Zig Zag Education

**Food and Nutrition**

GCSE | AQA | 8585


# Learning Grids

## for GCSE AQA Food Preparation and Nutrition

zigzageducation.co.uk

POD 9073a

# Contents

# Teacher's Introduction

These learning grids are designed to help your students independently learn content and will help you to assess their knowledge during teaching of each section of AQA GCSE Food Preparation and Nutrition specification. The concept is that your students are assigned a set of pages to read from the relevant book and are then asked to complete the relevant learning grids, possibly for homework or as a refresher for a topic. These activities are particularly useful for students who need more support, but they also contain some thought-provoking reasoning questions which will stimulate highly engaged students.

Each learning grid is closely linked to the AQA GCSE Food Preparation and Nutrition specification, ZigZag Course Companions and to the approved textbooks. Relevant page numbers are provided at the top of each worksheet, to allow easy cross-referencing.

Each learning grid contains a range of question styles, including:

- **Quick-testing questions** – these may be a phrase, a definition or a numeric response.
- **Labelling questions** – designed to introduce structural concepts to the student.
- **Missing-information / Match-up questions** – test key knowledge quickly.
- **Explain-a-process questions** – encourage students to recognise cause and effect in food preparation, cooking and nutrition processes.
- **Applied-knowledge questions** – challenge students to apply knowledge in real-life situations.

Learning grids in this section will on average take 20–30 minutes each. However, this resource includes some opportunities to develop mathematics skills, and students who find maths challenging may find that these resources take longer to complete.

These resources can be used to engage students and allow those who have missed lessons to catch up quickly. They can be the basis for a homework exercise, and the answer scheme allows them to be easily used in cover lessons. Students could also use the sheets as an independent learning and revision resource.

The advantages of using these learning grids are:

- ✓ The completed grids contain a summary of what students need to know which is useful for revision.
- ✓ They are an easy-to-set, yet valuable, homework.
- ✓ They are a useful catch-up tool to help students who have missed a lesson.
- ✓ They can be used as a basis for cover lessons as they require minimal preparation and little interaction from the cover teacher.
- ✓ They are an independent learning resource.
- ✓ They contain real-life examples and case studies.
- ✓ They contain extra questions aimed at higher-ability students – marked with ✪. (Please note that some answers are also marked with ✪ – that's indicate additional correct answers which are not required by the specification).
- ✓ Contain most up-to-date information on food preparation and nutrition, including the most recent dietary recommendations.

**Learning Grids are cross-referenced to the following resources:**

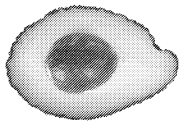
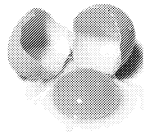
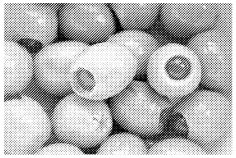
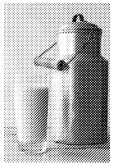
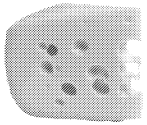
- ZigZag Course Companion: Food, Nutrition and Health [POD 7747]
- ZigZag Course Companion: Food Science [POD 7534]
- ZigZag Course Companion: Food Safety [POD 7161]
- ZigZag Course Companion: Food Choice [POD 7478]
- ZigZag Course Companion: Food Provenance [POD 7738]
- Food Preparation & Nutrition, Rickus Saunder Mackey, Hodder Education 2016, ISBN 978-1-4718-6364-6
- Food Preparation and Nutrition, Tull Littlewood, Illuminate Publishing 2016, ISBN 978-1-908682-78-9

Please note that some aspects of the specification may be covered more than once, due to being covered in different topic areas – this develops students' retention of content.

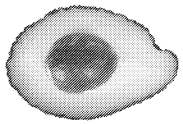
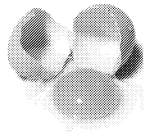
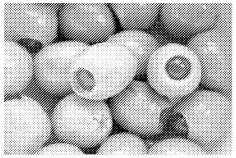
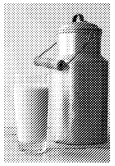
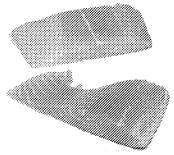
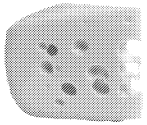
All learning grids can be photocopied in black and white. We hope you and your students will enjoy this resource!

# Selected Question and Answer Pages

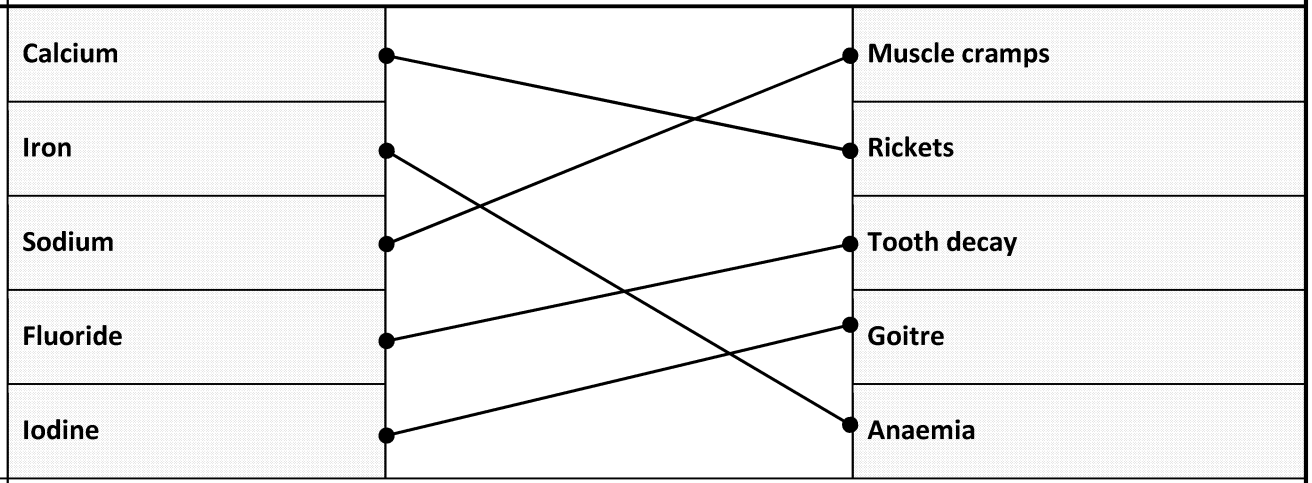
For demonstration only, the sample answer pages immediately
follow their corresponding question pages

| | Questions | Answers | | | |
|---|---|---|---|---|---|
| 3.2.1.2 Fats | 6. For each of the foods in the pictures identify whether they are a source of saturated or unsaturated fats. |  Sausages: |  Avocado: |  Eggs: |   Butter: |
| | |  Olives: |  Red meat: |  Whole milk: |  Salmon: |
| | |  Nuts: |  Milk chocolate: |  Cheese: |  Chicken: |
| | 7. How many fatty acid chains are there in a molecule of fat? | | | | |
| | 8. Identify and explain two health effects of excessive fat consumption. | Health effect | Explanation | | |
| | | | | | |
| | | | | | |

| | Questions | Answers | | | |
|---|---|---|---|---|---|
| 3.2.1.2 Fats | 6. **For each of the foods in the pictures identify whether they are a source of saturated or unsaturated fats.** |  **Sausages:** saturated |  **Avocado:** unsaturated |  **Eggs:** saturated |   **Butter:** saturated |
| | |  **Olives:** unsaturated |  **Red meat:** saturated |  **Whole milk:** saturated |  **Salmon:** unsaturated |
| | |  **Nuts:** unsaturated |  **Milk chocolate:** saturated |  **Cheese:** saturated |  **Chicken:** saturated |
| | 7. **How many fatty acid chains are there in a molecule of fat?** | Three | | | |
| | 8. **Identify and explain two health effects of excessive fat consumption.** | **Health effect** | **Explanation** | | |
| | | Weight gain / overweight / obesity | Because excess fat is stored in the bo | | |
| | | Cardiovascular disease / high blood pressure | Because fat and cholesterol residues around the body and in the heart, ca | | |

| | Questions | Answers | | |
|---|---|---|---|---|
| 3.2.2.2 Minerals | 6. Match the minerals with the effects of their deficiency. | Calcium | | Muscle cramps |
| | | Iron | | Rickets |
| | | Sodium | | Tooth decay |
| | | Fluoride | | Goitre |
| | | Iodine | | Anaemia |
| | 7. Why is it important that calcium and phosphorus are consumed in the correct proportion?✪ | | | |
| | 8. Why do teenage girls and women need more iron than teenage boys or men? | | | |
| | 9. What is the recommended daily intake of sodium for adults? | | | |
| | 10. Give two health effects of excessive sodium consumption. | | | |
| | 11. Which disease is caused by calcium deficiency among adults and the elderly? | | | |

| | Questions | Answers |
|---|---|---|
| 3.2.2.2 Minerals | **6. Match the minerals with the effects of their deficiency.** |  |
| | **7. Why is it important that calcium and phosphorus are consumed in the correct proportion?✪** | This is because when there is too much phosphorus in the blood, the body pulls calcium from the bones to equal their levels. For this reason, excess phosphorus could cause demineralisation of bones, leading to osteomalacia (a condition in which calcium is 'released' from the bones to perform its other functions in the body, so the bones become soft). |
| | **8. Why do teenage girls and women need more iron than teenage boys or men?** | This is due to the blood loss they experience during menstruation and childbirth – their need for iron lowers after menopause. Extra iron is necessary to prevent anaemia in them. |
| | **9. What is the recommended daily intake of sodium for adults?** | No more than 6 g of salt a day (2,400 mg of sodium)<br>As the guidance differs, accept anything less than 6 g. |
| | **10. Give two health effects of excessive sodium consumption.** | **1.** Increased blood pressure / hypertension<br>**2.** Increased risk of stroke, heart attack and kidney disease |
| | **11. Which disease is caused by calcium deficiency among adults and the elderly?** | Osteoporosis |

# 3.2: Food, Nutrition and Health

## 3.2.2.3 Water

ZigZag Course Companion (7477): pp. 37–38
Hodder: pp. 142–144
Illuminate Publishing: pp. 36–37

| | Questions | Answers |
|---|---|---|
| 3.2.2.3 Water | 1. Give three functions of water in the body. | |
| | 2. What term is used to describe the lack of water in the body? | |
| | 3. Describe three ways in which water is lost from the body. | |

# 3.2: Food, Nutrition and Health

## 3.2.2.3 Water

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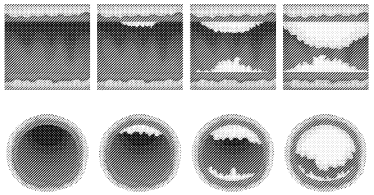
| | Questions | Answers |
|---|---|---|
| 3.2.2.3 Water | **1. Give three functions of water in the body.** | Any three from:<br>• Regulating body temperature / cooling<br>• Eliminating waste and toxins<br>• Aiding digestion through production of saliva, stomach juices and enzyme-rich fluids in the intestines<br>• Helping to transport nutrients around the body (through blood)<br>• Taking part in chemical reactions in cells<br>• Keeping mucous membranes healthy and moist, e.g. the lining of the digestive system<br>• Helping to keep the skin healthy<br>Or any other suitable answers |
| | **2. What term is used to describe the lack of water in the body?** | Dehydration |
| | **3. Describe three ways in which water is lost from the body.** | Any three from:<br>• Water is lost through the kidneys with urine.<br>• Water is lost through the intestines with stool.<br>• Water is lost through the respiratory system when we breathe (as va[illegible]<br>• Water is lost through the mouth when we breathe and spit.<br>• Water is lost through wounds when we bleed.<br>• Water is lost through the eyes with tears.<br>• Water is lost through the skin with sweat.<br>Or any other suitable answers |

# Additional Selected Question Pages

# 3.2: Food, Nutrition and Health

## 3.2.3 Nutritional needs and health

ZigZag Course Companion (7477): pp. 56–62
Hodder: pp. 176–190
Illuminate Publishing: pp. 70–77

| | Questions | Answers | | |
|---|---|---|---|---|
| 3.2.3.4 Diet, nutrition and health | 1. Fill in the gaps to outline the relationship between diet, nutrition and health. | A ..... includes all of the foods a person eats. The foods in the diet provide ..... necessary to maintain ...... Poor ..... can lead to a number of health issues, caused by ..... or excess of nutrients. | | |
| | 2. Define a 'risk factor'. | | | |
| | 3. Define 'obesity'. | | | |
| | 4. Obesity is a risk factor for numerous health conditions. List three of them. | | | |
| | 5. What process is shown in the diagram below?  | | | |

| | Questions | Answers |
|---|---|---|
| 3.2.3.4 Diet, nutrition and health | 6. Why is the process shown in question 5 dangerous? | |
| | 7. What are the diet-related factors which cause the process from question 5 to happen? | |
| | 8. How can you modify a *diet* to prevent this process from happening? | |
| | 9. What is hypertension? | |
| | 10. What are the diet-related causes of hypertension? | |

| | Questions | Answers | |
|---|---|---|---|
| 3.2.3.4 Diet, nutrition and health | 11. Describe how high sugar consumption contributes to the development of diabetes. | | |
| | 12. What is osteoporosis? | | |
| | 13. Identify the two most important micronutrients which help to prevent osteoporosis and indicate at least two sources of each in a diet. | **Micronutrient** | **Sources** |
| | | | |
| | | | |
| | 14. A vegetarian was recently diagnosed with iron deficiency anaemia.<br><br>What foods should she eat to increase her iron intake? | | |

| | Questions | Answers | | |
|---|---|---|---|---|
| 3.2.3.4 Diet, nutrition and health | 15. Complete the sentences to explain the role of iron in the human body. | Iron is used in the body to build ..... – the pigment in ..... blood cells.<br>Haemoglobin binds ..... and transports it around the body to all .....<br>and tissues. | | |
| | 16. Give three pieces of advice which could be of benefit for an individual with type 2 diabetes. | | | |
| | 17. In 2018 the government introduced the Soft Drinks Industry Levy. Why is it important? | | | |
| | 18. What is the money from the levy used for? | | | |
| | 19. Why do recommendations state that lactating women should eat more calcium? | | | |

| | Questions | Answers |
|---|---|---|
| 3.2.3.4 Diet, nutrition and health | **20. Isaac is a 50-year-old man suffering from type 2 diabetes and hypertension.**<br><br>**Today for breakfast he ate four eggs fried in lard, fried bacon and two slices of white bread, and drank a large cup of coffee with two teaspoons of sugar.**<br><br>**Suggest how Isaac's diet affects his health and how could he improve his eating habits.** | |
| | **21. Describe the difference between rickets and osteoporosis.** | |