

Year 9 FOOD SCIENCE TOPIC (ingredients list 1) remember a NAMED container to take your cooking home in!

Most recipes can be adapted to suit your families tastes and ingredients you might already have at home.

Ingredients marked* are available from school, if needed.

Practical 1- Swiss Roll.

3 large eggs
75g caster sugar
75g plain flour
1tsp vanilla
2 tbsps jam (or similar) for filling



Practical 2- raising agents investigation: no ingredients needed

Practical 5 – Bolognese ('Ragu')

450g (approx) beef mince or vegetarian alternative e.g. lentils, peppers, mushrooms or other vegetables or quorn mince .
1 medium onion
1 -2 cloves garlic (optional)
300 – 450g tomato passata or tinned tomatoes
1 tbsp tomato puree
Beef or vegetable stock cube



Practical 3 – Easy bread rolls.

125g strong flour
¼ tsp salt*
3.5g pack fast action dried yeast*
½ tsp sugar*
90ml warm water (at school!!)



Practical 4 –Mac 'n' cheese

300g pasta shapes
30g plain flour
30g butter
600ml semi-skimmed milk
125g strong reduced fat cheddar,
¼ tsp salt & pepper*
(1/2 tsp dried mustard powder-optional)*
2 slices chopped ham (optional)



Practical 6 – Chocolate ganache tart (need small tart or cake tin -7")

200g plain flour + ½ tsp sugar & ¼ tsp salt (all in together)
100g butter or margarine
(alternatively use 200g ready-made shortcrust pastry)
150g dark chocolate
100ml double cream



Practical 7 - Filo Triangle Savoury filling (Greek Tiropitakia) :

1 packet of filo pastry (4 -6 sheets)

85g feta (Greek 'salad') cheese, crumbled
25g Gouda + 25g Parmesan (or use 50g strong Cheddar) cheese,
1 small/medium egg
Flavourings (optional) fresh mint or dill, chopped or ½ tsp dried herbs or chilli, 1 finely sliced spring onion
olive oil or melted butter
freshly ground pepper

OR



Practical 7 - Filo Triangle sweet filling:

1 packet of filo pastry (4-6 sheets)

40g sunflower margarine or olive oil
1 eating apple, or pear
50g sultanas (or use 2 apples)
25g brown or caster sugar
½ tsp cinnamon*
½ tsp ground ginger* (both available from school)

Practical 8 - Scotch Eggs

- 3 hard boiled eggs (peeled)
- 1 fresh egg
- 50g plain flour
- 150g fresh breadcrumbs
- 300g sausage meat



or

Practical 8 - Vegetarian Peppers:

- 4 – 6 small pointed peppers or 1 -2 round peppers
- 250g soft cream cheese (can be flavoured e.g. with garlic & herbs or add own herbs / spices)
- 2 fresh eggs
- 150g fresh breadcrumbs



9. STICKY TOFFEE PUDDING CAKE INGREDIENTS:

- 60 grams dark brown soft (muscovado) sugar
- 115 grams self-raising flour
- 83 millilitres milk
- 1 egg
- 1 teaspoon vanilla
- 33 grams unsalted butter
- 133 grams chopped dates

FOR THE SAUCE:

- 133 grams soft brown sugar
- 20 grams unsalted butter (in little blobs)
- 330 millilitres boiling water (at school!)

You will also need a 1- 1 ½ litre ovenproof pudding dish or cake tin (MUST NOT have removable base!)



Practical 10 - Burgers (can use own choice of meat, flavourings etc)

- 400g (approx) lean mince
- 1 small onion
- 2 tbsps fresh breadcrumbs (available from school)
- *1tsp herbs / 1 tbsp tomato puree / ½ tbsp crumbled stock cube or other flavourings
- *1 tbsp tomato puree



or

Practical 10 - (Spiced) vegetarian burgers (can ½ ingredients)

- 1 onion
- 2 carrots
- *1 tsp harissa or korma or sundried tomato paste
- 400g can cannellini beans
- 400g red kidney beans
- 3 tbsp chopped fresh mint or coriander
- *100g fresh wholemeal breadcrumbs



Chocolate Brownies: Cake tin needed: large flapjack tin

- 140g margarine,
- 190g caster sugar
- 2 large eggs
- 37g cocoa powder + 50g self-raising flour
- 50g plain chocolate chips



*** Ingredients available from school if needed**

Year 9 FOOD SCIENCE TOPIC (ingredients list 2) remember a NAMED container to take your cooking home in!

	Method for Swiss Roll	QC
1.	Preheat oven. 200°C / 180°C	Check oven temperature is correct
2.	LINE Swiss roll tin.	(20 x 30 cm tin)
4.	Break eggs into glass mixing bowl & WHISK with electric mixer until just broken up. Add sugar to bowl, stand it on a saucepan of hot water (from tap) & WHISK for about 8 – 10 minutes until the mixture is much paler in colour and is thick & creamy. Add ½ tsp vanilla essence. Take bowl off saucepan	Make sure glass bowl is spotlessly clean (& dry) before you start. It is whisked enough when it reaches ‘Ribbon stage’- when you lift your whisk out of the bowl, you can write your initials in the bowl with the ribbon-trail of mixture that falls off the whisk .
5.	Sift the flour onto the foamy egg mixture. With the edge of the large metal spoon, or a thin spatula, GENTLY fold the mixture until you can’t see any streaks of flour.	Use edge of a metal spoon (or silicone spatula).
6.	Carefully scrape the delicate mixture into the prepared tin and gently spread it into the corners.	Tip it along the tin as you go so you don’t have to spread it too much.
7.	BAKE for 9 – 10 minutes in pre-heated oven, until just firm and golden brown.	Touch gently with finger tips in centre of cake, to see if it is cooked (do not ‘stick’ a knife in!) Do not overcook.
8.	When cooked tip onto baking paper with sugar sprinkled it & lift off baking paper. Trim edges with a <u>large sharp knife</u> and make a shallow cut along one short end of the sponge, about 2cm in from the edge.	Have a piece of paper slightly larger than the Swiss Roll tin, ready sprinkled with sugar (I WILL SPRINKLE THE SUGAR ON IT!)
10.	Carefully spread a thin layer of warmed jam over cake, using a <u>pallet knife</u> . Starting from the end with the cut, gently roll up the warm sponge, using the paper to help	SPREAD JAM EVENLY. (If using butter cream or cream as a filling you MUST wait until the sponge is completely cold or it will melt!)
11.	Cool on a wire rack. WASH UP and CLEAR AWAY.	Use HOT, SOAPY WATER & get it checked!

Raising Agent investigation:

Each group needs 60g of the following in a mixing bowl:

- Margarine, Caster sugar, Flour + raising agent as below
- 1 egg
- 6 paper cases & baking tray.

Raising agent used:

1. **None: plain flour**
2. **Self raising flour**
3. **Plain flour $\frac{1}{2}$ tsp Bicarbonate of soda**
4. **Plain flour $\frac{1}{2}$ tsp Baking powder**
5. **Plain flour $\frac{1}{2}$ tsp cream of tartar**

Investigation into chemical raising agents- 5 groups

Each group needs to weigh their ingredients as below and add the raising agent for their sample (Oven is pre-heated to 190°C).



1. Add 1 egg to the flour/sugar/margarine in your bowl
2. **Cream for 30 seconds using an electric mixer, then scrape round the edge of the bowl with a spatula to get all the mixture in the middle and whisk again for another 30 seconds.**
3. **CAREFULLY** divide the mixture equally into **6 Paper Cases – use spoons and DON'T spill it round the edges!**. (Use a **spatula** to make sure you get **ALL** the cake mixture from the mixing bowl)
4. **Place** cakes in the oven for **15 - 18 mins.** until golden brown and spring back when touched.
5. **Cut one sample in ½** (for class observation) and remainder into small tasting samples for whole group.

Homework: Remember to complete your Investigation sheet in your book & hand in at next theory lesson

Raising agent used:

1. **None: plain flour**
2. **Self raising flour**
3. **Plain flour ½ tsp Bicarbonate of soda**
4. **Plain flour ½ tsp Baking powder**
5. **Plain flour ½ tsp cream of tartar**

Investigation into the use of different raising agents.

1. While the cakes are baking, write down what you think the results will be (use your knowledge of how raising agents work) – this is your *hypothesis*: _____

2. When the cake is cooked (risen, golden brown & springs back when touched), remove from tin & place on cooling rack.
3. Cool for 3 minutes then: Leave 1 sample whole and cut the remaining into small pieces for sensory testing by the whole group.
4. Complete the chart below giving each type of cake a score /5 for the characteristics given.
5. Work out a total score and the rank order for the samples

Table of results:

Raising agent used	Taste /5	Texture /5	Appearance /5	Total score /15	Rank order
1-None (control) plain flour					
2- Self raising flour					
3					
4					
5					

Make sure you fill in your testing scores next to the correct sample!



What I found out from this investigation

1. Which sample was the most successful (**and why**) to use when making shortbread? *Justify* your answers by using the results from your testing table (e.g. the best shortbread overall was Sample _____ because it was ranked 1st overall by scoring the highest overall mark (/15)
2. Which sample was the least successful (**and why**) ?
3. How does this match your hypothesis?

Basic bread rolls– Time Plan

Stage	Method	QC
1.	Preheat the oven to 210°C, fan 190°C. Place a piece of greaseproof paper on a flat baking tray and write your name on a corner. LIGHTLY grease the top of the paper.	Check oven temperature is correct
2.	Put the flour and ¼ teaspoon salt into a mixing bowl. Add the yeast and sugar .	Keep salt & yeast separate
3.	½ fill a jug with warm water. Stand the mixing bowl in the scales (press zero) then add 90ml of the water , Mix together with a pallet knife to form a soft dough.	Temperature of water must be JUST hand hot
4.	Sprinkle flour onto a work surface, then tip the dough out. Knead the dough for around 10 minutes.	Dough should be smooth, soft & springy to touch
5.	Shape into 3 rolls and place on the baking tray.	Rolls should all be same shape and size
6.	Leave to prove in a warm place (e.g. window area) for 10 – 15 minutes (depending on how much time you have left & allowing 15 minutes to cook) in a warm place until they double in size. WASH UP .	Stand on top of oven Get bowls checked before putting away. WIPE DOWN SIDE & CLEAR SINK.
7.	Put the rolls in the oven and bake for 10 to 15 minutes until they're golden brown.	Rolls should be risen, golden brown & sound hollow when tapped on base
9.	WASH UP and CLEAR AWAY.	HOT SOAPY WATER. Get all washing up checked, before putting away.

Stage	Method	Mac 'n' cheese – Time	Plan	QC
1.	HALF FILL a large saucepan with hot water form the tap and bring to the boil with the lid on , on a HIGH heat (hob 12).		HIGH HEAT. (Hob 12)	
2.	ADD macaroni to the boiling water, stir and TURN heat down to SIMMER (hob 4-5). Leave lid on with wooden spoon in to prevent boiling over		MEDIUM HEAT (Hob 4-5) can leave lid on with wooden spoon in to prevent boiling over	
3.	GRATE cheese.		SMALL and EVEN.	
4.	In a separate saucepan or wok melt the flour and margarine ,(hob 5) stirring continuously to form a roux.		STIR using a wooden spoon or silicone spatula	
5.	Add the milk a little at a time, beating well to form a smooth paste.		STIR CONTINUOUSLY so that lumps don't form (use a balloon whisk if large lumps form)	
6.	BRING to the boil (hob 10) and then TURN DOWN TO A LOW HEAT (hob3) and STIR CONTINUOUSLY with a hand whisk until thickened.		STIR CONTINUOUSLY so that lumps don't form	
7.	STIR in $\frac{3}{4}$ of the grated cheese.		STIR to combine.	
8.	DRAIN the macaroni and then put into an oven proof dish with the cheese sauce. (Or put in your tub and finish at home)			
9.	PUT remaining cheese on top ready to grill (at home if necessary).			
10.	WASH UP and CLEAR AWAY. Use a green scouring pad to make sure the sauce pan is totally clean.		HOT SOAPY WATER. Get all washing up checked, before putting away.	

Meat Ragu (Bolognese) time plan

Stage	Method	QC
1.	PEEL and CHOP onion.	SMALL and EVEN .
2.	Brush a large wok with oil, add onion and cook on a medium heat until soft. (Hob 8 -9 if back hob).	Stir using spatula or wooden spoon, so pan isn't scratched. Don't let onion brown
3.	Add mince (or quorn mince) to pan, peel & grate garlic and add to pan. Stir fry until mince is brown.	Must be BROWNE D all over.
4.	While mince is browning, peel & chop any vegetables. (Carrots can be grated to speed cooking time).	SMALL and EVEN .
5.	Add the tomato puree. Continue to stir fry until the puree is mixed in (about 5 minutes).	STIR to coat.
6.	Add tomato passata, herbs and crumble in stock cube.	STIR to combine.
7.	Turn heat down to a low heat (hob 3-4) and SIMMER gently for 15- 20 minutes until slightly reduced	Simmer gently (do not boil – or sauce will over reduce)
10.	WASH UP and CLEAR AWAY .	HOT SOAPY WATER . Get washing up checked.

Stage	Method	Time plan-Chocolate ganache tarts	QC
1.	Preheat the oven to 200°C. Grease a 7" tin.		Tin can be round or square
2.	Make the pastry: USING HARD BUTTER: put the flour and sugar into a food processor bowl with the butter and process for about 30 secs until it forms fine breadcrumbs. Tip into mixing bowl. USING SOFT MARGARINE: In a mixing bowl, rub margarine into flour and sugar by hand, until fine breadcrumbs are formed		If using the food processor, DO NOT over process or the pastry will be tough instead of light & crispy.
3.	Add 3 – 4 tablespoons cold water and mix with a pallet knife to form 'clumps' of dough. KNEAD the dough (squeeze with one hand) until it just forms a ball.		Do not 'overwork' the dough or it will be come tough and break easily.
4.	(If using ready-made pastry, start here:) Roll out the pastry on a floured surface, turn it as you roll it out. Make sure that the circle is larger than the base + sides of your tin. IF TIME: place in fridge for 10-15 minutes.		flour the table <u>and</u> the pastry to stop it from sticking to the table or rolling pin. Gently push the pastry into the base of the tin so there are no 'air gaps' at the side/base
5.	Remove from fridge / trim edges. Line the pastry case with greaseproof paper and baking beans and bake for 15 minutes.		Make sure the pastry is firmly pressed into the base/side edge before trimming so it doesn't shrink.
6.	Make the ganache filling: Pour the cream into a small saucepan and heat to steaming point Remove from the heat and add the chopped chocolate. Leave for 5 minutes to melt then gently fold with a spatula until completely melted and combined. Pour into a jug.		Remove the cream from the heat IMMEDIATELY it is steaming and starting to form bubbles around the edges. Wash up equipment used so far
7.	Remove the greaseproof & baking beans from the pastry cases and cook for another 4-5 mins until golden. <u>Remove from tin & stand in box.</u> Allow to cool. (Can cool in fridge if space)		If time, pastry case can be cooled on a wire rack 1 st , then transferred to box ready to add filling.
8.	Pour the ganache into the tart case and transfer box to the fridge to chill for 2 hours or until set.		

Method: **(Pre-heat oven to 180 C)**

Filo triangles - fillings

For the cheese filling: Lightly beat egg in a jug (use pallet knife). Crush the feta cheese into a large bowl and add the grated cheese, 1-2 tbsp. egg and season with freshly ground pepper. Add the herbs, onion or chilli (if using) Mix well with a spoon to combine the ingredients.

For the sweet filling: Peel, core and cut the apples into small thin slices . In a medium bowl, combine the sugar cinnamon and ginger. Set aside about 2tsp of the sugar mixture and mix the rest with the apples.

Note: For a high grade, you should be making the smaller sized triangle!

1. Spread 1 sheet of filo out flat (remember to cover the rest with a damp cloth or kitchen paper) and brush half lengthways , with melted margarine or oil.
2. Fold the other half over. For a small triangle, cut in $\frac{1}{2}$ lengthways and across the middle. Add a heaped teaspoon of the filling at the top corner of each filo strip. Brush the remaining filo with a small amount of margarine/oil, then fold carefully into a triangle, continuing down the length of the pastry until it is all used (trim if necessary).
3. Brush top and bottom with some more margarine /oil and place on the baking tray. (If using the sweet filling, sprinkle a small amount of the sugar mixture on top of the triangle before placing on the tray. Repeat with the remaining strips of filo.
4. Make up 2 large or 4 small to cook, then while they are cooking make up any more to take home & cook
5. When triangles are ready, bake for approximately 15-20 minutes or until golden brown.*Remember only cook a couple to eat straight away as they are soggy when cold. The remaining triangles can be wrapped in cling film ready to cook at home



Stage	Method: Scotch Eggs	Method: Bread crumbed peppers	QC
1.	Preheat oven to 190°C (170°C) Place a piece of paper on a baking tray	Preheat oven to 190°C (170°C) Lightly grease a baking tray	Use a tray with raised edges so that any juices don't spill.
2.	Divide sausage into 3 equal portions	Slit the peppers open. Remove the seeds and the membrane	If peppers are large, cut into quarters.
3.	Break the fresh egg into a bowl (If not already done, peel the hard boiled eggs)	Mix the cream cheese with other filling ingredients and stuff the peppers.	Press small peppers back together, keep larger ones in separate pieces
4.	Sprinkle the work surface lightly with flour and pat out each portion of sausage meat to about 25cm thickness.	Beat the egg in a bowl. Dip the peppers in the beaten eggs until they are thoroughly coated.	Make sure sausage meat is even
5.	Place one hard boiled egg in the sausage meat and wrap completely around each of the hard boiled eggs, pressing edges together to seal.	Roll the peppers in breadcrumbs. Press the peppers down firmly to ensure that the crumbs stick to the egg.	Press edges of the sausage meat together firmly so they don't split open when cooking
6.	Dip the sausage-coated egg in beaten egg, then roll in breadcrumbs.	Repeat the egg dipping and breading if the peppers weren't completely coated with breadcrumbs the first time.	Coating the peppers twice should stop the cheese leaking out
7.	Place on baking tray and bake in oven until lightly browned, about 25 minutes.	Place on baking tray and bake in oven until lightly browned, about 20 - 25 minutes.	Peppers pieces must be placed cut side up
8.	WASH UP and CLEAR AWAY.	WASH UP and CLEAR AWAY.	HOT SOAPY WATER. Get washing up checked.

1. Preheat the oven to 190°C/170°C Fan and butter a 1- 1 ½ litre pudding dish (You can use a cake tin but it MUST NOT have a removable base).
2. Combine the 60g of dark muscovado sugar with the flour in a large bowl. Melt the butter in a small saucepan. Pour the milk into a measuring jug, beat in the egg, vanilla and melted butter and then pour this mixture over the sugar and flour, stirring - just with a metal spoon or silicone spatula - to combine. Fold in the dates then scrape into the prepared pudding dish. Don't worry if it doesn't look very full: it will do by the time it cooks.
3. Sprinkle over the 133g of soft brown sugar and dot with the butter. Measure 330ml of boiling water into a jug (use digital scales) and pour over the cake mixture.
4. Transfer to the oven. Cook for 35-40 minutes - the top of the pudding should be springy and spongy when it's cooked; underneath, the butter, dark muscovado sugar and boiling water will have turned into a rich, sticky sauce.
5. Serve with vanilla ice cream, crème fraiche, double or single cream as you wish.

CAKE INGREDIENTS:

- 60 grams dark brown soft (muscovado) sugar
- 115 grams self-raising flour
- 83 millilitres milk
- 1 egg
- 1 teaspoon vanilla extract
- 33 grams unsalted butter
- 133 grams chopped dates

FOR THE SAUCE

- 133 grams soft brown sugar
- 20 grams unsalted butter (in little blobs)
- 330 millilitres boiling water

You will also need a 1- 1 ½ litre ovenproof pudding dish or cake tin (MUST NOT have removable base!)

Sticky Toffee Pudding



Stage	Method: Beef burgers	Method: Bean burgers	QC
1.	Preheat oven to 190°C (170°C) Place a piece of grease proof paper on a baking tray	Preheat oven to 190°C (170°C) Lightly grease a baking tray	Use a tray with raised edges so that any juices don't spill.
2.	PEEL and CHOP onion.	PEEL and CHOP onion, heat oil in pan and fry for 5 minutes until softened. Place in food processor	Very small, even sized pieces. Take care with SHARP food processor blade
3.	Put all the ingredients into a mixing bowl. Mix together really well using your hands until the mixture forms a congealed ball. (You can use a fork)	Peel & grate carrots, place in food processor with all the other ingredients. Season with salt & pepper and PULSE for about 30 seconds until well BLENDED.	Protein needs to be broken down so that burgers will hold together when they are cooked.
4.	Using your hands, divide the mixture into 4 – 6 even sized balls. Place on the baking tray, flatten slightly. (Add cheese if you want to.)	Shape the mixture into 6 – 8 round patties. Place on the baking tray cover and chill for 10-15 minutes (depending on time available)	Burgers should be same size and flattened slightly so that the cook all the way through.
5.	Bake for 18-25 mins (depending on size).	Bake in the oven for 15 – 20 minutes until golden brown	Check cooked all the way through (can cut 1 in ½ to check)
6.	WASH UP and CLEAR AWAY.	WASH UP and CLEAR AWAY.	HOT SOAPY WATER. Get washing up checked.

<http://www.mykitchentable.co.uk/index.php/2010/12/mary-berry-chocolate-brownies>

Step One

Preheat the oven to 170°C. Cut a rectangle of non-stick baking parchment to fit the base and sides of the tin. Grease the tin and then line it with the paper, pushing it neatly into the corners.

Step Two

Measure all the ingredients EXCEPT the chocolate chips into a large bowl and mix with a hand-held electric mixer until evenly blended.

Step Three

Stir in the choc chips then spoon the mixture into the prepared tin, scraping the sides of the bowl with a plastic spatula to remove all of it. Spread the mixture gently to the corners of the tin and level the surface with the back of the spatula

Step Four

Bake for 25 - 30 minutes, until the brownies have a crusty top and a skewer inserted into the centre comes out clean. Cover loosely with foil for the last 10 minutes if the mixture is browning too much. Allow the brownies to cool in the tin and then cut into 12 squares. Store in an airtight tin

While waiting for your brownies to cook, look at your test answers and add in corrections.

Cake tin needed: large flapjack tin

140g (2 ½ oz) butter, softened

190g (6 ½ oz) caster sugar

2 large eggs

37g (1 ½ oz) cocoa powder

50g (2oz) self-raising flour

50g (2oz) plain chocolate chips

