

Model Assignment Assessment Material

OCR Level 1/2 Cambridge National Certificate in ICT

OCR Level 1/2 Cambridge National Diploma in ICT

Unit R003: Handling data using spreadsheets

Please note:

This OCR model assignment is to be used to provide evidence for the unit identified above. Alternatively, centres may 'tailor' or modify the assignment within permitted parameters (see Information for Teachers). It is the centre's responsibility to ensure that any modifications made to this assignment allow learners to show that they can meet all of the learning outcomes and provide sufficient opportunity for learners to demonstrate achievement across the full range of marks.

INSTRUCTIONS TO TEACHERS

The OCR administrative codes associated with this unit are:

- unit entry code R003
- certification codes Certificate J810 / Diploma J820

The accreditation numbers associated with this unit are:

- unit reference number T/503/6027
- qualification reference(s) Certificate 600/4776/8
 Diploma 600/4778/1

Duration: Approximately 10 hours

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Model Assignment: Information for Learners

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Unit R003 – Handling data using spreadsheets

Scenario for the Assignment

'Make The Grade' is a company formed by two teachers – Sam and Sonia. They produce revision guides for GCSE courses, which they sell to schools. These include both paper-based student workbooks and interactive revision guides sold on DVDs.

When schools purchase a DVD they can either buy it with a single-user licence, which allows them to use it on only one computer at a time, or with a site licence, which allows them to use the product on any computer within the school. DVDs with a single-user licence are priced at £10 more than the student workbook and DVDs with a site licence are priced at 20 times the cost of a single-user licence, rounded up to the nearest pound.

Currently, Sam and Sonia use a word-processed template for their invoices, a calculator to work out costs and word-processed lists containing school address details and product prices. These manual methods enable them to produce quotes and invoices but occasionally calculation errors have been made and as their product range and their sales increase they are looking for a more efficient system. They have been told that they need to use a spreadsheet, but they do not have very much experience in using this type of software.

Sam and Sonia would like you to create a spreadsheet model that would enable them to:

- store details of all their products and prices and allow them to easily add new products when they become available
- store details of all their customers
- create and print invoices for orders placed.

Sam and Sonia have provided you with the following electronic files which you will need to complete your tasks:

- their price list, which also shows current delivery charges and discount rates
- an example invoice
- some sample customer information to show you the details they keep about the schools who buy their revision guides.

Read through all of the tasks carefully, so that you know what you will need to do to complete this assignment.

Important:

- You will need to have access to the marking criteria. Your teacher can explain the marking criteria if you need further clarification.
- You will need to draw upon relevant skills/knowledge/understanding from other units you have studied in this qualification.

Your Tasks

Task 1: Create a spreadsheet to meet user requirements

Learning Outcome 1 and part of Learning Outcome 2 are assessed in this task.

You need to create a spreadsheet model for 'Make The Grade' to meet Sam and Sonia's requirements.

Remember the importance of testing your spreadsheet model as you develop it, to make sure that the final system works as it should and that it is as efficient as possible.

- A** Create a spreadsheet model that will allow you to store details of the products and customers and to create invoices. Add any formulae that are needed to make the system as efficient as possible, making sure you use appropriate functions where necessary. Enter the relevant data provided by Sam and Sonia.
- B** Add validation to your spreadsheet wherever it is appropriate.
- C** Apply appropriate formatting to your sheet(s) and make sure that you have suitable headings etc, to make it as clear as possible for Sam and Sonia to understand what the different parts of the system do and where they need to enter data.
- D** You may want to add other features, eg comments, macros, input messages, conditional formatting, to help Sam and Sonia use the system as easily as possible.

Task 2: Explain the formulae used in the spreadsheet model

Part of Learning Outcome LO2 is assessed in this task.

Consider each part of your spreadsheet model in turn, and the requirements of 'Make the Grade' as outlined in the scenario. Identify where you have used formulae and explain why you have used them, including any functions you have used and why you chose them.

Task 3: Use the spreadsheet model to present information to support decision making.

Learning Outcome 3 is assessed in this task.

- A** Sam and Sonia have given you some additional user requirements. You need to show how your spreadsheet can be used to help them meet these requirements.
1. They promote their products at local teachers' events. They want to be able to send out promotional material to customers in the local area. For example, their next event will be in Birmingham, so they need to identify their customers in the Midlands area.
 2. They sometimes receive answerphone messages from customers, who do not always leave their telephone numbers. They need to be able to easily find a customer's telephone number. For example, last week they had a call from Hazelcroft Academy.
 3. They would like to include some quotes from satisfied customers in some of their advertisements. They would like to see their customer list sorted so that those who have made the most orders are at the top of the list. They can then start to contact those who have made the most orders to see if they would like to help.
 4. They sometimes have enquiries from schools who are not currently customers. It would be helpful if they could find out about any existing customers in their area, especially if they have made more than one order. They have just had an enquiry from a school in the North of England.
 5. They are thinking of having a special promotion for customers who have only made one order and who have not ordered for more than a year. They would like a list of these customers.
- B** Sam and Sonia would like to be able to see a breakdown of where their customers come from, so they can see clearly how many customers come from each of the different areas, eg the North, the Midlands, Wales. This should help them decide where to look for promotional opportunities.
- Create a chart to show Sam and Sonia the information they want to see. Make sure you format and label the chart as clearly and helpfully as possible.

- C** Show how you can use your spreadsheet model to solve the following problems for Sam and Sonia. For each problem you should explain the results you find and the reasons for the methods you use.
1. A customer contacts the company. The customer wants to buy revision guides on DVD for Biology, Chemistry and Physics. They would like two prices - one for buying all of these with a site licence and one for buying 10 single-user licences for each. They will want next day delivery.
 2. A second customer contacts the company for a quote:
 - This customer would like English, Maths and ICT revision guides. For each subject the customer wants a DVD with site licence, also 30 student workbooks. If they do **not** choose next day delivery, find the cost for this customer.
 - You notice that this customer's order will almost be sufficient to earn 10% discount. Try out some different scenarios to help this customer get what they want for the least amount of money, by purchasing additional student workbooks to give them 10% discount.
 3. A third customer contacts the company for a quote. This customer is interested in Maths and English. The customer would ideally like, for each subject, 12 single-user DVDs and 50 student workbooks but only has £1500. Find a range of different options to offer this customer, within the budget of £1500 and present them in a way that will help the customer choose easily between the different options. They will **not** need next day delivery.
 4. Another customer contacts the company for a quote. They want to buy revision guides on DVD for all available subjects, each with a site licence. They also want 200 student workbooks for Maths. The customer has a grant of £5000 to spend and cannot go over this total. They will **not** need next day delivery.
 - Find the total cost of the goods wanted by this customer.
 - Find the maximum number of workbooks that could be ordered within the customer's £5000 limit.
 - As this is such a large order, Sam and Sonia would like to be able to meet the customer's request in full. Find out how much discount they would need to apply to bring the original order under £5000.

Information for Teachers

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Guidance on using this assignment

1 General guidance

- 1.1 OCR assignments are available to download free of charge from our website: www.ocr.org.uk
- 1.2 OCR assignments are intended to be used for formal summative assessment of learners and assessment must be conducted for supervision. The OCR specification gives more information on the arrangements for assessing internally assessed units.
- 1.3 This assignment has been designed to meet the full assessment requirements of the unit. Learners will need to take part in a planned learning programme that covers the underpinning knowledge, understanding and skills of the unit.

2 Before carrying out the assignment

- 2.1 Learners should be provided with a copy of the *Information for Learners* section of this assignment.
- 2.2 Learners will not need to carry out any preparations prior to undertaking the assessment tasks, such as collating resources to use in the assessment
- 2.3 We have estimated that it will take approximately 10 hours to complete this assignment. This is the recommended time but centres can decide how the time can be allocated between each part or individual task in the assessment. Centres are also permitted to spread the overall assessment time across several sessions and therefore it is permissible for evidence to be produced over several sessions.
- 2.4 Learners will need to have access to **three files** which contain data to be used to complete the task. Centres should load these into an area on the network that learners are able to access during the assessment. **You must make sure every learner is given clear instructions about where the files are.**

3 When completing the assignment and producing evidence

- 3.1 Each learner must produce individual and authentic evidence for each task within the assignment.
- 3.2 Centre staff may give support and guidance to learners. This support and guidance should focus on checking that learners understand what is expected of them and giving general feedback that enables the learner to take the initiative in making improvements, rather than detailing what amendments should be made. It is not acceptable for teachers/deliverers to provide answers, to work through answers in detail or to detail specifically what amendments should be made.
- 3.3 Learners may use information from any relevant source to help them with producing evidence for the tasks.
- 3.4 Learners must be guided on the use of information from other sources to ensure that confidentiality is maintained at all times.
- 3.5 We have specified what evidence the learner is expected to produce. Usually, the type of evidence provided may be modified, with the exception of certain types of evidence listed below under '*Permitted changes*'. It is important to note that it is possible to generate the evidence in a variety of formats. Centres must advise learners as to the most appropriate format of evidence. The nature of this assessment means that learners are free to use the format that they feel is most appropriate for the purpose and target audience for each individual task.

4 Presentation of work for marking and moderation

- 4.1 Centres wishing to produce digital evidence in the form of an e-portfolio should refer to the appendix in the specification on guidance for the production of electronic assessment.
- 4.2 Centres may wish to discourage learners from excessive use of plastic wallets for presentation of their evidence as this may hinder the assessment process. Instead centres may wish to encourage learners to present their work so that it is easily accessible, e.g. spiral bound, stapled booklet, treasury tag.

5 Scope of permitted model assignment modification

The model assignment is self-contained in its present form. The set of tasks form a coherent whole addressing all the learning outcomes and allowing access to the full range of marks.

You must not change the following:

- the learning outcomes
- the marking criteria
- the requirements for supervision and authentication as described in the specification (Section 4 *The centre assessed units*).

Permitted changes:

The model assignment can be modified in terms of the areas described below but centres must be sure that learners still have the opportunity to cover all of the learning outcomes and to access the full range of marks:

- A logical approach is suggested, however, centres may wish to change the order of the tasks depending on learners' individual requirements, for example it may suit learners better to attempt Task 2: *Explain the formulae used in the spreadsheet model* as they complete their model in Task 1.
- the learner's assignment, which can be contextualised or amended to suit local needs. Some changes will have a direct effect on the data files we provide for the assessment and you must make sure any permitted changes to the scenario are carried through to the data files:
 - the name of 'Make The Grade' stated in the scenario and in the data file 'PriceList', 'and 'Invoice'
 - The address of 'Make The Grade' shown in the invoice
 - The details of customers within the 'CustomerList' data file
 - The products and prices listed in the 'PriceList' file. However, should prices be altered it must be checked that the modelling problems in Task 3 are not affected.
 - the following names in the scenario and all tasks: 'Make the Grade, Sam, Sonia
- the format the evidence takes, guidance is given in the section Evidence summary.

OCR has ensured that in the language used and the tasks and scenario provided we have avoided discrimination, bias and stereotyping and support equality and diversity. In the development of qualifications and assessments we use the guidance given in the Ofqual publication *Fair access by design*, notably this includes:

- using language and layout in assessment materials that does not present barriers to learners
- using stimulus and source materials in assessment materials (where appropriate) that do not present barriers to learners.

If centres wish to modify the model assignment we strongly advise that staff responsible for modifying the model assignment and the quality assurance of it refer to the publication *Fair access by design*.

If modifications are made to the model assignment, whether to just the scenario or to both the scenario and individual tasks, it is up to the centre to ensure that all learning outcomes can still be met and that learners can access the full range of marks.

6 Specific guidance on the task

Learners should be provided with a copy of the marking criteria for this unit when completing the assignment. Teachers should ensure that candidates understand the marking criteria and may explain it to them.

When completing this assignment it may be possible to generate evidence for completing a task in a variety of formats. Clear evidence is required for all assessment criteria credited.

In Task 1, candidates will be creating a spreadsheet populated with the data provided. Formulae need to be clearly evidenced, showing any functions used. Formatting and other features, eg comments, macros, validation (including any input and/or error messages set) and conditional formatting also need to be clear. This might be best evidenced through provision of the final electronic file, with some annotation and/or explanation to show where features that are not clearly visible can be found. Alternatively, formulas might be evidenced through printouts of the spreadsheet in formula view, with formatting and other features evidenced through printouts and screenshots as necessary.

Task 2 requires candidates to explain the formulae/functions used. Most candidates are likely to word-process these explanations, providing evidence through printouts or electronic word-processed/pdf files.

Task 3 provides additional user requirements which require candidates to sort and filter the data, produce a chart and carry out modelling activities. For the lower mark bands it is not expected that candidates will attempt to meet all of the user requirements in sections A and C. Evidence of sorting, filtering and modelling (sections A and C) should be provided by printouts (PDF printouts are acceptable for electronic portfolios) rather than saving different versions/worksheets, which does not demonstrate a good understanding of the use of a spreadsheet model. The chart might be printed or evidenced electronically as part of the spreadsheet file. Explanations might be annotated onto printouts and/or provided through separate word-processed work evidenced by printouts and/or electronic word-processor/PDF files.