

# GCSE ICT

## Unit 2: Using Digital Tools

### Assessment Guidance

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## **Introduction**

The aim of this guide is to exemplify the standard of evidence required for GCSE ICT, Unit 2: Using Digital Tools.

It should be used in conjunction with the exemplar student work and commentaries available in the documents section of the GCSE ICT website.

The GCSE ICT Controlled Assessment Teacher Support Book and podcast provide further information on controlled assessment.

## Overview of controlled assessment in Unit 2

The Unit 2 CAB consists of **four** related activities, each of which has a different focus.

<b>Activity 1</b>	22 marks	Students research a topic, gathering information from a range of sources (1a) and produce at least one digital product (1b). They review their work carefully and make changes as necessary.
<b>Activity 2</b>	24 marks	Students carry out a modelling activity (2a). They present key findings/recommendations based on information generated by the model (2b). They review their work carefully and make changes as necessary.
<b>Activity 3</b>	22 marks	Students design (3a) and develop an interactive digital product, plus at least one other simpler product (3b). They review their work carefully and make changes as necessary.
<b>Activity 4</b>	12 marks	Students carry out an evaluation of the outcomes of individual activities and the task as a whole, including consideration of their own performance.

Unit 2 contributes 60% of the total marks for the Single Award and 30% of the total marks for the Double Award.

Edexcel sets the controlled assessment task for Unit 2. All work, with the exception of research, asset gathering and preparation, must be done in the classroom under informal supervision.

There is a limit of 40 hours of supervised time allowed for completion of the controlled assessment task.

Students' controlled assessment work is internally assessed and externally moderated.

The GCSE ICT Manual (part of the Teacher's Toolkit) provides detailed information about the requirements and content of Unit 2.

## The Controlled Assessment Brief (CAB)

The CAB is an interactive document designed to be read on-screen. It provides a context for the controlled assessment task. The context is sufficiently open-ended to allow students to carry out research and develop outcomes that interest them.

If students prefer to work with a printed copy of the CAB they can do so. However, they do need to be made aware of the supporting documents and URLs, which are accessed via links in the on-screen version.

Each CAB consists of four activities and includes supporting files and reminders to help students maximise their achievement.

Detailed support notes accompany each CAB, providing additional information for teachers about what students are expected to do and produce. Teachers should read these notes carefully before their students start work on the CAB.

CABs are valid for four moderation series starting in June of the year following their publication. So, for example, the CAB released in May 2010 is valid for moderation in June 2011, January 2012, June 2012 and January 2013.

The Support Notes produced for each CAB provide further information for teachers and should be read in conjunction with this Assessment Guidance.

## The Controlled Environment

A maximum of 40 hours must be allocated for work on the CAB under controlled conditions. All work, with the exception of research, asset gathering and preparation, must be done in the classroom under informal supervision with the 40 hours.

	Must be completed under controlled conditions	Can be completed outside the controlled environment
Profile	✓	
Research		✓
End of activity reviews	✓	
Gather assets for use in digital products e.g. photographs, sounds, video footage		✓
Initial designs		✓
Detailed designs (3a)	✓	
Digital products	✓	
Evaluation	✓	

## **Guide to marking controlled assessment**

Students' controlled assessment work is internally assessed and externally moderated using the assessment criteria published in the specification. The same generic criteria are used for all CABs.

Each assessment criterion applies to a number of key items of evidence.

### **Independent working**

Students are expected to work independently on the controlled assessment task. They may be given feedback, but must make their own decisions on how to respond.

Teaching in support of a particular CAB activity should be completed before students start work on that activity. For example, teaching of spreadsheet skills must be completed before students start work on Activity 2.

However, in some instances it may be appropriate for work on the CAB to be suspended temporarily whilst additional teaching takes place.

Teaching should not be limited to the digital products identified in a particular CAB. Students will benefit from producing different types of digital products, especially if they have the opportunity to review examples of good practice.

In addition to technical skills, students need to be able to reflect on the fitness for audience and purpose of the products that they develop.

In some instances students may need guidance from the teacher in order to move on. This needs to be taken into account when deciding on a mark for each strand and recorded on the Candidate Assessment Record (CAR).

### **Use of manuals and other sources of help**

Students can make use of help files, web tutorials, manuals and other resources when working on the CAB. However, these guidance materials should be generic, not CAB-specific.

### **Feedback**

Every student should have at least one test buddy and act as a test buddy themselves. The role of the test buddy is to provide feedback on products as they are developed. Students must reflect on feedback received and given in the end of activity reviews and in the Activity 4 evaluation.

Students can provide a set of questions for their test buddies to answer when reviewing a product. This is a good way of ensuring that they get all the feedback they need.

In addition to their test buddy, students may wish to ask other people – in particular representatives of the target audience - for feedback on their products. To facilitate this, they are allowed to take copies of products they are working on out of the controlled environment.

However, work on products that will be submitted for assessment / moderation must only be carried out in the classroom under controlled

conditions. It is up to the teacher to monitor any digital materials that students bring into the controlled environment.

Teachers are also expected to give students feedback on their products. This does not constitute guidance.

Students should refer back to their original decisions as regards target audiences throughout the CAB – both they and their test buddy should be aware of this since this will ensure that feedback given is constructive and relevant. Feedback should be documented in the review along with any subsequent modifications that the student decides to make as a result.

Giving and acting on feedback is an important skill and some skill building time should be devoted to this, since outcomes are often improved through constructive feedback.

### **Copyright**

Students must demonstrate awareness of copyright and other constraints on the use of information. They have a number of options. They may:

- use material that is copyright free
- produce material themselves
- get permission to use material produced by someone else (providing that the owner of the material is made fully aware of the intended context and purpose of the product in which their material will be used)
- use material from other sources, providing they explain what changes would need to be made to the product in order to make it fit for its intended purpose.

### **End of activity reviews**

The end of activity reviews are a good source of 'process' evidence. Students should be encouraged to provide as much detail as possible, particularly of activities they carried out which are not evidenced by the products themselves.

Students should use the templates provided. They can add additional information if appropriate.

### **Marking**

Teachers must use the assessment criteria provided in the specification for GCSE ICT to mark their students' controlled assessment work.

For all strands, a 'best fit' strategy should be used to select the mark band that best describes a student's performance in that strand. There are four mark bands for each criterion.

Adjacent descriptions should be used when making judgements and use made of intermediate marks when performance exceeds the lower mark description and only partially satisfies the higher mark description. The mark bands include a number of aspects of performance and there will be times when a student has not fulfilled all aspects of the lower mark description but has exceeded it for most aspects of the description. In

these cases professional judgement is needed. If a mark in the higher mark band is awarded this must be clearly justified in the CAR.

There is no need to wait until students have completed the whole controlled assessment task before starting to assess what they have produced. The outcomes of an activity can be informally assessed once it is completed. However – time permitting - students must be allowed to revisit work they have already submitted in order to try to improve it. They will also need access to the work they produced in Activities 1, 2 and 3 in order to complete the Activity 4 Evaluation.

Once the 40 hours of controlled assessment time is over and work has been formally submitted and marked it must not be returned to students and should be retained until the results have been issued.

### **Annotation**

Assessment decisions, along with a clear rationale for the marks awarded, must be recorded on the CAR.

Given that the outcomes students produce are digital, it is not feasible for teachers to annotate work in the traditional way. Instead, they should write any comments they wish to make on the CAR.

The CAR should also be used to direct the moderator to the location of any evidence that might otherwise be overlooked. This is particularly important since in most cases more than one item of evidence will need to be considered when judging performance against an assessment criterion, or to justify the award of marks that is not straightforward. Moderators will be trying to agree with the centre marks and need to understand the rationale behind the award of the marks given. This should be a more straightforward process if the annotations on the CAR are helpful. Centres will receive a feedback report on their marking for each session that work is submitted. The feedback is likely to be more helpful if the centre rationale is clear to the moderator.

### **Internal standardisation**

If more than one teacher in a centre is assessing students' controlled assessment work their marking be standardised to ensure that all students at the centre have been marked to the same standard. This should include a common agreed approach to the treatment of students receiving additional support, the decision on the mark band to use when evidence is not straightforward and the completion of the CAR.

One person within the centre should be responsible for internal standardisation.

### **External moderation**

Students are expected to produce digital evidence of achievement. Details of what to submit and how this should be presented are provided in each CAB.



## **Moderator's Toolkit**

All our moderators have a pre-defined software toolkit installed on their computers. Students must ensure that the evidence they submit for assessment and moderation can be viewed using at least one of the applications in the Moderator's Toolkit. Moderators will not be able to view content that requires the use of an application not listed in the toolkit. The toolkit is updated regularly. Details can be found on the GCSE ICT section of the Edexcel website.

## **Activity 1**

Activity 1 focuses on:

- Topic 1: research and information gathering
- Topic 2: digital publishing
- Topic 4: evaluating outcomes
- Topic 5: working efficiently and safely.

## **Profile**

Students are expected to produce a profile giving details of the audience, context and purpose for the products they subsequently produce. In order to do so, they will need to carry out some initial research to 'flesh out' the scenario. The profile will act as a reference point for everything else they produce.

## **Assessment criterion 1a – Gathering information**

The focus of activity in this strand is information gathering.

### **Investigation**

Students are expected to gather information from a range of different sources. Sources of information include personal experiences, television, websites, books, maps, diagrams, photographs, leaflets, newspapers, podcasts, expert opinions, email.

They may carry out some or all of the initial research activities outside the controlled environment without any direct supervision and may work together to do so.

However, students must make their own decisions about which information to select and use. The information they gather and select should be relevant to the CAB and the digital products they are required to produce.

### **Range of sources**

The difference between 'range' and 'wide range' is not about the number of sources but rather about the breadth of the research undertaken and quality of the information gathered.

It is better to have used a smaller number of reputable sources providing different information about a subject or different perspectives than to use a large number of unreliable/biased sources that don't provide a rounded view of the topic. A good student will always cross-reference and check sources especially if the topic they are researching is controversial or political.

### **Working with a given database**

Students are required to search for information in a given database. This may be locally installed or web-based.

### **Acknowledgement**

Students must acknowledge all their sources – even those they decide not to use. They should justify their choice of sources and explain the reasons for their choices.

All sources should be fully referenced. Simply stating 'the internet' or giving Google as the source is not sufficient.

### **Searching and selection**

Students are expected to search efficiently. They can use their end of activity review to describe their use of complex/efficient techniques to refine searches.

### **Storing structured data**

In some instances they may be required to create a simple structure to store and organise data they collect. They may use any appropriate software to do this. Validation is not required.

### **End of activity review**

The Activity 1 Review and the Sources Table prompt students to record details of the processes they undertook and the decisions/choices they made with regard to information selection.

Stronger students will have used their review to describe their use of complex/efficient techniques to refine searches and explained their choice of sources and describe the measures they took to verify critical information.

## **Assessing students' work**

### **Where to look for the evidence**

- Sources Table
- Activity 1 Review
- Activity 1 Products

### **Finding the 'best fit'**

A 'best fit' strategy should be used to decide on the mark that best reflects a student's achievement in this strand.

**When marking students' work teachers should focus on the quality/relevance of the information they have selected, rather than the quantity.**

**For Mark Band 1** (1-4 marks), the student has used some appropriate sources, including a given database, to gather information, some of which is relevant for use in their digital products.

**For Mark Band 2** (5-7 marks), the student has used a range of appropriate sources, including a given database, to select relevant information for use in their digital products.

**For Mark Band 3** (8-10 marks), the student has used a wide range of appropriate sources, including a given database, showing discrimination in their selection of information for use in their digital products. They have used complex or efficient search techniques to refine searches.

## Assessment criterion 1b – Developing digital products

The focus of activity in this strand is the development of one or more simple digital product(s). The CAB specifies what type of product(s) must be produced, as well as key requirements.

Students must ensure that the product(s) they develop meet the specified requirements, are fit for purpose and suitable for the target audience.

### Logo/emblem

Students must produce a logo or emblem, the purpose of which is to provide a visual link between the products they subsequently develop.

Students can use images from secondary sources to create the logo/emblem. However, they need to be mindful of copyright and other constraints on the use of materials belonging to other people. It is better to use images they have created themselves. Students should bear in mind the properties of logos/emblems, in particular that they must be capable of being resized without losing definition.

### Design and development

The Activity 1 Review prompts students to record details of the processes they undertook to develop their logo and product(s) and the decisions they made. Explicit design documentation is not required in this strand, although students are expected to comment on aspects of their designs in their review.

Stronger students will have explained in their review how feedback and self-review helped them to develop and improve what they produced. There is no need for them to provide multiple versions of their product(s) to evidence this. However, they may want to use screen shots to illustrate key stages in the development process.

## Assessing students' work

### Where to look for the evidence

- Activity 1 Product(s)
- Activity 1 Review

### Finding the 'best fit'

A 'best fit' strategy should be used to decide on the mark that best reflects the extent to which the set of products is fit for purpose.

The complete set of products, if there is more than one, must be considered when assessing a student's work. It is **not** appropriate to allocate a mark to each product separately.

If a student does not produce the complete set of products and/or does not provide some evidence of review they cannot access the full mark range. Teachers must use professional judgement in awarding marks and provide a clear rationale for their decision on the CAR.

Fitness for purpose is a clear criterion of success. Products should be judged on whether they meet the specified requirements as given in the CAB and secondly on their fitness for audience and purpose.

**For Mark Band 1** (1-4 marks), the student has developed the specified digital products, with some use of appropriate content. They have carried out a limited review of their work but with few modifications.

**For Mark Band 2** (5-8 marks), the student has developed the specified digital products, using appropriate content and features. They have reviewed their work and made modifications some of which are effective.

**For Mark Band 3** (9-12 marks), the student has developed the specified products, using appropriate content and features effectively. They have reviewed and modified their work throughout its development, using feedback from others to improve the outcomes.

## Activity 2

Activity 2 focuses on:

- Topic 2: modelling
- Topic 3: digital publishing
- Topic 4: evaluating outcomes
- Topic 5: working efficiently and safely.

### Assessment criterion 2a – Modelling

This strand focuses on the development and use of a spreadsheet model to collate and analyse raw data in order to generate meaningful information.

#### The model

Two partially completed spreadsheet models – one simple and one that requires the use of more advanced techniques - are provided in the CAB. Students can develop either of these or start from scratch and create their own model if they prefer.

It is possible to get maximum marks in this strand with a sophisticated model which is less than perfect.

Whilst better students will probably use the more advanced model, use of the simpler model does not preclude students from achieving high marks in this strand. The simple model is capable of generating sufficient information to enable a student to make some sensible recommendations. However, it would need to be extended to fully reflect the complexity of the problem.

Students must be clear about the purpose of the model, i.e. to enable them to explore alternatives and generate reliable information to support their recommendations.

Students need to take account of the audience and purpose of the model. If other people besides themselves will be using it, it must be as 'user friendly' as possible.

Labels and formatting should be used to make the information clear and meaningful.

Students may wish to use features such as dropdown menus, locked cells and macros to protect the model and make it easier to use.

#### Data

Students must gather and select relevant data for use in their model. They should record their sources in the spreadsheet, although some may prefer to use their Sources Table.

Students are not expected to produce a narrative describing the process of constructing the spreadsheet.

The complexity of the data analysis undertaken is a key factor in maximising achievement in this strand. This should not be confused with

the use of more complex formulae, which may or may not be appropriate. Complex analysis is not about using pivot tables, nested ifs or related tables just for the sake of it, but about ensuring that extracted information will help to meet the project objectives.

The Activity 2 Review prompts students to record details of the processes they undertook and the decisions they made with regard to data selection etc.

## Testing

Testing is essential to ensure that the model functions as expected and produces valid/reliable information. However, there is no need for students to produce discrete evidence of testing, such as a completed test log, since the effectiveness of the testing can be inferred from the quality of outcomes.

Candidates should have used their test buddy as a source of feedback.

## Assessing students' work

### Where to look for the evidence

- Model
- Activity 2 Review
- Sources Table

### Finding the 'best fit'

A 'best fit' strategy should be used to decide on the mark that best reflects the extent to which the data collection and modelling has contributed accurate information upon which to base recommendations.

**For Mark Band 1** (1-4 marks), the student has gathered some relevant data and developed a simple spreadsheet model that generates some meaningful information. They have carried out limited testing, but with little effect.

**For Mark Band 2** (5-8 marks), the student has selected relevant data and developed a spreadsheet model that generates meaningful information. Testing has been carried out, but not all of it was effective.

**For Mark Band 3** (9-12 marks), the student has selected relevant data, developed a complex spreadsheet model that generates sufficient reliable and meaningful information to fully inform the decision making process. Effective testing has been carried out.

## Assessment criterion 2b – Digital Publishing

The main focus of activity in this strand is the production and presentation of a set of recommendations based on information generated by the spreadsheet model.

### Recommendations

The CAB specifies the purpose and target audience for the recommendations, how they must be presented and any supporting evidence that must be supplied, e.g. speaker notes.

Stronger students will have presented well-reasoned recommendations.

### Related product(s)

Students are also required to produce one or more simple digital products based on/containing information generated from the model.

### Design and development

The Activity 2 Review prompts students to record details of the design and development processes they undertake. Explicit design documentation is not required in this strand, although students are expected to comment on aspects of their designs in their review.

Stronger students will have explained in their review how feedback and review helped them to develop and improve their outcomes. There is no need for them to provide multiple versions of products to evidence this. However, they may want to use screen shots in their review to illustrate key stages in the development process.

## Assessing students' work

### Where to look for the evidence

- Activity 2 Products
- Activity 2 Review

### Finding the 'best fit'

A 'best fit' strategy should be used to decide on the mark that best reflects the extent to which the set of products is fit for purpose.

The complete set of products, if there is more than one, must be considered when assessing a student's work. It is **not** appropriate to allocate a mark to each product separately.

If a student does not produce the complete set of products and/or does not provide some evidence of review they cannot access the full mark range. Teachers must use professional judgement in awarding marks and provide a clear rationale for their decision on the CAR.



**For Mark Band 1** (1-4 marks), the student has developed the specified outcomes, with some use of appropriate content. They have used results from their model to make recommendations, some of which are sensible. They have carried out a limited review of their work but with few modifications.

**For Mark Band 2** (5-8 marks), the student has developed the specified outcomes, using appropriate content and features. They have used their model to consider alternatives and present sensible recommendations. They have reviewed their work and made modifications some of which are effective.

**For Mark Band 3** (9-12 marks), the student has developed the specified outcomes, using effective content and features. They have used their model to consider feasible alternatives and present well-reasoned recommendations. They must have reviewed and modified their work throughout its development, using feedback from others to improve the outcomes.

## Activity 3

Activity 3 focuses on:

- Topic 3: digital publishing
- Topic 4: evaluating outcomes
- Topic 5: working efficiently and safely.

### Assessment criterion 3a – Design

This criterion assesses a student's ability to produce design documentation for digital products and use feedback from others to refine and improve their designs. The CAB provides design templates for students to use if they choose.

Students must be clear that producing designs retrospectively fulfils no useful purpose and will gain no marks.

Designs should be sufficiently detailed to clarify ideas, allow constructive feedback and facilitate implementation.

#### Design tools

Design tools for Unit 2 are likely to be storyboards indicating the layout and content of screens, structure charts showing how screens are linked together, scripts for voiceovers or podcasts, storyboard timelines for movies. Students on the Double Award will learn about other types of design tools such as moodboards entity-relationship diagrams which they can employ in Unit 2 if appropriate.

Stronger students will have produced designs that clearly show the 'look and feel' of the final product and how it is intended to work.

Students should have recorded any feedback they received on their designs and have indicated what action they took as a result.

The final products are not expected to match their initial designs exactly. In all likelihood, students will have made some changes as a result of feedback and testing.

## **Assessing students' work**

### **Where to look for the evidence**

- Design Documents
- Activity 3 Review

### **Finding the 'best fit'**

A 'best fit' strategy should be used to decide on the mark that best reflects the extent to which the designs show what the final product will look like and how it will work.

**For Mark Band 1** (1-4 marks), the student has used design tools to give some indication of what each screen will be like. They have commented on some of their design decisions.

**For Mark Band 2** (5-7 marks), the student has used design tools to show what each screen will be like and how they are linked together. They have commented on important design decisions.

**For Mark Band 3** (8-10 marks), the student has used design tools to clearly show what each screen will be like and pathways through the product. They have commented on and justified important design decisions.

## Assessment criterion 3b - Digital publishing

The focus of activity in this strand is the development of at least two digital products, one of which is interactive. The CAB specifies what type of products must be produced, as well as key requirements, such as content, number of screens, dimensions, navigation etc.

Students must ensure that the products they develop meet the specified requirements, are fit for purpose and suitable for the target audience.

### Gathering digital assets

Students should have identified what digital assets are required in their initial designs. They may gather content outside the controlled environment without any direct supervision. However, preparation of assets and work on the products themselves must take place under supervision.

### Development and testing

Features relate to the way in which particular content is presented, for example, the use of animation.

The interactive product must be user-controlled and, where stated in the CAB, viewable in a browser. The navigation should have been planned in the design. Users must be able to navigate around the interactive digital product without any help. Given its complexity, testing of this product is crucial.

The Activity 3 Review prompts students to record details of the processes they undertook to develop their products and the decisions they made.

Stronger students will have explained in their review how feedback and self-review helped them to develop and improve what they produced. There is no need for them to provide multiple versions of their products to evidence this. However, they may want to use screen shots to illustrate key stages in the development process.

## Assessing students' work

### Where to look for the evidence

- Activity 3 Products
- Activity 3 Review

### Finding the 'best fit'

A 'best fit' strategy should be used to decide on the mark that best reflects the extent to which the set of outcomes is fit for purpose.

The complete set of products must be considered when assessing a student's work. It is **not** appropriate to allocate a mark to each product separately.

If a student does not produce the complete set of products and/or does not provide some evidence of review they cannot access the full mark range. Teachers must use professional judgement in awarding marks and provide a clear rationale for their decision on the CAR.

**For Mark Band 1** (1-4 marks), the student has developed the specified outcomes, with some use of appropriate content. The interactive product has limited user control. The student has carried out a limited review of their work, but with few modifications.

**For Mark Band 2** (5-8 marks), the student has developed the specified outcomes, using appropriate content and features. The interactive product has a functional user interface and control. The student has reviewed their work and made modifications some of which are effective.

**For Mark Band 3** (9-12 marks), the student has developed the specified outcomes, using appropriate content and features effectively. The interactive product has an effective user interface and control. The student has reviewed and modified their work throughout its development, using feedback from others to improve the outcomes.

## Activity 4

Activity 4 focuses on:

- Topic 4: evaluating outcomes.

### Assessment criterion 4 – Evaluation

This criterion assesses the student's ability to evaluate what they produce and to reflect critically on the strengths and weaknesses of their own performance.

Feedback from others should be used to inform the review process.

Suggestions for improvement should be valid and specific.

Stronger students will have evaluated the quality of the feedback they gave and received.

### Quality of Written Communication (QWC)

QWC is assessed in Activity 4, Evaluation.

Marking should initially consider the **content** of the Evaluation, ignoring the statements referring the QWC.

Having identified a mark band and then a mark for the content, the assessor should then assess the QWC.

If the QWC statement that is the best fit equals or exceeds the content mark, the content mark will apply. The content mark **cannot be increased** as a result of assessment of QWC.

If the QWC statement that applies is in a lower mark band, the mark should be reduced **within** the content mark band.

### Assessing students' work

#### Where to look for the evidence

- Evaluation

Teachers should note on the CAR the location of any other source of evidence for this strand, e.g. activity reviews, that they have taken into consideration.

#### Finding the 'best fit'

A 'best fit' strategy should be used to decide on the mark that best reflects the quality of the evaluation.

**For Mark Band 1** (1-4 marks), the student has made undeveloped comments about the outcomes of individual activities or the task as a whole.

**QWC:** The student has used everyday language but their response lacks clarity and organisation. Spelling, punctuation and the rules of grammar are used with limited accuracy.

**For Mark Band 2** (5-8 marks), the student has made comments, some of which are developed, about the outcomes of individual activities and the task as a whole. Some suggestions for improvements are made.

**QWC:** The student has used some specialist terms and their response shows some focus and organisation. Spelling, punctuation and the rules of grammar are used with some accuracy.

**For Mark Band 3** (9-12 marks), the student has made effective evaluative comments about the outcomes of activities and the task as a whole, including feedback given and received, and their own performance. Effective improvements are suggested.

**QWC:** The student has used appropriate specialist terms consistently and their response shows good focus and organisation. Spelling, punctuation and the rules of grammar are used with considerable accuracy.