

**GCSE (9–1)**  
*Sample SAM Taster Booklet*

# **FOOD PREPARATION AND NUTRITION**

J309  
For first teaching in 2016



# GCSE (9–1)

# FOOD PREPARATION

# AND NUTRITION

OCR's GCSE (9–1) in Food Preparation and Nutrition qualification aims to equip learners with the knowledge, understanding and skills required to cook and apply the principles of food science, nutrition and healthy eating.

Our Sample Assessment Material (SAM) taster booklet introduces you to the style of assessment for our new qualification.

The booklet features the questions and mark schemes for the three assessments that make up this qualification. The complete set of sample assessment materials is available on the OCR website  
<http://www.ocr.org.uk/qualifications/by-subject/food-preparation-and-nutrition>

## SUBJECT SPECIALIST SUPPORT

OCR Subject Specialists provide information and support to schools including specification and non-exam assessment advice, updates on resource developments and a range of training opportunities.

You can contact our Food Subject Specialists for specialist advice, guidance and support.

Meet the team at [ocr.org.uk/foodteam](http://ocr.org.uk/foodteam)

### CONTACT THEM AT:

01223 553998

[food@ocr.org.uk](mailto:food@ocr.org.uk)

[@OCR\\_food](https://twitter.com/OCR_food)

## WHAT TO DO NEXT

- Sign up for regular updates, including news of our autumn calendar of events:  
<http://www.ocr.org.uk/updates>
- Book onto a free GCSE reform training event to help you get to grips with the new qualification:  
<https://www.cpdhub.ocr.org.uk/>
- View our new range of resources that will grow throughout the lifetime of the specification:  
<http://www.ocr.org.uk/qualifications/by-subject/food-preparation-and-nutrition>



# J309 FOOD PREPARATION AND NUTRITION

Questions 1 and 2 are examples of short structured questions.

## QUESTION 1

Question 1 covers part of the content of Section B (Classification of fruits and vegetables) and Section A (Carbohydrates) of the specification.

**1** Vegetables are an important part of a balanced diet.

**(a)** Name one vegetable from each of the groups listed below.

1. Root .....
2. Leaf .....
3. Bulb .....

[3]

**(b)** Vegetables are also a good source of fibre.

Give two reasons why we should increase the amount of fibre in our diet.

1. ....
- .....
2. ....
- .....

[2]

## MARK SCHEME FOR QUESTION 1

1. root	2. leaf	3. bulb
carrot	cabbage	onion
beetroot	brussel sprouts	leek
swede	spinach	shallots
parsnip	watercress	spring onion
turnip	lettuce	
radish	chicory	
horseradish	pak choi	
mooli		

1 mark for each correct answer

Do not accept tubers such as potato, sweet potato or yams.

## QUESTION 2

Question 2 covers part of the content of Section D (Knife skills) of the specification. This question contains visual stimulus and targets AO1.

2 When preparing food it is important to use knives correctly.

(a) Name the **two** different grips used when preparing fruits and vegetables.

1. ....
2. ....

[2]

(b) Identify the knives below.



1. ....
2. ....
3. ....

[3]

## MARK SCHEME FOR QUESTION 2

Question	Answer	Marks	Guidance
2(a)	<ul style="list-style-type: none"> <li>• Bridge hold</li> <li>• Claw grip</li> </ul>	2	1 mark for each correct grip, max 2 marks
2(b)	1. Palette knife 2. Fish filleting knife 3. Paring knife/vegetable knife	3	1 mark for each correct knife, max 3 marks Do not accept spatula for palette knife

**QUESTION 8(a)**

Question 8 covers part of Section B (food provenance and locally produced food), part of Section C (Food science, heat transfer and enzyme browning) and part of Section A (Vitamins, micronutrients and the function of Vitamin C) of the specification.

**(a)** Give **two** reasons why consumers may choose to buy potatoes from a farmer's market.

[2]

**MARK SCHEME FOR QUESTION 8a**

Question	Answer	Marks	Guidance
8(a)	<p>Two from:</p> <ul style="list-style-type: none"> <li>• Seasonal foods</li> <li>• Wider variety of produce</li> <li>• Good knowledge from the seller</li> <li>• Supports local farmers</li> <li>• Supports local economy</li> <li>• Good quality/fresh</li> <li>• Concerns over food miles/carbon footprint</li> <li>• May be organic</li> </ul>	2	1 mark for each correct grip, max 2 marks

**QUESTION 8(b)(i)**

Question 8 covers part of Section B (food provenance and locally produced food), part of Section C (Food science, heat transfer and enzyme browning) and part of Section A (Vitamins, micronutrients and the function of Vitamin C) of the specification.

**(b)** Potatoes contain vitamin C.

**(i)** Give **two** functions of vitamin C in the body.

[2]

**MARK SCHEME FOR QUESTION 8(b)(i)**

Question	Answer	Marks	Guidance
8(i)	<p>Two from:</p> <ul style="list-style-type: none"> <li>• Enables the body to absorb iron</li> <li>• Needed for the production of collagen (collagen is required to bond cells together)</li> <li>• Helps the immune system</li> <li>• Helps develop healthy skin, teeth and hair</li> </ul>	2	1 mark for each correct function, max 2 marks

**QUESTION 8(c)**

Applying knowledge and understanding to a Heston Blumenthal recipe.

**Heston Blumenthal's Ultimate Mashed Potato**

Ingredients	Method
1 kg charlotte potatoes 1 tbsp salt 300 g cold butter, cut into cubes warm milk, to taste	<ol style="list-style-type: none"> <li>1) Peel the potatoes and cut them into 2.5 cm slices.</li> <li>2) Wash the slices under cold running water.</li> <li>3) Heat a large pan of water until it reaches a temperature of 80°C, add the potato slices and simmer for 30 minutes at 70°C.</li> <li>4) Drain the potatoes and cool.</li> <li>5) Heat a large pan of water until simmering, add the cooked potatoes and salt and cook again until soft.</li> <li>6) Drain the potatoes.</li> <li>7) Tip the potatoes into a ricer and rice the potatoes over a bowl containing the cold butter and mix together.</li> <li>8) Season with salt and freshly ground white pepper.</li> <li>9) To serve, reheat it gently in a pan, while gradually whisking in a little warm milk.</li> </ol>

8 (c) (i) State why the potatoes are cut into 2.5 cm slices before cooking. [1]

(ii) State why the potato slices are washed under cold water. [1]

(iii) Give the scientific explanation for potatoes turning brown after they have been peeled. [2]

(iv) State two methods of transferring heat to the potatoes when boiling. [2]

**MARK SCHEME FOR QUESTION 8(c)**

Question	Answer	Marks	Guidance
8(i)	Even cooking	1	
8(ii)	Remove the starch	1	
8(iii)	Explanation to include: <ul style="list-style-type: none"><li>the potato cells contain enzymes</li><li>once you cut the potatoes you open up some of the cells</li><li>the enzyme (ascorbic acid oxidase) is then exposed to oxygen in the air and it turns the potato brown</li><li>this is called enzymic browning</li></ul>	2	<b>2</b> marks for well-reasoned explanation <b>1</b> mark for reaction to oxygen/air
8(iv)	<ul style="list-style-type: none"><li>Conduction</li><li>Convection</li></ul>	2	<b>1</b> mark for each correct answer, max <b>2</b> mark

## QUESTION 9

Question 9 is an example of an extended response question (worth 12 marks) which is topical and relevant.

**9** Childhood obesity rates are increasing. Assess the factors which can contribute to diet related childhood obesity and the impact this could have on later life

[12]

## MARK SCHEME FOR QUESTION 9

Question	Answer
9*	<p><b>Factors can include:</b></p> <ul style="list-style-type: none"> <li>• consuming more calories (energy) than are burnt</li> <li>• eating excessive amounts of calorie-rich foods</li> <li>• increase in the consumption of fatty and sugary foods</li> <li>• high-energy, sugary drinks</li> <li>• inactivity - sitting for long periods of time, watching the TV and playing computer games</li> <li>• poor eating patterns, e.g. not eating breakfast</li> <li>• increase in the consumption of fast foods</li> <li>• lack of food education</li> <li>• poor eating patterns - learned habits/family influence</li> <li>• unhealthy food choices</li> <li>• overweight parents</li> <li>• some children more susceptible to being overweight</li> <li>• overall cost of food has gone down</li> <li>• more food is prepared and eaten away from home</li> <li>• portion sizes have increased</li> <li>• marketing/advertising of energy dense food and drinks has increased</li> <li>• lack of participation in sport</li> <li>• limited access to healthy affordable food</li> <li>• eating high calorie snacks before meals e.g. biscuits, crisps etc.</li> <li>• working parents – ready meals/take-aways</li> <li>• low-income – high calorie foods cheaper than healthy options.</li> </ul> <p><b>Factors impacting in later life could include:</b></p> <ul style="list-style-type: none"> <li>• CHD/heart disease</li> <li>• obesity</li> <li>• some cancers</li> <li>• poor skin</li> <li>• stroke</li> <li>• high blood pressure</li> <li>• high blood cholesterol levels</li> <li>• narrowing of the arteries</li> <li>• Type 2 Diabetes</li> <li>• Arthritis</li> <li>• breathing problems</li> <li>• emotional problems such as depression</li> <li>• restricts movement/difficulty doing physical activity</li> <li>• joint/back pain</li> <li>• sleep apnoea</li> <li>• decreased fertility</li> <li>• pregnancy complications</li> <li>• gall stones/gall bladder disease</li> <li>• liver/kidney disease</li> <li>• increased sweating.</li> </ul>

## GUIDANCE FOR CANDIDATES ANSWERING THE WRITTEN EXAMINATION

Candidates should understand the following terms which are used in the examination:

- Describe: Give an account of.
- Explain: Give an account with reasons.
- Evaluate/Assess: Judge and consider the quality, importance or value of different points of view and present their own conclusions.

Learners must study British cuisine and a minimum of TWO international cuisines.

Question 10 covers part of Section B (Development of culinary traditions, including features and characteristics of individual cuisines) in the specification.

### QUESTION 10

**10** Different bread products are eaten all over the world.

(a) In the table below name **one** traditional bread product for **three** different countries that you have studied.

[3]

	Country	Traditional bread product
1		
2		
3		

### MARK SCHEME FOR QUESTION 10

Question	Answer	Guidance
10(a)	<p><b>Three from:</b></p> <ul style="list-style-type: none"> <li>• Afghanistan: obi non</li> <li>• Australian: damper</li> <li>• China: mantou</li> <li>• Czech Republic and Slovakia: vánocka</li> <li>• Eastern Europe: bagel</li> <li>• Ethiopia: injera</li> <li>• France: baguette, croissant, brioche, pain au chocolat</li> <li>• Greek: pitta, matzo</li> <li>• Holland: tiger bread</li> <li>• India/Pakistan: chapatti, naan, paratha, roti</li> <li>• Iran: lavash</li> <li>• Ireland: soda</li> <li>• Italy: ciabatta, focaccia, grissini</li> <li>• Japan: melanpan</li> <li>• Mexico: tortilla</li> <li>• Scotland: buttery rowies</li> <li>• Serbia: cesnica</li> <li>• Switzerland: pane ticinese</li> <li>• Tibet: balep korkun</li> <li>• Turkey: bazlama, lavash, pita, yulka</li> <li>• UK: barrel, batch, bloomer, cob, coburg, Cornish splits, cottage, farmhouse, farmhouse, plait, rolls, sliced wrapped, soda bread, stottie, tin, English muffin</li> <li>• Venezuela/Colombia: arep</li> <li>• Wales: bara brith</li> </ul>	<p>1 mark for each correct answer, max 3 marks</p> <p>Do not accept the name of a manufacturer e.g. Hovis or Warburtons alone</p>

# TASK 1 FOOD INVESTIGATION TASK

Learners will write a scientific report on their understanding of the functional properties and working characteristics of ingredients when food is prepared and cooked. Learners are required to complete a report of 1500-2000 words. We recommend that learners spend no more than 10 hours on this task. This task is worth 45 marks.

This document guides teachers through the process of planning, investigation, analysing and evaluating for Task 1.

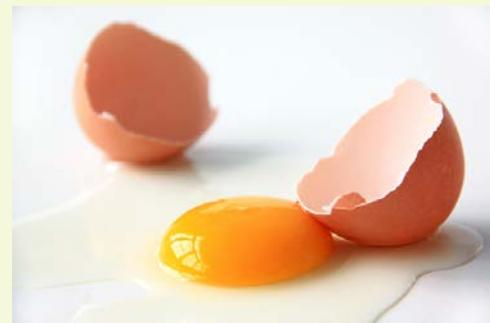
<b>Introduction</b> <b>Plan</b> <b>9 marks</b>	<p><b>What is the task?</b></p> <p><b>Task:</b> Eggs are a very versatile food. Explore and scientifically investigate the changes that occur when eggs are used as a setting agent. Explain scientifically what happens.</p> <p><b>Plan of how to complete it, learners will show:</b></p> <ul style="list-style-type: none"> <li><b>Aim of the investigation</b> Eggs are used in cooking to set a variety of mixtures. The aim of the investigation will focus on how and why eggs can be used to set a basic sweet egg custard mixture.</li> <li><b>Research</b> Nutritional information, chemical, structural and working properties/characteristics of ingredients Detailed analysis and investigation of the structural composition of eggs (Nutritional analysis). Additional ingredients could be researched.</li> <li><b>Plan of investigations and reasons for choice.</b> The plan should show the choice of investigations with detailed explanations linking to the functional and chemical properties of the ingredients. Plan to do investigations into how eggs can be used to set an egg custard. (ingredients to be used: eggs, milk and sugar)</li> <li><b>Prediction:</b> what the student thinks will happen.</li> <li><b>Recommendations:</b> suggestions for future use in cooking.</li> </ul>
<b>Investigation</b> <b>21 marks</b>	<p><b>The method used for each investigation.</b></p> <p>Learners will do the experiments:</p> <ol style="list-style-type: none"> <li>investigate the effects of changes in heat and temperature/cooking methods and how these will affect the outcome</li> <li>dry heat and moist heat (bain-marie), Cook at 50°C, 100°C, 150°C and 200°C</li> <li>using different skills and techniques – how they will affect the outcome: (Beating and whisking)</li> <li>combinations and different proportions of ingredients - how they will affect the outcome.</li> </ol> <p>Different quantities of each ingredient: different proportions of sugar and eggs, adding flavourings e.g. lemon.</p> <p><b>Report evidence</b></p> <ul style="list-style-type: none"> <li>Changes and adaptations to the plan, with reasons, following the outcome of the investigations.</li> <li>Written and photographic evidence of completing different scientific processes using a logical sequence of working.</li> <li>Records of observations and findings, using a wide range of different formats, graphs, charts, sensory analysis and photographs.</li> </ul>
<b>Analysis</b> <b>9 marks</b>	<p><b>What has happened?</b> Learners will show:</p> <p>Analysis and interpretation with an explanation of findings using scientific and technical terms.</p>
<b>Evaluation</b> <b>6 marks</b>	<p><b>What is the conclusion?</b></p> <p>Learners will evaluate what the results show and why and make further recommendations and suggest modifications.</p>

**RESEARCH COULD INCLUDE:****STRUCTURE OF THE EGG**

An egg consists of three parts:

1. a shell
2. an egg white
3. an egg yolk

An egg from a hen consists of approximately 2/3 egg white and 1/3 egg yolk.



Nutrition information	Per 100g whole raw egg, excluding shell	Per medium size egg
<b>Typical values</b>		
Energy	547kJ 131kcal	277kJ 66kcal
Protein	12.6g	6.4g
Carbohydrate of which sugars	0g	0g
Fat	9.0g	4.6g
of which saturates	2.5g	1.3g
monounsaturates	3.4g	1.7g
polyunsaturates	1.4g	0.7g
Salt	0.4g	0.2g
Vitamin A	126mcg	64mcg
Vitamin B2 (riboflavin)	0.5mg	0.25mg
Vitamin B12	2.7mcg	1.4mcg
Vitamin D	3.2mcg	1.6mcg
Selenium	23mcg	12mcg
Iodine	50mcg	25mcg

# TASK 2 FOOD PREPARATION TASK

## PLAN, PREPARE AND COOK

Being creative with world street food!

**Task:** Our food choices are benefitting from the multi-cultural society in which we live. Your local area is holding a street food/music festival. Plan, prepare, and cook and present three dishes, which could be served at the food festival. Evaluate your work.

**Plan (20 marks)** For each dish chosen learners will be required to justify their choices using the headings in the table: Greek kebab / Souvlakia is an example of one dish.

<b>Reasons for selection of dishes</b> Greek or Turkish kebab (souvlakia) with pitta bread, Greek salad and tzatziki		Choice relating to the task Greek or Turkish kebab (souvlakia) with pitta bread and tzatziki <ul style="list-style-type: none"> <li>• Greek/Turkish cuisine,</li> <li>• Contained, multicultural style snack, street food</li> <li>• Easy to eat</li> <li>• Key ingredients: lamb, olive oil, oregano, tomatoes, lemon juice</li> </ul> <b>Characteristics:</b> Mediterranean style cuisine, makes wide use of olive oil, lemon juice and vegetables
Vegetable samosas and mango chutney		Identification of skills and techniques <ul style="list-style-type: none"> <li>• High level of Techniques and Skills <ul style="list-style-type: none"> <li>- Knife skills – meat preparation, de- boing and dicing</li> <li>- Marinating of meat</li> <li>- Knife skills – vegetable preparation</li> <li>- Yeast dough – pitta bread</li> <li>- Flavoured sauce – chilli sauce</li> </ul> </li> </ul> Use of the grill/griddle/oven
Chicken chow mein and egg fried rice		
<ul style="list-style-type: none"> <li>• Costs</li> <li>• Food provenance and seasonality</li> </ul> Food sources – Where do they get the food, is it in season?		Sensory and nutritional choice <ul style="list-style-type: none"> <li>• Nutritional choice- suitability for different groups of people</li> <li>• Nutritional analysis and commentary using a nutrition program (Explore Food)</li> <li>• Sensory profile of dish (application of the five senses)</li> </ul>

## TIME PLAN

The time plan needs to show times, sequencing and dovetailing. Reference should be made to the chosen skills, techniques and equipment. Food safety and quality points should be identified. An example is shown below.

Time	Action	Quality points	Food safety points

### Method of working (20 marks)

Marks are awarded for:

- Personal preparation and organisation of work area
- Following the time plan exactly, using the correct sequence and producing dishes successfully on time.
- Working independently
- Applying food safety procedures including temperature control

### Skills and cooking (25 marks)

Marks are awarded for:

- Successfully applying a wide variety of complex skills and techniques
- Using tools and equipment, competently and efficiently
- Methods of cooking and cooker management

### Presentation (25 marks)

Marks are awarded for:

- High quality, well presented and styled dishes.
- Excellent outcome of sensory testing by the teacher.

### Analyse and evaluate (15 marks)

- Comprehensive and detailed sensory analysis of the dishes made.
- Detailed, comprehensive evaluation with reasoned judgements of the overall task
- Suggestions for improvements and changes

## USE OUR SKILLS PLANNING TOOL

Learners will be required to demonstrate a range of dishes showing different levels of skill in the practical preparation task. Learners and teachers can log and identify skills using this tool.

Visit the OCR website for more Food Preparation and Nutrition resources.



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Skill Requirements and Techniques									
		Meat/poultry/fish/alternatives		High level dishes		Med level dishes		Low level dishes	
				Chicken curry and nan	Steak and kidney pie	Kedgeree and parsley sauce	Duck tagine	Seafood stir fry	Sausage toad in the hole
Knife skills	fillet a chicken breast								
	portion a chicken								
	slice/dice raw and cooked								
	remove visible fat and rinds								
	fillet fish								
Prepare, combine and shape	roll, wrap, skewer, mix, coat layer and shape and bind wet mixtures								
Tenderise and marinate	acids to denature protein marinate to add flavour and moisture								
Make sauces, blend, reduction, emulsion	demonstrate how evaporation concentrates flavour and changes viscosity (curry sauce, gravy, meat sauce)								
Presentation and food styling	garnishes, decorative techniques to improve the aesthetic qualities, demonstrate portion and presentation style								
Select and adjust cooking process	adjust time								
Weigh and measure	accurate weighing and measurement of liquids and solids								

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## OCR customer contact centre

General qualifications

Telephone 01223 553998

Facsimile 01223 552627

Email [general.qualifications@ocr.org.uk](mailto:general.qualifications@ocr.org.uk)



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