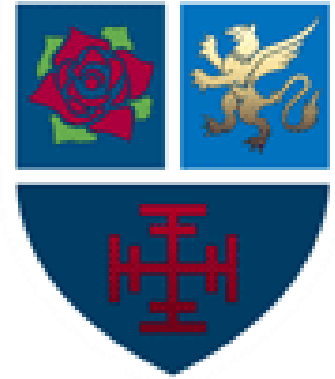


Name:

Teacher:

Form:



Food Year 9 Homework Booklet

- This book is your property, if you lose it you must buy a new one
- Bring it to each lesson

I will get my homework marked at the start of each lesson.

For my technical knowledge I need to know:

- How to spell the word correctly
- What the meaning is
- How and where it is used



Functions of Ingredients & Cake Making Methods

Learn the information on raising agents ready for your test next lesson

Raising agents

Increases the volume of doughs, batters and mixtures by promoting gas release (aeration).

About raising agents

Raising agents work by incorporating a gas into a mixture.

When you heat the gas it expands and then it rises. So the mixture has a light open texture.

Raising agents may be added by mechanical means such as sieving.

Can be included in the ingredients such as yeast and bicarbonate of soda.

Raising agents can be natural, chemical and biological.

The **3 gases** that make food mixtures rise are:

- Air
- Steam (from liquid in ingredients or added liquid)
- Carbon dioxide (CO₂)

Carbon dioxide: can be produced biologically or chemically

Air: Air is incorporated into mixtures using mechanical methods such as:

- * *Whisking*
- * *Sieving*
- * *Creaming fat and flour*
- * *Beating*
- * *Rubbing fat and flour*
- * *Rolling and folding*

Steam: For steam to make a mixture rise it needs to have:

- * *A high proportion of liquid in the mixture*
- * *A high proportion of liquid in the mixture*
- * *A high baking temperature*
- * *As liquid reaches boiling point steam is given off. Steam forces its way up to stretch and rise to the mixture. This then cooks and sets in the risen shape.*
- * *Foods that are raised mainly by steam have a very open and uneven texture.*



SCONES - INGREDIENTS HOMEWORK

200g Self-Raising Flour
50g Margarine or Butter

50g Sugar (granulated or Caster)
125ml Milk

Homework Test 1 : Raising Agents

1) Name three methods of adding Air to mixtures.

a) _____

b) _____

c) _____

(3 marks)

2) What are the two conditions needed to create steam so that a product will rise?

a) _____

b) _____

(2 marks)

3) Raising agents can be added by mechanical means, name three ways?

(3 marks)

(Total 8 marks)

Functions of Ingredients & Cake Making Methods

Learn the information on raising agents ready for your test next lesson

Flour:

- Forms the **structure** of the cake
- As the cake is heated, protein (gluten) in the flour **sets** the framework and shape
- **Dextrinisation** occurs, starch converts into sugar. On heating the sugar caramelises resulting in a **golden** surface



Cake Making Methods

Method	Ratio	Products
Rubbing in	4:1 8:4:4:1	Scones Raspberry Buns
Melting	8:5:4:4	Brownies
All-in-one	1:1:1:1	Victoria Sponge
Whisked	1:1:2	Swiss Roll



Fat:

- Adds **colour** and **flavour**
- Holds air bubbles (foam) which creates texture and **volume**
- Produces a short crumb or rich even **texture** dependent on the ratio of fat and method used
- Increases the **shelf life**.

Sugar:

- Sweetens and adds flavour
- When creamed with fat, helps to hold air in the mixture
- **Caramelisation** gives **colour**



Eggs:

- **Trap** air when whisked into a foam
- **Coagulate** (set) on heating
- **Emulsify** – holds the fat in emulsion and keeps it stable
- Add colour, flavour and nutritional value



Raising agents:

- Aerates the mixture increasing volume and resulting in a light texture

Keywords	Meanings
Dextrinisation	Breaking up of the starch molecules into smaller groups of glucose molecules when exposed to dry heat, e.g. toast.
Caramelisation	Breaking up of sugar when it is heated. This changes the colour, flavour and texture of the sugar as it turns brown into caramel.
Coagulation	The setting or joining together of lots of denatured protein molecules during heating or change in PH. An irreversible change to the appearance and texture of protein foods.

Homework 2 : Functions of Ingredients & Cake Making Methods

1) Name two functions of flour in cake making.

- a) _____
b) _____

(2 marks)

2) Complete the grid

Statements	True	False
Fats increases a cakes shelf life		
Eggs caramelise and give the cake colour		
On heating, the sugar caramelises resulting in a golden surface		

(3 marks)

3) Match the meanings to the keywords

Dextrinisation	The setting or joining together of lots of denatured protein molecules during heating or change in PH. An irreversible change to the appearance and texture of protein foods.
Caramelisation	Breaking up of the starch molecules into smaller groups of glucose molecules when exposed to dry heat, e.g. toast.
Coagulation	Breaking up of sugar when it is heated. This changes the colour, flavour and texture of the sugar as it turns brown into caramel

(3 marks)

(Total 8 marks)

Homework 3: Functions of Ingredients

Flour

Eggs

Baking Powder

Butter

Sugar

Cocoa Powder

Icing Sugar (buttercream)

Jam

Function of ingredients in a Victoria Sandwich

What are the jobs of the ingredients that go into a Victoria sandwich

Research and write about the functions of each ingredient



Homework 4: Identifying Faults

(Total 6 marks)

Identifying faults in a Victoria Sandwich

Complete the grid by identifying the faults and causes

Fault	Cause
Peaked cracked top	
	•Too much sugar causing collapse of the structure •Too much raising agent •Undercooking, caused by wrong temperature •Disturbed during cooking causing structure to collapse
Sugary Speckled Crust	
	•Too much liquid in the mixture •Insufficient raising agent used •The creamed mixture has curdled and does not hold sufficient air •Eggs and sugar have not been beaten enough when using the whisking method
Coarse and open texture	
Cake very dry	

Function of Ingredients

Reference Page

This page can be used to help you fill out your evaluation pages

Ingredient	Function
Meat and Poultry	Protein for growth and repair Contains saturated fat Fat provides flavour in the meat High in iron B vitamins Chicken and turkey lower in fat than red meat
Fish and Seafood	Protein for growth and repair Essential fatty acids Low in calories Minerals – iron, zinc, iodine and selenium High in vitamins A and D
Eggs	Adds colour Adds flavour Holds air when whisked Binds ingredients together Coagulates / sets mixtures Enriching, thickening Glazing Coating / enrobing Adds to the nutritional value (Be specific)
Flour	Forms the main structure of a product due to its gluten content. Adds bulk Self raising flour contains a raising agent If wholemeal – provides NSP (fibre) Gelatinises in liquids (thickens sauces)
Fats:- Butter Margarine Lard Oil Veg white fat	Adds colour and flavour if butter or margarine is used Holds air bubbles during mixing to create texture and volume Helps to extend shelf life. To shorten a flour mixture to make it crisp or crumbly in texture Frying / sautéing To form emulsions (salad dressing) Binds ingredients
Sugar	Sweetens Increases bulk Develops flavour Holds air Acts as a preservative (jam) Aids fermentation (bread)

Ingredient	Function
Salt	Helps develop flavour Strengthen gluten in flour Controls the action of yeast Used as a preservative (dried/salted meat / fish)
Fruit and vegetables	Adds NSP (fibre) Adds colour and flavour Adds texture Thickens when puréed Adds nutritional value (mention which vitamins) To garnish
Herbs and spices	To improve and add flavour To garnish
Gelatine	To set liquids (jelly)
Chocolate, icings	To coat or decorate
Dairy:- Milk Cream Cheese Yoghurt Fromage Frais	High in fat (unless using the low fat version) High in protein Vitamins A and D Calcium Adds texture and adds volume Adds flavour
Starchy foods (all cereals):- Rice Pasta Noodles Couscous Maize (corn) Oats Breakfast cereal	Provides slow released energy Wholegrain versions are high in fibre High in B vitamins Provides the main source of starch in a meal.
Pulses:- Lentils Peas Beans Chick peas	Adds protein Adds fibre Adds texture Absorbs flavour
Baking powder	To act as a raising agent
Yeast	Acts as a raising agent Sometimes adds flavour

Homework 5: Functions of Ingredients & Cake Making Methods

Bring in ingredients for Raspberry Rock Buns or Rock Buns and then complete the evaluation and costing sheets

Ingredients

- 200g Self-Raising Flour
- 100g Margarine or Butter
- 100g Sugar (granulated or Caster)
- 1 Egg
- 30ml Milk
- 3 Tbsp. Raspberry Jam

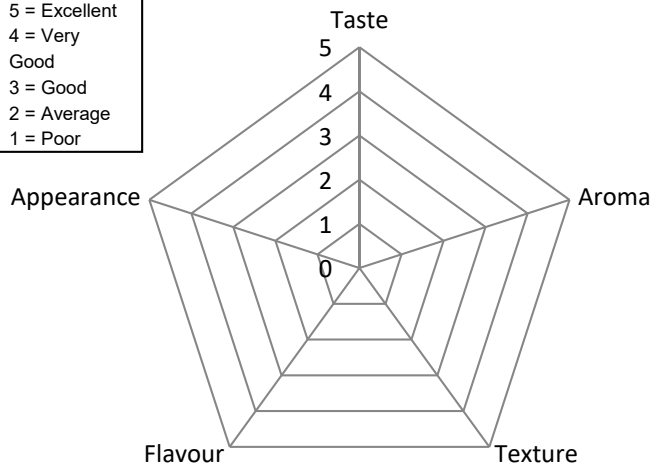
For Rock Buns

Miss the jam and add 75g raisins, glace cherries or mixed fruit

Equipment list	Skills Demonstrated



Key
5 = Excellent
4 = Very Good
3 = Good
2 = Average
1 = Poor



Ingredients	Weight / Quantity of item when bought	Cost per item	Cost per portion used
Self-Raising Flour			
Butter	250g	£1.50	60p
Sugar			
Eggs			
Milk			
Raspberry Jam			

What is the final cost of the batch of Raspberry Buns / Rock Buns that you made?

£ _____

Homework 6: Functions of Ingredients & Cake Making Methods

Bring in ingredients for Brownie and then complete the evaluation and costing sheets

Ingredients

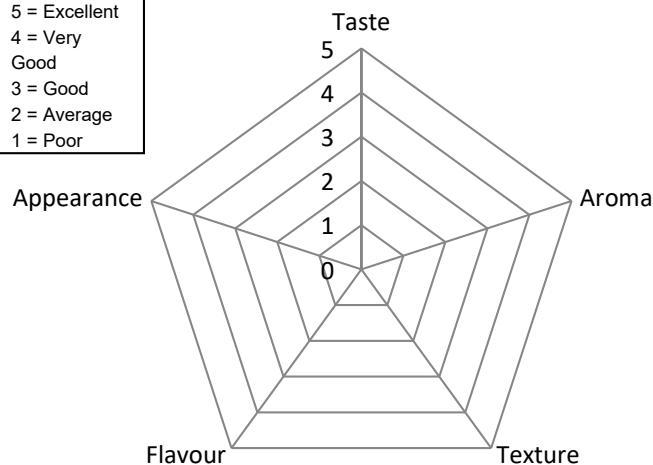
- 200g caster sugar
- 112g butter
- 30g cocoa powder
- ½ tsp vanilla extract
- 2 eggs
- 112g plain flour
- ¼ tsp baking powder
- ¼ tsp salt

Equipment list	Skills Demonstrated



Key

- 5 = Excellent
- 4 = Very Good
- 3 = Good
- 2 = Average
- 1 = Poor



Ingredients	Weight / Quantity of item when bought	Cost per item	Cost per portion used
caster sugar			
butter			
cocoa powder			
eggs			
plain flour			

What is the final cost of the batch of Brownie that you made?

£ _____

Homework 7: Functions of Ingredients & Cake Making Methods

Bring in ingredients for Swiss Roll and then complete the evaluation and costing sheets

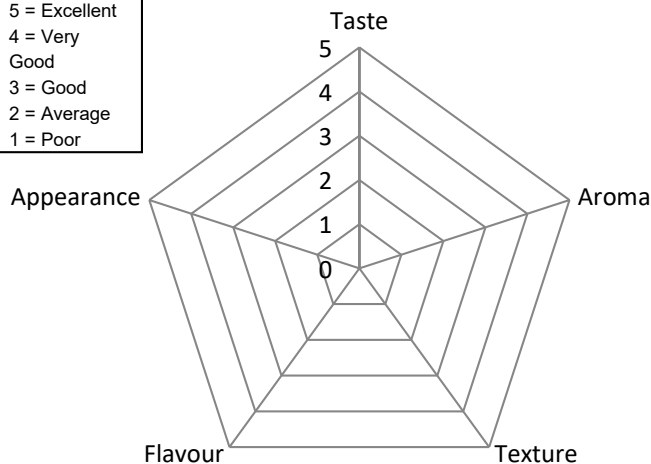
Ingredients

- 3 Eggs
- 75g Caster Sugar
- 75g S.R. Flour
- 1 tsp Vanilla Essence
- 2-3 tbsp. Jam
- Extra Sugar for rolling

Equipment list	Skills Demonstrated



Key
 5 = Excellent
 4 = Very Good
 3 = Good
 2 = Average
 1 = Poor



Ingredients	Weight / Quantity of item when bought	Cost per item	Cost per portion used
Eggs			
Sugar			
Flour			
Jam			
Vanilla Essence			

What is the final cost of the batch of Swiss Roll that you made?

£ _____

Homework 8: Functions of Ingredients & Cake Making Methods

Bring in ingredients for Pineapple Upside Down Cake and then complete the evaluation and costing sheets

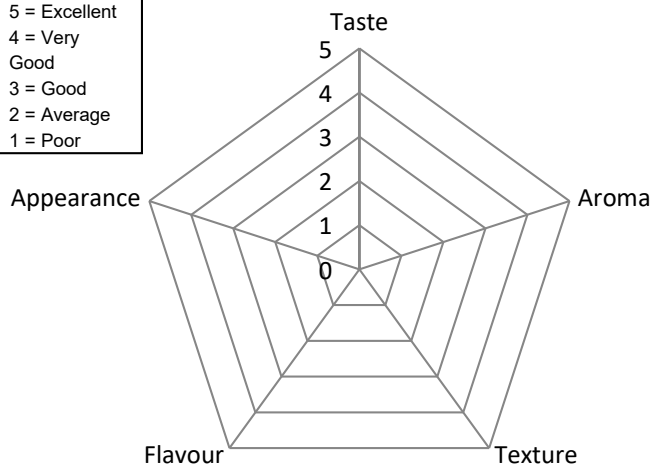
Ingredients

- 1 small can of pineapple rings
- 2/3 Glace cherries
- 2 tbsp. golden syrup
- 100g self-raising flour
- 100g caster sugar
- 100g margarine
- 2 eggs

Equipment list	Skills Demonstrated



Key
5 = Excellent
4 = Very Good
3 = Good
2 = Average
1 = Poor



Ingredients	Weight / Quantity of item when bought	Cost per item	Cost per portion used
Flour			
Margarine / Butter			
Sugar			
syrup			
Cherries			
Pineapple			

What is the final cost of the batch of Pineapple Upside Down Cake that you made?

£ _____

Homework 9: Functions of Ingredients of Victoria Sandwich

Function of ingredients in a Victoria Sandwich

Complete the test on function of ingredients

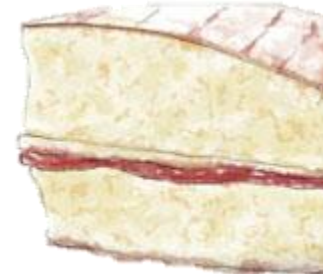
1) Raising agents can be added to make the cake rise, an example of this is baking powder. **True / False** (1 mark)

2) What is the function of butter in a basic cake mix?
_____ (2 marks)

3) What is the function of sugar in a basic cake mix?
_____ (2 marks)

4) What is the function of eggs in a basic cake mix?
_____ (2 marks)

5) What method of cake making would be appropriate for a victoria sponge?
Circle your answers
rubbing in melting creaming all-in-one (2 marks)



(Total 9 marks)

Homework 10 Revision

Chopping Board Coding

Red - Raw meat
Blue - Raw fish
Yellow - Cooked meat
Green - Salad and fruit
Brown - Vegetables
White - Bakery and dairy

Macro nutrients These are nutrients needed by the body in large amounts. **Proteins Build.** Protein is an important building block of bones, muscles, cartilage and skin. It also repairs. Your body uses it to build and repair tissue. **Fats provide needed energy** in the form of calories. Fats help our bodies absorb important vitamins and **Carbohydrates provide the body with glucose, which is converted to energy used to support bodily functions and physical activity.)**

The 3 gases that make food mixtures rise are:

- * Air
- * Steam (from liquid in ingredients or added liquid)
- * Carbon dioxide (CO2)

Carbon dioxide can be produced biologically or chemically

Air: Air is incorporated into mixtures using mechanical methods such as:

- * Whisking
- * Sieving
- * Creaming fat and flour
- * Beating
- * Rubbing fat and flour
- * Rolling and folding

Year 9 Food KO

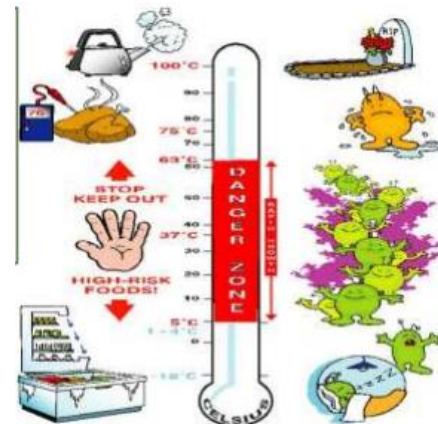
Steam: For steam to make a mixture rise it needs to have:

- * A high proportion of liquid in the mixture
- * A high baking temperature
- * As liquid reaches boiling point steam is given off. Steam forces its way up to stretch and rise to the mixture. This then cooks and sets in the risen shape.
- * Foods that are raised mainly by steam have a very open and uneven texture.

Carbon dioxide: Carbon dioxide is used as a raising agent when a biological raising agent like yeast is used or a chemical raising agent like bicarbonate of soda is used. It is produced in two different ways:

- * **Biologically** – fermentation process of yeast
- * **Chemically** – action of bicarbonate of soda with an acid

Fairtrade promotes better prices, decent working conditions, local sustainability, and fair terms of trade for farmers and workers in developing countries.



Packaging Many supermarkets are now offering more biodegradable, reusable and recyclable packaging options, such as paper bags, glass jars, and biodegradable containers. This not only reduces the environmental impact of packaging, but it also aligns with the growing consumer demand for eco-friendly products.

Bacterial Contamination

- Micro-Organisms that make food unsafe to eat and cause food poisoning are called **pathogens**.
- **Danger zone** 5°C to 63°C
- **Fridge temp:** 0°C to 5°C
- **Freezer temp:** -18°C to -24°C
- Re-heat/ cook raw food to at least 75°C to **kill bacteria**

Key Terms

Pathogens, Non-pathogens, Danger zone, Bacteria

The functions of ingredients



Fat:

- Adds **colour** and **flavour**
- Holds air bubbles (foam) which creates texture and **volume**
- Produces a short crumb or rich even **texture** dependent on the ratio of fat and method used
- Increases the **shelf life**.

Eggs:

- **Trap** air when whisked into a foam
- **Coagulate** (set) on heating
- **Emulsify** – holds the fat in emulsion and keeps it stable
- Add colour, flavour and nutritional value

Flour:

- Forms the **structure** of the cake
- As the cake is heated, protein (gluten) in the flour **sets** the framework and shape
- **Dextrinisation** occurs, starch converts into sugar. On heating the sugar caramelises resulting in a **golden** surface

Sugar:

- Sweetens and adds flavour
- When creamed with fat, helps to hold air in the mixture
- **Caramelisation** gives **colour**

Raising agents:

- Aerates the mixture increasing volume and resulting in a light texture

Fault	Cause
Peaked cracked top	Oven too hot, too much mixture for the size of tin, Baked on too high a shelf in oven, too stiff or too wet mixture
Cake sinks	Too much sugar causing collapse, too much raising agent, undercooking, caused by wrong temperature and time, disturbed during cooking causing structure to collapse
Sugary speckled crust	Too much sugar, wrong type of sugar used, insufficient creaming
Close heavy texture	Too much liquid, insufficient raising agent, a curdled creamed mixture holding insufficient air, eggs and sugar not beaten enough in whisked method
Coarse and open texture	Too much raising agent used, insufficient mixing of flour
Cake very dry	Overcooking the cake, insufficient liquid used, too much raising agent
Fruit has sunk	Too much liquid, sugar and raising agent