Bronze 3 - Unit 1 - Assessor's Guide

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Assessor's guide to interpreting the criteria

General Information

- Bronze 3 is the same as Entry Level 3 in the Qualification Credit Framework. It is mapped to the National curriculum at levels 3 and 4.
- The definition of an entry level qualification is to recognize basic knowledge and skills and the ability to apply learning in everyday situations under direct guidance or supervision. Learning at this level involves building basic knowledge and skills and is not geared towards specific occupations.
- The criteria are designed to provide opportunities to promote numeracy, literacy and social skills as well as ICT capability and are fully compatible with the UK National Curriculum programmes of study with some strengthening of important contemporary issues related to open systems providing support for PLTS and citizenship.
- Bronze 3 is designed to promote a wider range of participation by providing a progression pathway from Bronze 2 to Level 1 in the QCF and from national curriculum levels 3 and 4 to level 5.
- The specification for the Entry Level 3 certificate provides an outcome framework for assessment and is not intended to dictate any particular context for learning and so can be used with young children or adults.

Requirements

- Standards must be confirmed by a trained Bronze Assessor or higher
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site
- It is expected that there will be routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work. Samples should be available at the annual visit and/or by video conference.
- Different approaches to learning will be required in order to match differing needs, for example, the needs of children will be different from the needs of adults with learning disabilities.
- Completing the criteria for this unit entitles the candidate to the Award of the Entry level 3 Unit . In general, the candidate should demonstrate that criteria related to co-operative behaviour can be sustained over time.

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- We expect at least 20 hours of guided study to be under-taken before this Unit Award is made to those new to computers but discretion can be used to take account of prior learning where this is sensible in individual cases. In terms of making the award, what matters is outcomes.

- Certificates must be printed on INGOT logo template paper for which there is a charge of 50p per template

Assessment Method

Assessors can use the criteria to determine levels of prior learning through dialog with the candidate, direct observation and any other appropriate and relevant evidence. They can score each of the criteria "L", "S", "H". An "N" indicates no evidence and this is the default setting. "L" indicates some capability but some help still required and the candidate is not secure with that particular criterion. "S" indicates secure mastery of the criterion. "H" indicates that the candidate is operating beyond the basic requirements of the criterion. If all criteria are matched with "S" or "H" the unit is passed. All criteria must be at least "S" for a pass.

Expansion of the assessment criteria

The entry 3 learner will be becoming increasingly capable of making use of skills, knowledge and understanding to carry out simple structured tasks and activities with occasional guidance and intervention. They will start to relate tasks to contexts and be aware of consequences of actions for themselves and others. While support and guidance are still needed they will demonstrate increasing capability of working self-sufficiently with simple structured tasks.

A**n activity will typically be 'structured' when:**

* there are several steps that need to be sequential; and
* the learner has opportunities to practice the sequence or clear guidance is provided.

Improving Productivity Using IT

1. The candidate will plan the use of appropriate IT systems and software to meet requirements

1.1 I can identify the purpose for using IT

The candidate should show that they appreciate specific purposes for using IT in the broader aspects of their work. This could be identifying the purpose of their own devised tasks or those provided by others. For example, they might identify the use of a web page as having the purpose of making their work more widely available. They might say that it is easier to build on existing resources to produce something useful rather than having to start right from the beginning. They should build on experience of completed tasks to suggest situations where IT might have purpose in future work.

Evidence: Planning and recording documents from day to day activities.

Additional information and guidance

The candidate should engage in discussions saying why they think IT might be useful in a range of situations going beyond desktop computers and including telephones and some of the increasing variety of digital technologies that can enhance the quality of life or efficiency of the work place. The main difference between Entry 2 and Entry 3 is that learners will be identifying more general purpose in using IT from the characteristics that make use compelling. Ease of copying and distributing information, building on other people's work, improved presentation, ease of development and editing, making applications interactive and dependent on user input e.g. interactive on-line puzzles and games. For example, the on-line game of pairs can automatically keep score whereas a conventional card based version could not. Developing a new game with different subject matter is simply a matter of changing the pictures and there is no manufacturing

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cost involved in many people playing the games. A disadvantage is the need for a computer.

1.2 I can plan how to carry out the task using IT
Candidates should plan solutions that combine and refine different forms of information. As a specific example, this could be a a simple plan to demonstrate how to tie a reef knot. They might need a digital camera to photograph the steps, an image processing application such as the GIMP to edit and process the images and a web page on an e-portfolio system to display the picture together with text explaining what to do and/or sound files with a spoken description. A simple plan identifying what is needed and the steps in a simple format following similar structure provided in other familiar plans is sufficient in line with the general descriptions of Entry Level 3 qualifications in the QCF.

Evidence: From files and examples of day to day work.

Additional information and guidance
Structured support through provision of models and exemplars to follow is advised at Entry level. Simple planning patterns should include basic resources required (see 1.3 below), what needs to be done with them and an estimate of the time particular steps in the task are likely to take. Planning can be a group activity but this will require greater support. It should be clear in such group activities that individuals produce evidence that show they have the ability to plan with structured guidance and are not just leaving things to their peers.

1.3 I can select appropriate IT systems and software applications
In order to select appropriate IT systems and software applications candidates need to have had some experience of the ways in which these tools can support their tasks and their strengths and weaknesses. Candidates should show that they can make selections of at least a limited number of tools rationally and independently.

Evidence: From direct observation and examples of day to day work.

Additional information and guidance
The rise of free and open resources available from the internet is one of the biggest changes taking place in the IT industry. Some software is free to use and other software requires payment for licenses. Microsoft Office and OpenOffice.org are prominent examples. Microsoft office requires license payments and OpenOffice.org does not. Some applications are cross-platform meaning they can run on different computer operating systems and this is important in providing choice. Good examples are the Firefox web browser, Inkscape and GIMP graphics programs, OpenOffice.org and Audacity. The Google Android Smartphone uses Open Source software to encourage developers to build their own phones whereas the Apple i-phone is tightly controlled by Apple. The Windows operating system is the biggest target for viruses and spyware but runs a greater range of software applications than any other operating system. There are many considerations beyond simple function.

The reasons for selecting IT systems and software could be based on cost, availability, how well they support the task, vulnerability to viruses and malware or for ethical reasons related to open standards. At this level it is sufficient that candidates are aware of a limited range of reasons to choose particular systems and software but assessors should constantly strive to broaden their knowledge and understanding as this will enable improved future decision making.

1.4 I can identify the main legal and other constraints affecting the use of the IT system and software
There are three key considerations. Copyright and associated licensing, safety and security and technical constraints. The candidate should understand that just because it is easy to copy and distribute digital information it is not necessarily legal, on the other hand, licensing work to be copied freely might mean it gets much wider take up. At Entry level candidates still need close monitoring with regard to safety and security. They will not yet have sufficient experience to be autonomous, safe and secure when working on-line. They should understand password basics, the need for co-operative and sensible behaviour and the need to inform a more experienced person if they come across anything that appears to be criminal or unacceptable behaviour when on-line.

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Evidence: Observation of day to day work and behaviour. Files, internal testing and day to day recording.

Additional information and guidance

Copyright
Copyright is the ownership of work and everyone originating work automatically owns its copyright and can determine how the work is used. That includes the candidate! Licensing is used by copyright holders to say how their work can be used and details of any constraints they want to impose. Candidates should realise that even if it is technically easy to share information e.g. using file-sharing software it might not be legal and the onus is on them to check. The internet has massively changed commercial conventional wisdom on copyright with increasing numbers of providers actively encouraging free use and copying in sharp contrast with older views of protecting intellectual property at all costs. There is even the term copyleft emphasising work that is there to be shared. Wikipedia is a good example. Wikipedia is an excellent source of "safe to use" images since there is a massive library of them and they are all Creative Commons licensed.

Safety
Safety and security are important constraints and at this level candidates will need to be closely monitored and advised. The candidate should identify ways they can keep themselves safe when using ICT. For example, recognise loose wires to trip over, monitors perched close to falling off tables, bad seating and lighting and other obvious physical hazards. Candidates should be becoming increasingly self-sufficient in ensuring a comfortable and productive working environment. They should understand that they should not give out their personal details on the internet. They should be able to recognise an insecure password and change it for a secure one that is easy for them to remember. (iCRMPW100% is a secure password - i Can remember my password 100%) They should be able to write a list of risks associated with Internet communications and provide ways of minimising them. This could be filling in cells in a pre-constructed table. Candidates should be becoming increasingly self-motivated and willing to work with others promoting safety. Working collaboratively and safely is a high priority.

Candidates should associate the term malware with harmful software. They should know that computers running the Windows operating system are a particularly attractive target for malware. They should be aware of the danger of installing software from unknown sources and that e-mail attachments are a very common way of distributing malware. They should also know that clicking on web site advertisements and downloading what might be claimed to be a free useful tool might be malware. Candidates should recognise that information on web sites can be very misleading (in reality this can also be true of the mainstream press, particularly on issues of health and science.) http://descy.50megs.com/descy/webcred/webcred/dhmo.html [4]. This web site is basically making an emotive case that a harmful chemical should be banned. It is in fact water. More serious web site issues are when a site is set up to look like eg a bank web site so you put in your credit card details. Candidates should realise that the web address is unique and for any serious on-line shopping etc they should always check that the web address is correct rather than what the site looks like.

Technical
Even on up to date systems technical constraints need to be considered. Sizes of files or databases can make backing up and transferring data difficult. Incompatibility between data formats can make sharing information difficult. In general the better understanding they have of technical principles the less likely they are to have problems with information technology systems.

Sometimes it is necessary to restart the system e.g. after certain software upgrades or if the computer "hangs". Candidates should know that it at all possible they should avoid simply switching the power off (although sometimes this can't be avoided). Where possible use the shut down options from the graphical user interface and if that is not available try a key sequence such as CTRL ALT DELETE. Using the restart facility to shutdown and restart the machine is in fact using an automated sequence of instructions to control events. [5]

2. The learner will use IT systems and software to complete planned tasks

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2.1 I can use pre-set routines to improve productivity
Building on the requirements for Entry Level 2, candidates should be using an increasing number of keyboard short cuts such as CTRL C to copy and CTRL V to paste. CTRL Z to undo the last operation. They should appreciate that commonly used sequences can be automated and that using them will improve their productivity.

Evidence: Direct observation of operating behaviour and records of day to day work recorded in files.

Additional information and guidance
Building on work at Entry 2, providing opportunities to write simple programs will help the learner understand how pre-set routines can be formulated. Other examples include formulae in spreadsheets and recording simple keyboard macros. A formula summing numbers in the column of a spreadsheet is a simple pre-set routine such that any numbers entered into that column in a certain range will produce a sum. Linking a column of numbers to produce a graph or chart is automating the graph drawing process using a pre-set routine or routines. Macro recorders will record a sequence of keyboard or mouse events, for example filling in a form that has to have the same data put in. Web browsers do this type of thing when they remember your user name and password. The important thing is for the candidate to learn appropriate ways of improving productivity through use of a range of pre-set routines in keeping with the general description of Entry Level 3.

2.2 I can use IT to complete planned tasks
Candidates should build on Entry Level 2 work demonstrating that they can use a range of ICT tools and techniques to refine and develop information needed to complete their task. This could be preparing an image to be displayed on a web page, editing information to make it simpler or providing a diagram for an information poster. The learner might use audio software to refine the file when creating a podcast. Audacity is a free and open source application suitable for this. Candidates should be able to format information so that it is clearly and efficiently presented. At this level, it is sufficient to provide text and graphics that work together.

Evidence: Direct observation of operating behaviour and records of day to day work recorded in files

Additional information and guidance

Suggested activities for schools
It is a good idea to vary the tasks beyond using word processing and presentation software which, although popular, encourage a limited view of IT tools. An example task using the internet for research might be to find out what the following words have in common, Jazz, Chimpanzee, Cola and Tango. First they might check they know what each means using an on-line dictionary, selecting the appropriate descriptions and definitions of the word. Then they might search for each or maybe pairs on the internet. If they search Wikipedia (eventually they might need pointing in the right direction) they will find that all these words have an origin in Africa. This should lead them to realise that languages are made up from words from all over the world. At this level they will need some guidance in where and how to make enquiries but they should demonstrate some capability of making reasonable suggestions about the types of enquiries to use even if they are not always successful. Working collaboratively in groups with peer review is encouraged. Evidence can be provided in lesson plans and schemes of work and learners recording search outcomes eg in an e-portfolio page.

Candidates should solve simple problems by devising and refining sequences of instructions in the form of simple computer programs, scripts or macros. The web site "I know that" provides progressively difficult puzzles that are made from sequencing instructions similar to the logo programming language but using visual blocks for move forward 100 or turn through an angle so that syntax is not a barrier. At this level they should be able to show clear progression from the Entry 2 requirements with sufficient scope to vary the instructions to see which combination works best. Other methods will include controlling buggies, floor turtles or similar devices.

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Candidates should demonstrate that they can open and save files in the process of collecting, storing and retrieving data. They should have the opportunity to take a simple data set and process it. This could be rainfall per month in inches converted in a spread sheet to cm and then used to produce a bar chart. In such a case at this level the conversion formula would be provided and guidance given on how to use it. The candidate would organise the data in a row of the sheet so that the conversion formula produced the result in another row from which the chart would be generated. Simple survey data and data from science investigations lends itself to this type of activity. For example, does a cup of hot coffee cool quicker to room temperature if you put cold milk in immediately or if you wait 5 minutes and then add the milk? The data might be measured using a conventional thermometer and stop watch or using a data logger. The results recorded in a prepared table and then the findings presented from them. Another question might be: What is the average age of a group of people? Collect ages in a spreadsheet and then use the average function. Candidates should show how they organise and process data for a purpose. A more sophisticated solution would be to use on-line collaborative tools such as Google Docs.

Candidates should demonstrate that they can input variables into ICT-based models or simulations to answer questions. This does not have to be confined to spreadsheets. It could be inputting a range of different sized rocks into the "Numpty Physics" model or starting a puzzle with different inputs. Ideally candidates should experience a range of different models. At least some of the questions can be of the type "what if" rather than simply closed absolutes.

Candidates should be able to use models to explore relationships between inputs and outputs and explain how the models work. An example would be a simple spreadsheet model of multiplication tables where inputting a number seeds the complete table. In general, they should appreciate that an input is processed by the computer to produce an output. Other examples will include input to games and puzzles resulting in outputs. The explanation of the model can be oral or in writing.

In the process of collecting, storing and retrieving data, candidates should demonstrate that they can transfer data between storage devices. This might be using a USB memory pen drive to transfer large files between computers. They should appreciate that using networks to transfer data is often a better option because the security is likely to be better but in some circumstances, for example, backing up large files portable storage as some advantages. It's reasonable to use a network to transfer data say from a server to a local hard drive as an example of transferring data between storage devices.

Candidates should present information in different forms suited to purpose. This could be an SMS message in SMS shorthand to notify someone of an event, a word processed page to write a story or a blog entry describing their day. In laying out text, they should not use the space bar in a word processor to indent and centre text and they should know that the only time the space bar should be used is to separate two words. All other layout should be done without spaces because reformatting at a later date can completely destroy the appearance of the work if their are spaces in the layout. Candidates should be guided to write formally when it is appropriate eg in a report or story and informally when that is appropriate e.g. in a SMS message or forum.

3. The learner will review the selection and use of IT systems and software for tasks

3.1 I can review the outcomes of the completed task

Candidates should be able to make comments on their solution to a simple set task or problem. This can be verbal or in writing. The task might be a step in a more complex task. At this level it is a simple matter of communicating how successful the outcomes were compared to the intentions and comments on the quality of what they have produced.

Evidence: From oral communication, files and examples of day to day work.

Additional information and guidance

An example project might be to present a poster to highlight safety issues when using the internet.

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They could review the outcomes in terms of comments from peers on how effective they thought it would be, how visually attractive the design turned out to be. Were words correctly spelled? Was clip art used effectively? Were the tools available suitable for the job? Did they have any choice in what tools to use?Review the selection and use of IT systems and software for tasks

3.2 I can identify the strengths and weaknesses of the IT systems and software used for the task
Candidates should build on the requirements for Entry 2 with less support required making their own simple lists of strengths and weaknesses. There might be different tools available eg for use at home or use at school or their place of work and their list might reflect this.

Evidence: Recorded evaluation of work in web pages or files listing simple sets of strengths and weaknesses.

Additional information and guidance
Historically most general productivity tools have required expensive licenses which meant that it was not easy to provide the same software for use in different places. There is then an issue of inclusion and a potential economic divide. With the rise of Open Source software this is changing and for the most part all the basic productivity tools most people need are available free of licensing costs. This is an opportunity to enrich the range of tools used and to discuss the use of IT at home and in the work place, the advantages of having the same tools available in both places, the ethics of using high priced products that force people to buy them too for the sake of compatibility, the legal overhead in managing software licenses as well as the specific technical efficiency of the tools themselves. At this level candidates should simply be able to identify broad strengths and weaknesses and begin to consider relative importance of them.

3.3 I can identify ways to improve the outcomes of the completed task
Candidates should show that they can identify ways of improving their work with a focus on the intended outcomes stated in their planning.

Evidence: Observations of behaviour and interaction with peers. Recorded ways of improving specific examples of their work.

Additional information and guidance
Candidates should build on their increasing experience in order to make better decisions about ways of improving their work. The candidate's co-operative behaviour should extend to collaborating with peers to improve identified weaknesses and to begin to set their own targets for improvement. In addition to identifying basic technical errors they should be beginning to see the "bigger picture" with awareness of the impact of their work on themselves and others.

Their confidence in making informed choices should be increasing as they understand the steps needed to complete familiar structured tasks. They should be able to comment on whether or not they are active participants in collaborative work and whether they should increase or decrease their input.

Moderation/verification

The assessor should keep a record of assessment judgements made for each candidate and make notes of any significant issues for any candidate. They must be prepared to enter into dialog with their Account Manager and provide their assessment records to the Account Manager through the on-line mark book. They should be prepared to provide evidence as a basis for their judgements should it be required by the Principal Assessor or their Account Manager/external moderator. Before authorising certification, the Account Manager must be satisfied that the assessors judgements are sound.

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