

# Food Preparation and Nutrition GCSE Revision 2018



Name:	
Target Grade:	
<b>Examination (1 <math>\frac{3}{4}</math> hours)</b>	
Section A Multiple choice questions (20 marks)	Section B Five questions each with a number of sub questions (80 marks)

### 3.2 Food, nutrition and health

Nutrient	Function in the body	Deficiency	Food source
Carbohydrate (Starch, sugar & dietary fibre)			
Fat Saturated & Unsaturated			
Protein HBV& LBV			
<b>Vitamins</b>			
Vitamin A			
Vitamin D			
Vitamin E			
Vitamin K			
<b>B group</b> B1 (thiamin), B2 (riboflavin), B3 (niacin), folic acid, B12			
Vitamin C			

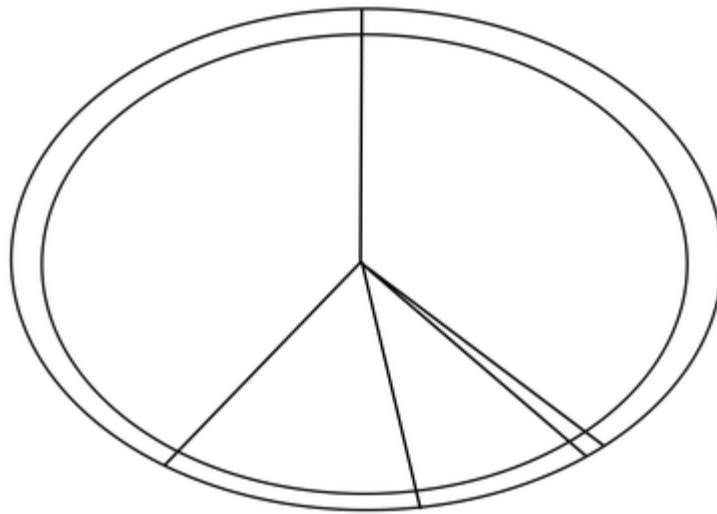
### 3.2 Food, nutrition and health

Nutrient	Function in the body	Deficiency	Food source
<b>Minerals</b>			
Calcium			
Iron			
Sodium (salt)			
Flouride			
Iodine			
Phosphorus			
<b>Important Non-nutrients</b>			
Water			

# The Eatwell Guide and 8 tips to healthy eating

Explain what the Eatwell guide is and why it helps towards a balanced diet.

Fill in the Eatwell guide with the name, nutrients and food examples:



List the 8 tips to healthy eating?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

## Life stages – meal planning

Peoples' nutritional needs change throughout life. You need to be able to plan a balanced diet for different life stages.

Special Diet	An explanation of diet and changes which need to be made when following the diet
Young children (2-5 yrs)	
Children (5-12 yrs)	
Teenagers	
Adults	
Elderly	

## Different / Special dietary needs

Some people have to follow a special diet because...

1. They may need to lose weight
2. They have an illness that needs to be controlled, by what they eat.
3. Certain foods make them ill, so they have to avoid eating them

Special Diet	An explanation of diet and changes which need to be made when following the diet
Vegetarian	
Vegan	
Coeliac disease	
Lactose intolerant	
High fibre diets.	
Low calorie diets	

# Diet, nutrition and health

Explain how diet can affect health and how nutritional needs change in relation to:

Diet related health risk	Explanation
Obesity	
Cardiovascular health (coronary heart disease (CHD) and high blood pressure)	
Bone health (rickets and osteoporosis)	
Dental health	
Iron deficiency anaemia	
Type 2 diabetes	

## Energy needs



The amount of energy we need varies with:

- Age
- Gender
- Activities we do.

70% of the energy we need is used for body functions such as breathing, nerves, etc. This is called BMR (basal metabolic rate).

The energy people use for all other types of movement is called our physical activity level (PAL).

If we eat more energy than we use, the rest is stored as fat.

What is meant by the energy balance?

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## 3.3 Food science

# Cooking of food and heat transfer

Name 4 reasons for cooking food

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### Food is cooked by heat energy - Methods of heat transfer

The three ways that heat energy can be passed through food are:

- convection
- conduction
- radiation.

Describe each method – use diagrams if necessary

The selection of appropriate preparation and cooking methods can conserve or modify nutritive value or improve palatability:

Give examples of different cooking methods for each method

Water based:

Dry methods:

Fat based:

# Protein

**Garnish:**

**Thickening:**

**Coagulation:**

**Emulsification:**

**Enriching:**

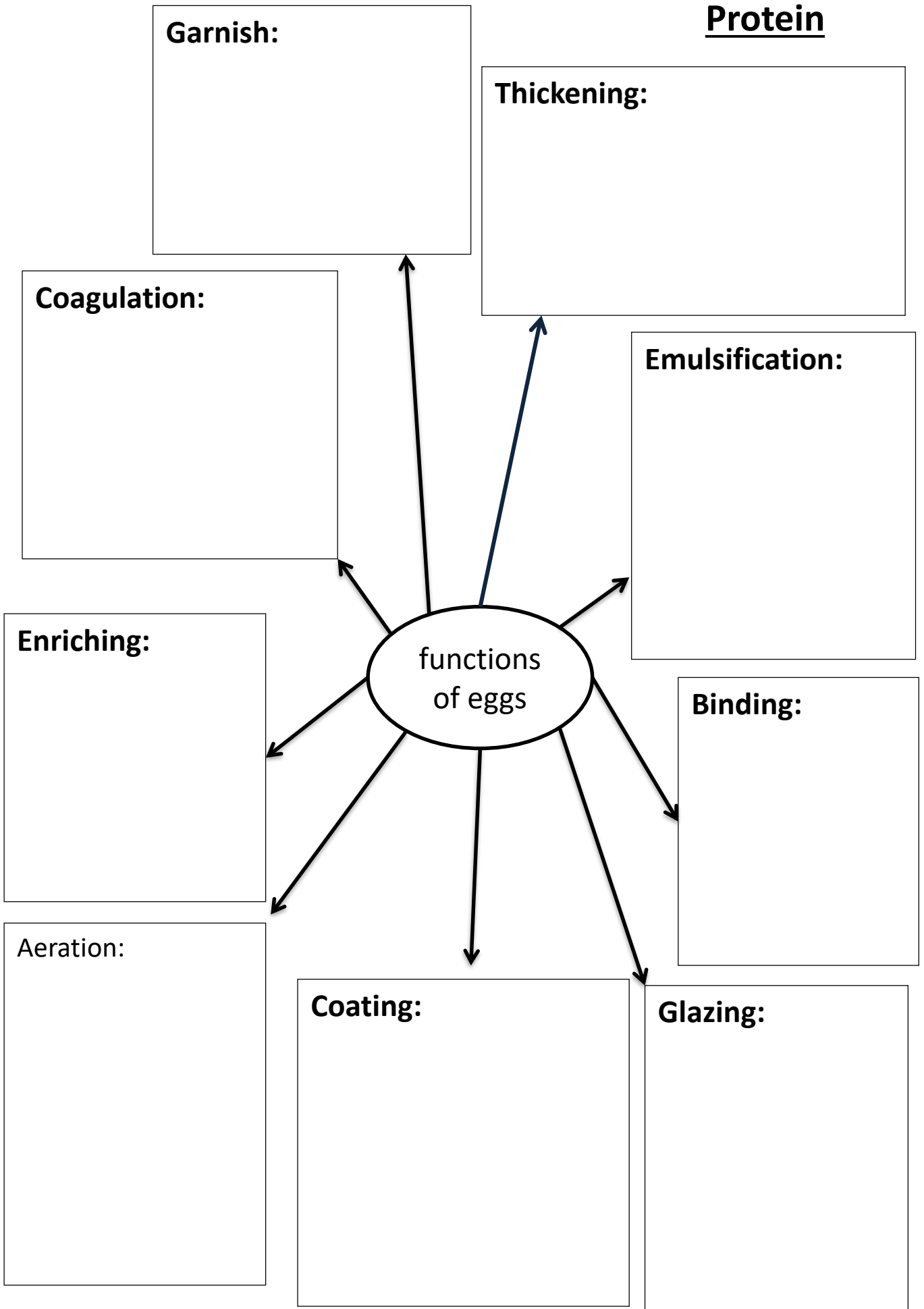
functions  
of eggs

**Binding:**

**Aeration:**

**Coating:**

**Glazing:**



## The Functions of Protein

You need to understand the scientific principles underlying these processes when preparing and cooking food

You also need to be able to explain the working characteristics, functional and chemical properties of proteins.

Use images if appropriate

<b>Function</b>	<b>Description</b>
protein denaturation	
protein coagulation	
gluten formation	
foam formation	

## The Functions of Fat

Function	Description
	Fat coats the flour particles, preventing the flour absorbing the water. Preventing the water absorption stops the gluten developing. If the gluten cannot develop the mixture is shortened giving a crumbly, melt in the mouth texture.
	Required to add air into food. Eg. When fat is creamed with sugar to helps traps air
Plasticity	
Emulsification	

## The Functions of Carbohydrate

Function	Description
Gelatinisation	
Dextrinisation	
caramelisation	

# Raising Agents

How are raising agents added into food products?

Mechanical:

Chemical:

Biological:

Steam

In the table give examples how air, steam and carbon dioxide act as raising agents:

<b>Chemical</b>	<b>Mechanical</b>	<b>Biological</b>	<b>Steam</b>

### 3.4 Food Safety

## Food Spoilage

What 4 conditions do Bacteria like to grow in? (Give examples and explanations)

T _ _ _ _ _ _ _ _	
F _ _ _ _	
T _ _ _ _	
M _ _ _ _ _ _ _ _	

How do we stop bacteria growing in food?

T

F

T

M

The signs of food spoilage - give examples of foods for each of the below

- enzymic action
- mould growth
- yeast action

# Food Hygiene

**How does food poisoning happen?**

**Define what Pathogenic bacteria is.**

**What are the 4 most common types of food poisoning and which foods carry them?**

1. S

2. St

3. C

4. E.C

5. L

**What is a high risk food?**

Temperature	What is happening to bacteria?
-18C	
0-5C	
5-63C	
37C	
72C	

# Food Storage

## Temperature of Freezer :

When food is frozen bacteria.....

## Temperature of Fridge:

When food is chilled bacteria....

What 4 essential rules need to be followed when reheating food?

- 1.....
- ...
- 2.....
- .
- 3.....
- .
- 4.....

How do you use a temperature food probe?

<u>Step 1:</u>	<u>Step 2:</u>
<u>Step 3:</u>	<u>Step 4:</u>

What is meant by the term Ambient?



## Food handling & Personal Hygiene

List 7 things food handlers have to do to make sure their hygienic and safe in the kitchen.

1	
2	
3	
4	
5	
6	
7	

Explain what **cross-contamination** is and when it could occur....

Red chopping board is for.....

Green chopping board is for.....

Yellow chopping board is for.....

Blue chopping board is for.....

White chopping board is for.....

### 3.5 Food Choice

#### Factors affecting food choice

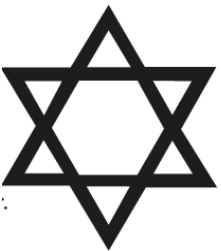
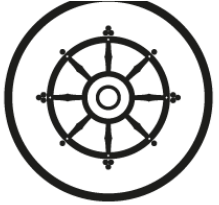


Give detailed reasons what families need to consider when meal planning. (10 marks)

### 3.5 Food Choice

## Factors affecting food choice

Food choice linked to the following religions and cultures: Buddhism, Christianity, Hinduism, Islam, Judaism, Rastafarianism and Sikhism



# Packaging & Labelling

Why do we package & label food?	Reason	Explanation
	P	
	P	
	P	
	P	

List 10 Things that must be displayed on a food product label (according to EU Law):

1

2

3

4

5

6

7

8

9

10

## Nutritional Labelling and Marketing

Dietary Reference Values (DRVs)	
Traffic light labelling.	
Nutritional Panel	
Guideline Daily amount (GDAs)	

Discuss how food marketing can influence food choice eg buy one get one free, special offers, meal deals, media influences, advertising, point of sales marketing.

**Food products from British tradition and two different cuisines.**

Country	distinctive features and characteristics of cooking	equipment and cooking methods used	eating patterns	presentation styles	Examples of recipes.
Britain					

# Sensory evaluation

## **The importance of sensory testing**

The sensory analysis of food plays an important role in the food industry. Food product-development specialists carry out a range of sensory analysis tests to produce the variety of foods that are available in the shops. Food manufacturers wish to ensure consumers continue to buy existing products because they like their taste and new products because they are innovative and existing.

## **Sensory analysis tests are carried out to:**

- Evaluate new and established products
- Analyse food products for improvements
- Establish consumer response to a product
- Ensure that a product meets its original specification
- Conduct a product review, assess quality control and make improvements to the product
- Maintain product quality
- Assess shelf life

## **How to set up a sensory analysis test:**

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# Name the 5 senses



## Sensory analysis tests

Sensory analysis tests can be used on food products to establish their most important characteristics. There are several types of sensory analysis tests, which can be used by the industry. These are laid down by British Standard (BS5929)

They include:

### Preference or acceptance tests

These tests are used to establish the acceptability of a product by finding out the opinions likes and dislikes of the consumer. They are not intended to evaluate specific characteristics, such as crunchiness or smoothness. The information gathered is subjective and large numbers of consumers are required to complete the testing. There are a number of different types of Preference tests

Paired preference test

Hedonic ranking or descriptors

### Discrimination or Difference tests

These tests would be used to find out if there is a perceptible difference between two or more products. They are objective tests. They use comparative judgements to determine differences in particular sensory characteristics or small differences between products. Food manufacturers would use these tests in product development eg: reducing the fat content of a 'healthy option' product range.

triangle test

### Grading Tests

These tests are used to produce a ranking, rating and profiling of a product. Trained testers can also assess the flavour or texture of a product to provide a sensory profile. These tests assess the intensity of specific sensory qualities. There are a number of different grading tests

Ranking test

Rating test

Star profile



### 3.6 Food Provenance

## Environmental Considerations

How can manufacturers be more environmentally friendly with their packaging?

1.....

2 .....

3 .....

4 .....

5 .....

**Define the following key terms:**

Genetically Modified

Intensive farming

Free range foods

Organic Farming/Food

Sustainable fishing

Fairtrade

Carbon footprint

Food miles

## 3.6 Food Provenance

### Waste food and packaging

#### Food Waste

Your food does its job best when it's on a plate ready to be enjoyed. Saving food saves money and helps to slow down global warming and deforestation. Reducing the amount of food that ends up in the bin also means you can say goodbye to unnecessary packaging waste. If we all make a few small changes and start using up the food we buy, together we can make a big difference.

**We throw away lots of food at home.**

**List 4 reasons why...**

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**Why do you think producers and retailers waste food too?**

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**Food waste**

**How can we reduce our food waste?**



## **3.6 Food Provenance**

### **Primary and secondary processing**

**Milk and Milk products**

**Wheat**

# Additives

What is a food **additive**

What are the 4 main roles of additives?

1	
2	
3	
4	

Complete the table of additives, functions & food examples:

Additive	Function	Food Example
Preservatives		
Colourings		
Flavourings		
Emulsifiers		
Stabilisers		
Anti-oxidants		
Nutritional enhancers		
Thickeners & Gelling agents		

What are the issues in the media surrounding **E numbers**?

# Technological developments

Technological developments to support better health and food production including fortification and modified foods with health benefits and the efficacy of these.

Write some brief notes on the following:

- cholesterol lowering spreads
- health benefits of fortification
- fortified foods: thiamin, niacin, calcium and iron added to white flour
- folic acid and iron added to breakfast cereals
- vitamins A and D added to fats and low fat spreads