings

Ice cream (bought or made from scratch – see separate challenge)

Meringue:

- ❑ **3 free range egg whites**
- ❑ 175g caster sugar
- ❑ 1 vanilla pod

Chocol… e.

- ❑ **125… utter**
- ❑ 125g caster sugar
- ❑ **2 medium free range eggs**
- ❑ **115g self-raising flour**
- ❑ 10g cocoa powder

Procedur…

For the sponge:	
1	Preheat the oven to 180°C
2	In a food processor, cream … until pale and fluffy
3	Beat the eggs in
4	…e the flour and coco…
5	…r the mixture into a gre…
6	Bake for 30 minutes until a… comes out clean
7	Cool down on a wire rack
For the meringue:	
8	In a clean bowl, whisk the e…
9	Whisk in the sugar and van… from the vanilla pod
Assemble the cake:	
10	Preheat the oven to 200°C
11	Place scoops of ice cream o… pyramid shape, leaving a 1.…
12	Spoon the whisked egg whi… making sure there are no g…
13	Use a spoon or a skewer to … patterns on the meringue
14	Bak… Alaska for 10 minu… …r… n all over

Questions to Think About

Discuss these questi… …a partner or write notes in your books.

1. What … …hods are being used when preparing the different parts o…
2. Explain … …ientific principles being applied to the eggs when whisking the…
3. Who may this dish be unsuitable for? (Section B: 6, Section A: 1)
4. Describe the different types of egg production. (Section A: 11)

Baked Alaska – Time is of the esse

Your Task

Time is of the essence in this one... You sho[illegible] to teams of thr[illegible] compete against others in the class to m[illegible]e the best baked Alaska[illegible] However, you will need to m[illegible] choices on the way. Be sure to th[illegible] you could end up in a[illegible] other. Do you sacrifice quality to b[illegible] long it take[illegible] and your teacher will mark you for quality[illegible]

1. **Preheating the oven!** Adjusting the temperature can speed up the process, [illegible] the temperature the same as in the procedures or turn it up by 5–10 degree[illegible]

   Your Choice: The same temperature ❑ Turn it up

   Justify your choice.

   .....

   .....

   Make sure you record the outcome of this later when the cake is done.

   .....

2. It's time to make the sponge. Cream the butt[illegible]r, and then beat th[illegible]

3. **Sieving your flour...** It's i[illegible]rtan[illegible] aeration and the more times it's sieve[illegible] How many times w[illegible] sieve your flour?

   Your C[illegible] Not at all (straight out of the pack) ❑ Once

   How has your choice made your folding of the mixture easier/harder? Would [illegible]

   .....

   .....

4. Pour the cake into a round baking tin and bake.

5. **Cake is cooked... get it out of there.** Do you wait for it to cool in the tin or r[illegible]

   Your Choice: Got it straight out of the tin ❑ Lef[illegible]

   Is it in one piece? Evaluate your choice. Would yo[illegible]ge your decision n[illegible]

6. **On to the meringue.** What bowl? [illegible]between glass, metal and plastic[illegible]

   Your Choice: Gl[illegible] Metal ❑

   How c[illegible]is [illegible]oice impact on the quality of your meringue?

   .....

   .....

7. Some say to add a pinch of salt when whisking your eggs as it may shorten t
the texture of meringue. It's not mandatory, but will you try this?

Your Choice: Pinch of salt added ❑ Pinch of salt not a

What effect does this have? Can you name the process it speeds up?

.....

.....

8. **Add your sugar.** B[illegible]ickly? Decide how you will add your sugar: pou
anothe[illegible]?

Your Ch[illegible] .....

Would you change this decision next time?

.....

9. **Time to assemble!** This is it, time to put all the components together. Do y
neat or do you get it together quickly?

Your Choice: Quickly ❑ Take my time (neatly a

Right or wrong choice? Evaluate your decision.

.....

.....

10. **Bake that Alaska!** Bake in the oven o[illegible]vt[illegible]n? And for how long? A nic
will your ice cream come out [illegible]?

Evaluate your tip[illegible]s for baking...

.....

.....

.....

Your time for completion: **Your score for your des**

Take the time to evaluate this challenge, noting down anything you learnt from
change next time.