

teacher's handbook

Version 3 April 2010



GCSE

Design and Technology: Food Technology

J302 – Full Course
J042 – Short Course

This handbook is designed to accompany the OCR GCSE Design and Technology: Food Technology specification for teaching from September 2009. This booklet contains the following support materials:

- Subject specific guidance
- Resource list
- Publisher partner resources
- Frequently asked questions
- Other forms of support.

OCR GCSE
**DESIGN AND
TECHNOLOGY**

www.ocr.org.uk/foodtechnology/newgcse
www.ocr.org.uk/foodtechnology/newgcse/sc
www.ocr.org.uk/innovatorsuite/newgcse

Contents

Introduction	3
Subject specific guidance	4
Resources	14
Other forms of Support	16
Frequently Asked Questions	19

Introduction

OCR is offering new GCSEs for first teaching in September 2009.

We've taken this opportunity to improve the quality of our GCSEs for teacher's and students alike.

We've made improvements in three key areas : updated and relevant content, a focus on developing students personal, learning and thinking skills, and flexible assessment, so you can choose the best learning approach for the job.

We want to make the introduction of these new GCSEs as easy for you to manage as possible.

The main changes are :

- Controlled assessment will be introduced for most subjects
- The opportunity will be taken to bring course content up to date
- Examinations should provide opportunity for extended writing and more varied question types
- All GCSEs will meet the requirements of the Disability Discrimination Act.

Our approach is to provide consistency across all our GCSEs by offering the flexibility that unitised qualifications bring, allowing teaching and assessment to be either a linear or unitised fashion.

OCR offers a range of support materials, developed following extensive research and consultation with teacher's. We've designed them to save you time when preparing for the new specification and to support you while teaching them.

It is important to make the point that this Teacher's Handbook plays a secondary role to the specifications themselves. The GCSE Design and Technology: Food Technology specification is the document on which assessment is based: it specifies what content and skills need to be covered. At all times therefore, the Teacher's Handbook should be read in conjunction with the Specification. If clarification on a particular point is sought, then that clarification must be found in the Specification itself.

Subject specific guidance

This document is designed to support delivery of GCSE Design and Technology: Food Technology (J302) and GCSE (Short course) Design and Technology: Food Technology (J042). We hope you will find it useful in planning your delivery and assessment opportunities.

There are four units available for Design and Technology: Food Technology. They are:

- Unit A521: Introduction to designing and making
- Unit A522: Sustainable design
- Unit A523: Making quality products
- Unit A524: Technical aspects of designing and making

GCSE candidates must take all four units (in any order) whilst short course candidates only take units A521 and A522 (in any order).

The support documents do not seek to prescribe how the subject should be delivered. They merely seek to show the breadth and range of learning opportunities within this subject area. We hope centres will use these as a starting point for developing inspiring and innovative courses that meet the needs of their students.

Unit A522 Sustainable design

This unit aims to develop a candidate's knowledge and understanding of sustainability, environmental concerns, cultural, moral and social issues. Candidates will look at how Design and Technology has evolved through examination of the products from the past and present. Candidates need to consider how future designs will impact on the world in which we live. They will need to study examples of both old and new products in order that they gain awareness and understanding of recent trends and innovations in design and production, labelling, packaging and the impact that the design of such products is having on the environment, society and the economy.

Candidates will need to consider how future designs/ products will impact on the world in which we live. By looking at old and new products candidates will gain awareness and understanding of trends and innovations in design and manufacture, labeling, packaging and the impact that the design of such products is having on the environment, society and the economy.

Moral, cultural, economic, environmental and sustainability issues are inherent in design and technology.

Through this unit candidates will be able to answer some of the following questions:

- What is meant by a 'product life cycle'?
- Why were certain materials chosen and used?
- What is meant by planned obsolescence?
- What do we mean by the 6 R's?
- What can we do to ensure eventual disposal of products/ materials is as eco friendly as possible?

These are just some of the key questions that you should be able to answer.

The assessment of this unit is through an externally set and marked test:

- This assessment unit can be taken in either January or June examination session.
- It represents 20% of a full GCSE qualification or 40% of a short course qualification.
- The maximum mark for the unit is 60.
- The duration of the examination is 1 hour and the paper is divided into two sections.
- **Section A** consists of fifteen questions covering generic issues associated with sustainability, society, the economy and the environment.
- **Section B** consists of three questions which will require you to relate your knowledge and understanding of the '6R's', materials, processes and the design of products.

How are the questions structured?

SECTION A

Candidates are advised to spend approximately 15 minutes on this section.

There will be 15 questions.

- **Multiple choice questions. You will be required to circle the correct answer eg**

Name the food which is compostable:

- (a) plastic
- (b) raw meat
- (c) raw carrots
- (d) cooked meat

- **Short answer response questions eg**

State what is meant by a product being 'Fair trade'

..... [1]

The symbol shown stands for:



..... [1]

- **True and false questions**

Decide whether each of the following statements is **true** or **false**.

Tick [✓] the box to show your answer

Preservatives are added to foods to make the shelf life shorter

True	False
<input type="checkbox"/>	<input type="checkbox"/>

SECTION B

Candidates are advised to spend approximately 45 minutes on this section.

This section consists of three questions which will require you to relate your knowledge and understanding of the '6R's', materials, processes and the design of products.

This will include three questions. The total number of marks per question is 15. The questions will be structured so that pupils of different abilities will be able to access some part of each question. The example below illustrates this.

There will be part of one question which will have 6 marks and will have a banded response. See later information.

- 1. Manufacturers put a lot of information on packaging.
(a) Fig 1 shows a symbol used on packaging material.

Fig.1



Some will be short answers with a one word or short answer

State what the symbol stands for.

..... [1]

- (b) Manufacturers put information on food packaging to help inform consumers. State **one** piece of information which are required on packaging by law.

1..... [1]

A more difficult question. Most candidates will achieve 2 marks.

- (c) Some consumers choose to purchase organic food products.

State **three** reasons consumers may choose to purchase organic food products.

Reason 1.....[1]

Reason 2.....[1]

Reason 3.....[1]

(d) The ingredients below are used to make a fruit crumble.

Ingredients

White flour
Butter (New Zealand)
Crumble topping
Demerara sugar (Barbados)

} **Crumble topping**

White Sugar (England)
Apples (France) **Filling**
Strawberries (Spain)

}

There may be a question which requires the candidates to modify a design. As this is an explain question they must give reasons for what they say.

A manufacture wants to modify the fruit crumble to reflect local produce and seasonal foods.

Explain how you could adapt these ingredients.

.....
.....
.....
.....[4]

(e*) The Government are concerned about the health of the nation.

Discuss how manufacturers have responded to this.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....[6]

TOTAL: 15

Banded Mark Scheme

On the unit A522 examination papers there will be one question where the marking will be banded marking. The questions will have * by the number to show this.

This is the academic rigor of the examination paper and will differentiate between the lower and higher attaining candidates.

Its advantage is the all candidates will be able to achieve some marks on those questions but to achieve highly the candidates will need to put some depth and detail into their answers and show a thorough understanding of the topic.

In the specimen examples on the OCR website there is one example:

Question

The Government are concerned about the health of the nation.

Discuss how manufacturers have responded to this

Answer guidelines:

Level 1 (0-2 marks)

Basic discussion, if candidates only write in point form a maximum of 2 marks should be awarded, showing some understanding of how manufacturers have responded to Government concerns about the health of the nation. There will be little or no use of specialist terms. Answers may be ambiguous or disorganised. Errors of grammar, punctuation and spelling

Level 2 (3-5 marks)

Adequate discussion, showing an understanding of how manufacturers have responded to Government concerns about the health of the nation. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation

Level 3 (6-7 marks)

Thorough discussion, showing a clear understanding of how manufacturers have responded to Government concerns about the health of the nation. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar.

On the SAMs mark scheme there are details of the type of areas it is expected the candidates will discuss.

Unit A524 Technical Aspects of designing and making

Introduction to the Unit A524 assessment

The unit A524 examination is a 1 hour 15 minutes examination worth 20% of the GCSE full course marks. It is externally marked and is intended to be taken at the end of a two year course.

The paper consists of five questions that focus on the technical aspects of designing and making in Food.

Section A

Section A consists of three questions based on aspects of working with ingredients, tools and equipment.

Section B

Section B has two questions on the design of food products with particular emphasis on sustainability and how products meet the needs people. One of these questions will be design based.

Each question starts with easy parts and they get progressively more difficult. Two of the questions will be marked with asterisk (*). It will be marked on the quality of written communication called banded marking.

Assessment of this unit

This unit is assessed by an externally set and marked test that is available in January and June. The test is 75 minutes in length and is divided into sections A and section B. Section A consists of three questions based on the technical aspects of working with ingredients and equipment. Section B consists of two questions on the design of products reflecting the wider aspects of sustainability and human use. One of these questions will require a design response.

How are the questions structured?

1. Fig 1 shows a fruit pie.



An easy start to the question for all candidates

1 (a) (i) State one fruit grown in the UK that could be used for filling for the fruit pie.

..... [1]

(ii) A food manufacturer wants to produce a batch of 50 fruit pies.

State **three** ways the manufacturer can ensure that all of the pies are identical.

1
2
3 [1]

A more difficult question. Most candidates will achieve 2 marks.

(b) Environmental issues are a concern for many consumers.

Suggest **two** ways in which consumers can reduce the amount of waste from packaging.

1
2 [1]

Again the first mark will be easy but some candidates will not be able to achieve the second mark.

(c) Explain why a manufacturer may decide to reduce the amount of pastry in a pie.

.....
.....
.....
..... [2]

This question is more difficult. Most candidates will achieve one mark but to gain 2 marks they need to explain their answer.

Banded Mark Scheme

On the unit A524 examination papers there will be two questions where the marking will be banded marking. The questions will have * by the number to show this.

This is the academic rigor of the examination paper and will differentiate between the lower and higher attaining candidates. Its advantage is the all candidates will be able to achieve some marks on those questions but to achieve highly the candidates will need to put some depth and detail into their answer and show a thorough understanding of the topic.

In the specimen examples on the OCR website there are two examples:

Question

Discuss why there has been an increase in the number of reported cases of food poisoning. (4marks)

Answer guidelines

Level 1 (0-2 marks)

Basic discussion, showing limited understanding of why there has been an increase in the number of reported cases of food poisoning

Level 2 (3 marks)

Adequate discussion, showing some understanding of why there has been an increase in the number of reported cases of food poisoning

Level 3 (4 marks)

Thorough discussion, showing detailed understanding of why there has been an increase in the number of reported cases of food poisoning

Question

Additives are widely used in food products.

Discuss the implications to the manufacturer and consumer of using additives in food products.

Level 1 (0-2 marks)

Basic discussion, showing limited understanding of the implications to the manufacturer and/or consumer.

There will be little or no use of specialist terms. Answers may be ambiguous or disorganized. Errors of grammar, punctuation and spelling may be intrusive.

Level 2 (3-4 marks)

Adequate discussion, showing some understanding of the implications to the manufacturer and/or consumer.

There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format.

There may be occasional errors in spelling, grammar and punctuation

There may be discussion on only one aspect e.g. either the manufacturer or the consumer.

Level 3 (5-6 marks)

Thorough discussion, showing a good understanding of the implications to both the manufacturer and consumer.

Specialist terms will be used appropriately and correctly.

The information will be presented in a structured format.

The candidate can demonstrate the accurate use of spelling, punctuation and grammar.

Resources

Unit A522: Sustainable design

Hodder GCSE D&T: Food Technology to be published April 2009

The Sustainability handbook for D&T teacher's Practical Action Publishing ISBN978-1-85339-670-0

www.nutriron.org.uk

www.bbc.co.uk/lifestyle

www.nutrition.org.uk

www.food.gov.uk

www.carbontrust.co.uk

www.fairtrade.org.uk

www.recyclenow.com

www.soilassociation.org

www.foodlink.org.uk

<http://www.eatwell.gov.uk/healthissues>

http://practicalaction.org/?id=sustainable_design_technology

Unit A524: Technical aspects of designing and making

Hodder GCSE Food Technology to be published April 2009

BNF website

Food Standards agency website

www.nutrition.org.uk

www.bbc.co.uk/lifestyle

www.britishmeat.co.uk

Active kids get cooking

Licence to Cook

The Sustainability handbook for D&T teacher's Practical Action Publishing

Focus on Food _ Cook School is free to all secondary schools. Tel 01422 383191

Focusonfood@designdimensions.org

A resource list for teachers

Abbott, EA and Mansfield, ED (1995) *A Primer of Greek Grammar* Bristol Classical Press
0715612581

Anderson, Stephen and Taylor, John (2005) *Greek Unseen Translation* Bristol Classical Press
185399684X

Blackwell, C (2001) *Gamma J-PROGS*, www.j-progs.com

Bowen, A (1991) *Advanced Greek Unseens* Bristol Classical Press 0906515475

Crane, G (2000) *Perseus 2.0* (PIP) Yale University Press, www.yalebooks.co.uk

Goodwin, WW (1998) *A Greek Grammar* Bristol Classical Press 1853995223

Hiner, Martin (1991) *Greek Comprehensions for Schools* Bristol Classical Press 1853990531

Moore, J and Evans, J (1998) *Variorum (Greek Unseens)* Bristol Classical Press 1853991902

Morwood, James (2003) *Oxford Grammar of Classical Greek* Oxford University Press
0195218515

Paul, A (2001) *Grammatikon* A H Paul, AHPaul@compuserve.com

Wilding, LA (1994) *Greek for Beginners* Bristol Classical Press 0715626469

Other forms of Support

In order to help you implement the new GCSE D&T Food Technology Specification effectively, OCR offers a comprehensive package of support. This includes:

Published Resources

OCR offers centres a wealth of quality published support with a fantastic choice of 'Official Publisher Partner' and 'Approved Publication' resources, all endorsed by OCR for use with OCR specifications.

Publisher partners

OCR works in close collaboration with three Publisher Partners; Hodder Education, Heinemann and Oxford University Press (OUP) to ensure centres have access to:

- Better published support, available when you need it, tailored to OCR specifications
- Quality resources produced in consultation with OCR subject teams, which are linked to OCR's teacher support materials
- More resources for specifications with lower candidate entries
- Materials that are subject to a thorough quality assurance process to achieve endorsement

Hodder Education is the publisher partner for OCR GCSE Design and Technology : Food Technology.



Hodder Education is producing the following resources for OCR GCSE Design and Technology : Food Technology for first teaching in September 2009, which will be available in Spring 2009.

OCR Food Technology for GCSE Student's Book
Barbara Dinicoli, Meryl Simpson, Val Fehners, Editor Bob White
ISBN: 978 0340 98197 9
Published: 27/03/2009

OCR Design and Technology for GCSE Teachers DVD
Barbara Dinicoli, Meryl Simpson
ISBN: 978 0340 99121 3
Published:26/06/2009

Approved publications

OCR still endorses other publisher materials, which undergo a thorough quality assurance process to achieve endorsement. By offering a choice of endorsed materials, centres can be assured of quality support for all OCR qualifications.



Endorsement

OCR endorses a range of publisher materials to provide quality support for centres delivering its qualifications. You can be confident that materials branded with OCR's "Official Publishing Partner" or "Approved publication" logos have undergone a thorough quality assurance process to achieve endorsement. All responsibility for the content of the publisher's materials rests with the publisher.

These endorsements do not mean that the materials are the only suitable resources available or necessary to achieve an OCR qualification. Any resource lists which are produced by OCR shall include a range of appropriate texts.

OCR Training

A full range of training events provide valuable support, for the delivery and assessment of OCR qualifications:

Get Ready...

An overview of new OCR specifications

Get Started...

For teachers preparing to deliver or already delivering OCR specifications

Get Ahead...

For teachers wanting to improve delivery and assessment of a current OCR specification

Lead the way...

To encourage creativity and innovation

View up-to-date event details and make online bookings at www.ocreventbooker.org.uk or view our new training e-books at www.ocr.org.uk/training. If you are unable to find what you are looking for contact us by e-mail training@ocr.org.uk or telephone 02476 496398.

e-Communities

Over 70 e-Communities offer you a fast, dynamic communication channel to make contact with other subject specialists. Our online mailing list covers a wide range of subjects and enables you to share knowledge and views via email.

Visit <https://community.ocr.org.uk>, choose your community and join the discussion!

Interchange

OCR Interchange has been developed to help you to carry out day to day administration functions online, quickly and easily. The site allows you to register and enter candidates online. In addition, you can gain immediate a free access to candidate information at you convenience. Sign up at <https://interchange.ocr.org.uk>

Frequently Asked Questions

Unit A521: Introduction to designing and making

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Food Technology (J302). It is also one of two units that must be studied for a GCSE (Short course) in Design and Technology: Food Technology (J042).

What is this unit worth?

This unit is worth 30% of the GCSE in Design and Technology: Food Technology (J302) qualification and 60% of the GCSE (Short course) in Design and Technology: Food Technology (J042).

What is the entry code for this unit?

The entry code for this unit is A521.

How is this unit assessed?

The unit is assessed by a 20 hour controlled assessment test. This unit is internally marked and externally moderated. Teachers should use the published marking criteria for Unit A521. Moderation is carried out postally or via the OCR Repository.

Will candidates be able to re-sit the unit?

Yes. Candidates may re-sit this unit once before entering for certification for a GCSE or GCSE (Short course).

Is there a text book for this unit?

Yes. The recommended text book is GCSE Design and Technology: Food Technology published by Hodder. This book covers all four units of the GCSE in Design and Technology: Food Technology (J302) qualification and the two units required for a GCSE (Short course) in Design and Technology: Food Technology (J042).

Is there training available for this unit?

Yes. OCR provide a full programme of training for Design and Technology: Food Technology (J302 and J042). Details are available on the OCR website.

Unit A522: Sustainable design

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Food Technology (J302). It is also one of two units that must be studied for a GCSE (Short course) in Design and Technology: Food Technology (J042).

What is this unit worth?

This unit is worth 20% of the GCSE in Design and Technology: Food Technology (J302) qualification and 40% of the GCSE (Short course) in Design and Technology: Food Technology (J042) qualification.

What is Unit A522?

This unit aims to develop a candidate's knowledge and understanding of sustainability, environmental concerns, cultural, moral and social issues related to food technology. The specific content is listed on page 11 and 12 of the specification.

What is the entry code for this unit?

The entry code for this unit is A522.

How is this unit assessed?

This unit is assessed by a 60 minute written test. The test is externally set and marked.

How will the papers be structured?

Section A has 15 short questions this will be a mixture of multiple choice and short answer questions. Each question is worth 1 mark.

Section B has three questions each will be marked out of 15. This will include answers that may involve sketching, annotation, short sentences or more extended writing. At least one question will have a section which uses a banded mark scheme.

I understand that some questions are marked by banded marking. What is that?

There will be one banded response part of a question – worth 6 marks. Marks are awarded for the level of communication. The advantage of this is that all candidates should be able to attain some marks in their answer.

How do my candidates know that the question is marked by banded response?

The question number has an asterisk by it. Eg 5 (b*).

Do I have to teach this as a separate unit to the rest of the specification?

It is up to you how you organize the teaching of the specification; however the candidates need to be clear what they will be examined on in the examination. This is very clear in the specification.

Will there be a design question?

There will not be a design question where you start from a design specification however they may be a question where you are asked to modify an existing product.

Issues relating to sustainability are constantly changing will this be reflected in the exam?

The candidates can only be examined on what is in the specification however the terms used in the specification are broad and teachers will need to keep up to date with developments as you have done in the past.

This seems a very theory type paper – do you envisage practical activities being used to teach this?

Yes it is important to use a variety of different teaching methods / strategies so it appeals to different candidates learning styles. I would do practical work, investigations, discussions and many other different types of activities.

Is the test tiered?

No. All candidates take the same test.

When can my candidates sit the paper?

There are two papers every year. One in January and one in June.

Will candidates be able to re-sit the unit?

Yes. Candidates may re-sit this unit once before entering for certification for a GCSE or GCSE (Short course) with the highest score counting towards the qualification.

Are exemplar test questions available?

Yes. Exemplar questions are available on the OCR website and past test papers will also be made available on the website.

Is there a text book for this unit?

Yes. The recommended text book is GCSE Design and Technology: Food Technology published by Hodder. This book covers all four units of the GCSE in Design and Technology: Food Technology (J302) qualification and the two units required for a GCSE (Short course) in Design and Technology: Food Technology (J042).

Is there training available for this unit?

Yes. OCR provide a full programme of training for Design and Technology: Food Technology (J302 and J042). Details are available on the OCR website.

Unit A523: Making quality products

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Food Technology (J302). It **cannot** be taken as part of the GCSE (Short course) in Design and Technology: Food Technology (J042).

What is this unit worth?

This unit is worth 30% of the GCSE in Design and Technology: Food Technology (J302) qualification.

What is the entry code for this unit?

The entry code for this unit is A523.

How is this unit assessed?

This unit is assessed by a 20 hour controlled assessment task.

Is this unit assessed by a visiting moderator?

No. Candidates are required to take a minimum of two clear photographs of the product, which must be included in the design folder. The moderator will then request a sample of folders. Moderation is carried out postally or via the OCR Repository.

Will candidates be able to re-sit the unit?

Yes. Candidates may re-sit this unit once before entering for certification for a GCSE or GCSE (Short course) with the highest score counting towards the qualification.

Unit A524: Technical aspects of designing and making

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Food Technology (J302). It **cannot** be taken as part of the GCSE (Short course) in Design and Technology: Food Technology (J042).

What is this unit worth?

This unit is worth 20% of the GCSE in Design and Technology: Food Technology (J302) qualification.

What is the entry code for this unit?

The entry code for this unit is A524.

How is this unit assessed?

This unit is assessed by a 75 minute test. The test is externally set and marked.

What is the structure of the test?

The test is divided into sections A and B. Section A consists of three questions based on the technical aspects of working with materials, tools and equipment. Section B consists of two questions on the design of products reflecting the wider aspects of sustainability and human use. One of these questions will require a design response. Each of the five questions is worth 12 marks.

Will there be a design question?

Yes. The paper is divided into 2 sections.

Section A consists of three questions based on the technical aspects of working with food, tools and equipment.

Section B consists of two questions on the design of products reflecting the wider aspects of sustainability and human use. One of these questions will require a design response.

Is there a theme supplied for the paper?

No

Is the test tiered?

No. All candidates take the same test. The paper has 5 questions.

When can my candidates sit the paper?

There are two series every year. One in January and one in June.

Will candidates be able to re-sit the unit?

Yes. Candidates may re-sit this unit once before entering for certification for a GCSE or GCSE (Short course) with the highest score counting towards the qualification.

Are exemplar test questions available?

Yes. Exemplar questions are available on the OCR website and past test papers will also be made available on the website.

Is there a text book for this unit?

Yes. The recommended text book is GCSE Design and Technology: Food Technology published by Hodder. This book covers all four units of the GCSE in Design and Technology: Food Technology (J302) qualification.

Is there training available for this unit?

Yes. OCR provide a full programme of training for GCSE in Design and Technology: Food Technology (J302). Details are available on the OCR website.

www.ocr.org.uk

OCR customer contact centre

General qualifications

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