

Scheme of Work

Cambridge Primary

Digital Literacy 0072

Stage 3

For use with the curriculum framework published in 2019



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# Introduction

This document is a scheme of work created by Cambridge Assessment International Education for Cambridge Primary Digital Literacy Stage 3.

It contains:

* suggested units showing how the learning objectives in the curriculum framework can be grouped and ordered
* at least one suggested teaching activity for each learning objective
* a suggested project at the end of each unit that will consolidate the learning
* a list of subject-specific language that will be useful for your learners
* sample lesson plans.

You do not need to use the ideas in this scheme of work to teach Cambridge Primary Digital Literacy Stage 3. It is designed to indicate the types of activities you might use, and the intended depth and breadth of each learning objective. You may choose to use other activities with a similar level of difficulty, in order to suit your local context and the resources that you have available. You may also choose to adapt the suggested activities and the projects so that they can be embedded within the teaching of other subjects.

The accompanying teacher guide for Cambridge Primary Digital Literacy will support you to plan and deliver lessons using effective teaching and learning approaches. You can use this scheme of work as a starting point for your planning, adapting it to suit the requirements of your school and needs of your learners.

Long-term plan

This long-term plan shows the units in this scheme of work and a suggestion of how long to spend teaching each one. The suggested teaching time is based on 30 hours of teaching for Digital Literacy Stage 3. You can adapt the time, units and order of the units based on the requirements of your school and the needs of your learners.

| Unit | Suggested teaching time |
| --- | --- |
| **Unit 3.1** Document creation | 8 hours |
| **Unit 3.2** Written online communication | 8 hours |
| **Unit 3.3** Safe digital research | 8 hours |
| **Unit 3.4** The history of computers | 6 hours |
| **Total** | **30 hours** |

Sample lesson plans

You will find two sample lesson plans at the end of this scheme of work. They are designed to illustrate how the suggested activities in this document can be turned into lessons. They are written in more detail than you would use for your own lesson plans. The Cambridge Primary Digital Literacy Teacher Guide has information on creating lesson plans.

Other support for teaching Cambridge Primary Digital Literacy Stage 3

Cambridge Primary centres receive access to a range of resources when they register. The Cambridge Primary support site at [**https://primary.cambridgeinternational.org**](https://primary.cambridgeinternational.org) is a password-protected website that is the source of the majority of Cambridge-produced resources for the programme. Ask the Cambridge Coordinator or Exams Officer in your school if you do not already have a login for this support site.

Included on this support site are:

* the Cambridge Primary Digital Literacy Curriculum Framework, which contains the learning objectives that provide a structure for your teaching and learning
* grids showing the progression of learning objectives across stages
* the Cambridge Primary Digital Literacy Teacher Guide, which will help you to implement Cambridge Primary Digital Literacy in your school
* templates for planning
* worksheets for short teacher training activities that link to the teacher guide
* assessment guidance (to support classroom assessment)
* links to online communities of Cambridge Primary teachers.

Resources for the activities in this scheme of work

We have assumed that you will have access to these resources:

* paper, pens and pencils for learners to use
* digital devices, such as desktop computers, laptops, hand help devices and other hardware such as video and audio recording equipment
* software that will enable learners to:
* create and save digital artefacts
* communicate online
* digitally search for information.

Other suggested resources for individual units and/or activities are described in the rest of this document. You can swap these for other resources that are available in your school.

Websites

There are many excellent online resources suitable for teaching Cambridge Primary Digital Literacy. Since these are updated frequently, and many are only available in some countries, we recommend that you and your colleagues identify and share resources that you have found to be effective for your learners.

Approaches to teaching Cambridge Primary Digital Literacy Stage 3

Cambridge Primary Digital Literacy can be used flexibly as a standalone subject, integrated within other subjects or used as the basis for activities outside of the formal curriculum. During your planning you will need to decide which approach, or mix of approaches, will enable you to address each learning objective most effectively. The activities that are presented within this scheme of work are based upon Digital Literacy being taught as a standalone subject but they can be adapted to suit an integrated approach. As an example, learners can develop content creation, research and other digital skills through activities in other subjects.

As an example, learners can develop content creation and online skills through planning and creating blogs in language lessons.

To develop their digital skills it is recommended that learners are provided with opportunities to use a range of devices, such as desktop computers, laptops and tablets.

It is also recommended that typing skills are practised regularly through short activities, possibly at the beginning of a lesson. From Stage 3 onwards, you may wish to include a suitable touch typing scheme as part of your regular lesson planning.

# Unit 3.1 Document creation

| Unit 3.1 Document creation |
| --- |
| Outline of unit: |
| In this unit learners will conduct sorting and searching activities that will help them to understand hierarchical file structures. They will then be introduced to the keyboard shortcuts used for editing a text document and to the common icons that are found across different applications. The development of text documents will continue through the introduction of spell-checking software and through adding images. The unit content concludes with an introduction to the comments section within blogs before learners consolidate their learning by creating a blog of their own. |
| Knowledge, understanding and skills progression: |
| This unit builds upon the typing and basic computer use that has been taught in previous stages. In order for your learners to access the unit, they must first be able to switch on and log on to a computer, know how to save and open documents, and have basic keyboard and other related motor skills. To gain most benefit from this unit, learners should also be able to alter the appearance of text; it is also advisable to allow time to revise this and to explore it further.  Learners should also have the literacy skills that will enable them to access and use spell-checking and proof-reading tools within text production software. |
| Language: | |
| * image * blog * import/export * cut/copy/paste (in the context of text processing) * text processing software * icon * program/application * functions (in the context of using an application, not in programming) * file/folder * save/open * shortcut * homophone | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **3TC.08** Navigate storage hierarchy appropriate to the device. | Remind learners, or ask a learner to demonstrate, how to open a file.  Provide a selection of cards that display the names of items that could be grouped. For example, some cards could include the titles of books, others could include recipes for different meals and a third group could display the names of holiday destinations. In groups of four, learners group the cards and then categorise them with an appropriate ‘filename’.  *You have grouped your files by subject but how do you think we could do this on a computer?*  Establish that you can do the same thing on a computer using folders.  *Where do you think you have seen folders before?*  *Can you find one now?*  Demonstrate the navigation through folder hierarchies on your school’s preferred devices. Provide learners with a list of files that are saved in different folders and explain that they are now going to find those files.  *What could you use to help you locate the documents?*  Explain that the files have been grouped into folders relevant to their content. This will make it easier for them to be found.  Learners locate the files on their list and make a note of where they found them, in a separate document. They then save this document in the correct folder.  **Resources:**   * A set of cards, representing files, which contain the names of things that could be grouped. For example book titles, various recipes and names of holiday destinations. * A selection of files stored in different locations on a device, network and/or cloud storage, grouped by category to make them easier to find. | Some learners may need support to return to the starting point at the end of each search as they may get lost when they move from one search to the next.  Make sure that the school IT system is locked so that learners cannot access any inappropriate files when they are conducting their searches. |
| **3TC.04** Identify common features of onscreen layouts and icons across a range of applications. | Place learners into groups and ask them to match printed icons of common shortcuts with the correct definition. The icons that could be used include those for:   * text formatting * filtering * saving files * navigating between screens.   Explain that these icons look similar across many different applications and work in much the same way.  To extend this activity, the groups can discuss whether they think any of the icons should change to make them more appropriate for modern life. For example, the floppy disk is still commonly used to represent the ‘save’ function but the disks themselves are not often used now. Learners can also consider what those icons could change to.  Provide copies of screenshots of two different applications, for example a text processing application and a messaging application. Working in pairs or small groups, learners identify the common layouts and highlight any differences. Learners discuss the differences in their findings.  In their pairs/groups, learners open each of the applications and record where they find the icons identified at the beginning of this activity.  **Resources:**   * Pictures of cut, copy, save, undo, redo and help icons, with associated definitions, cut into cards to form a matching activity. * Screenshots of different applications with similar icons and layout. | You may need to remind learners what icons are.  There are many ways you could ask learners to record this information. For example:   * they take a screenshot and circle the icons on paper or in a drawing program * you create a worksheet and ask them to draw the icons * they record their findings in a learning journal. |
| **3TC.02** Know what shortcuts are and be able to use shortcuts for cut, copy, paste, save, undo and re-do. | Demonstrate the cut and paste keyboard shortcuts within text software, without telling learners what you have done.  *What do you think has happened?*  *Can you identify which functions have been used?*  Now demonstrate the undo and redo shortcuts.  *What do you think happened this time?*  *When might these two functions be useful?*  Explain that keyboard shortcuts are used to make common tasks easier.  Provide separate files that each contain a paragraph of text and explain that learners need to use the different shortcuts they have been shown to combine the text into one document. Model this using the undo and redo shortcuts to correct mistakes.  The paragraphs that are given to learners should be numbered sequentially, although the activity can be extended by leaving the later paragraphs unnumbered so that learners need to decide the order of these for themselves.  Make sure that learners save their master document after each modification. Give them the opportunity to practise this skill using different documents.  Demonstrate the keyboard shortcut for saving documents and ask learners to use this for saving the final version of their document.  **Resources:**   * A list of the relevant shortcuts for learners to refer to. * A selection of files each containing a paragraph of text that needs to be combined into a master document. | Some learners will be reluctant to use the keyboard shortcuts as it is likely to be a new experience for them. Watch carefully for this and be prepared to intervene.  Learners will benefit from regular reminders of all of the shortcut functions throughout their learning, for example when other digital skills are being demonstrated.  You may also want to repeat demonstrations of the cut and paste shortcuts for different devices and/or software. Demonstrations that use handheld devices may need to be delivered to smaller groups while the remainder of the class are completing the activity.  Learners often assume, mistakenly, that they need to push the Ctrl + shortcut keys simultaneously to access shortcuts. Show them that they can hold the Ctrl key, or the button with equivalent functionality on other operating systems, down indefinitely while finding the correct letter. |
| **3TC.03** Identify and use spell-checking and proof-reading tools. | Display a prepared piece of text which contains spelling errors. This should include at least one incorrect spelling that forces the document to suggest a homophone of the correct spelling, for example ‘We one the game’.  *What do you notice?*  *Why do you think certain words are underlined/highlighted?*  Explain that text processing software often contains a tool called a ‘Spell-checker’ which creates an alert when a word has been typed incorrectly.  *What might be a problem with relying on a spell-checker?*  Demonstrate an example where you misspell a word and the spell-checker suggests a homophone as a correction.  Learners use the spell-checker to correct the prepared document.  **Resources:**   * Text processing software that identifies spelling, and ideally grammatical errors, inline (i.e. that it highlights the errors within the text). * A document with a piece of text containing spelling errors, including at least one spelling that forces the document to suggest a homophone of the correct spelling. | The exact wording of the second question will depend on the software you are using as the method for highlighting incorrect spelling varies depending on the application being used.  Watch for learners who choose inappropriate corrections here. They must understand that spell-checkers are not faultless. |
| **3TC.05** Add images to a document.  **3TC.02** Know what shortcuts are and be able to use shortcuts for cut, copy, paste, save, undo and re-do.  **3TC.01** Develop fluency and accuracy when typing in increasing quantity.  **3TC.08** Navigate storage hierarchy appropriate to the device. | Review the process for copying and pasting.  *Does this only work for text?*  Explain that it can be used for many different types of data including images, which is what the learners will be doing today.  *What is an image?*  Model the process of copying and pasting images into a document, including the shortcuts learned earlier in the unit.  *Are there any other ways to add images to a document?*  Model the process of importing images using the menus in your software.  Learners practise adding images to a document by creating a document on a given topic. They type the text and then add at least one image using copy and paste, and at least one other image that they search for on the school’s filing system and then import into their document.  If your software allows, this activity can be extended through experimentation with the image editing tools available in your text processing application.  **Resources:**   * A collection of appropriate, pre-selected images for the learners to load. Some of these should be given to learners within a text document while others should be saved in a suitable location within the school’s filing system. | Make sure that all technical vocabulary has been revised. You may wish to use a short quiz to facilitate this task.  Depending on the confidence of your learners, you may wish to model copying and pasting images from different sources, for example a web browser, another document, an image editor.  Learners will need to recall their learning from the first activity in this unit in order to be able to find appropriate images within the school’s filing system.  The focus of this activity is on adding images rather than presentation at this stage. |
| **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups.  **3TC.01** Develop fluency and accuracy when typing in increasing quantity. | In pairs or small groups, learners should note everything that they already know about blogging.  Display an example blog that is appropriate for your learners.  *What key features can you identify?*  *Do you recognise anything from other websites or programs you use or visit?*  Draw the learners’ attention to the comments section.  *What do you think this is?*  *Why is it there?*  *Why might it be useful?*  *What might the dangers or problems be?*  Discuss the importance of being polite when writing comments. A good acronym to use is **THINK:**   * **T** – is it true? * **H** – is it helpful? * **I** – is it inspiring? * **N** – is it necessary? * **K** – is it kind?   Demonstrate the comment writing process. Allow learners the opportunity to practise writing comments themselves in response to a blog that has been written for them.  **Resources:**   * An example blog with three or four posts and a few age-appropriate comments. You may need to create this yourself before the lesson. | There may be some misconceptions as to what a blog is.  When looking at blogs you may wish to have examples of useful and appropriate comments, such as questions or requests for clarification. For example, recipe alterations on a cooking blog or a user asking for more information about the topic in the blog.  When learners write their comments, this may be online or offline. Alternatively, you may prefer them to draft their responses offline before posting. |

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| --- | --- | --- |
| Example Project - Unit 3.1 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **3TC.01** Develop fluency and accuracy when typing in increasing quantity.  **3TC.04** Identify common features of onscreen layouts and icons across a range of applications.  **3TC.02** Know what shortcuts are and be able to use shortcuts for cut, copy, paste, save, undo and re-do.  **3TC.03** Identify and use spell-checking and proof-reading tools.  **3TC.05** Add images to a document.  **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups. | In this project learners will produce a blog, detailing their findings in another topic of interest, for example about tracking the progress of a science investigation. They must apply all the skills they have used in this unit, therefore their blog must include:   * at least one image * different fonts, sizes and colours * some content copied and pasted from another source.   **Resources:**   * Pre-selected text and images for the purposes of copying and pasting and for importing. * Access to a blogging platform. | You should take the opportunity to consolidate any learning objectives that have not been fully understood early in the unit.  This is an opportunity for learners to apply their prior knowledge about how to change the formatting of text, rather than to make the document aesthetically pleasing.  Remember to model the undo, redo and save shortcuts until learners are confident with their use. |

# Unit 3.2 Written online communication

| Unit 3.2 Written online communication |
| --- |
| Outline of unit: |
| This unit introduces learners to appropriate written online communication. They consider online profiles and will identify information that should be considered as personal and, therefore, not appropriate for sharing. They will also consider which messaging platforms are appropriate for their own age group and how to identify these.  Email is introduced, with learners being given an opportunity to compose an email that they send to their teacher and then watch as it arrives in the teacher’s inbox.  The key messages about appropriate behaviour and responsibility when engaging in online messaging are then consolidated in an end of unit project. In this project, learners produce a poster which explains all of the important safety and wellbeing information that has been learned during the unit. |
| Knowledge, understanding and skills progression: |
| Before starting this unit, learners should know how to report anything they find online which makes them feel uncomfortable or upset. They should also understand that there is a risk associated with communicating online with people who may not be who they say they are. To understand the wider context of online messaging, they should know that technology can be used globally and locally. Finally, they should be confident with document creation from the previous unit. |
| Language: | |
| * inbox * draft * email * message * compose * send * personal information * identifying information * pseudonym/anonymous * privacy | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **3SW.04** Understand that people can be upset by things said to, or about, them. | Before beginning this activity establish the following rules:   * names are not to be used when telling personal stories * any personal stories that are shared, should not be repeated outside of the classroom * be respectful of the feelings of others.   *Has someone ever said something that has hurt your feelings or made you feel sad?*  Discuss the learner’s feelings.  *Did you enjoy feeling that way?*  *Do you think others enjoy being sad?*  *Is it different when you write something online?*  Establish that even if you are unable to see a person, this does not mean that they cannot be hurt by unkind words.Explain that learners need to be even more careful online as it is very easy for messages to be misunderstood. Demonstrate this by saying a statement in several different ways, altering your tone and body language to change the meaning.  *Even though I said the same thing, I meant something different each time. How did I do that?*  Establish that you were able to change the meaning by altering your tone and body language.  *When you chat online, you cannot see each other’s faces or hear their voices. Why might that be a problem?*  Revise the **THINK** acronym from the previous unit:   * **T** – is it true? * **H** – is it helpful? * **I** – is it inspiring? * **N** – is it necessary? * **K** – is it kind?   Give learners a prepared statement, for example ‘I don’t enjoy speaking with you online’, and explain that the writer’s intention was to say that they preferred face-to-face conversation. Ask them to advise the person making the statement how they could use THINK to improve their communication.  **Resources:**   * A set of two or three pre-prepared statements which can have different meanings depending on the tone and body language used when they are said. * A set of pre-prepared, age-appropriate, written statements that could hurt a person’s feelings. | Sensitivity and discretion are strongly advised when asking questions like this. It is important to acknowledge a learner’s feelings without allowing them to dwell on them.  This activity could take a variety of forms including:   * role-play * a letter * a poster. |
| **3SW.01** Know that their information is personal and identify the risks of sharing that information online. | Place learners into small groups and ask them to sort information cards into ‘personal’ and ‘not personal’.  *Why did you sort the cards the way you did?*  Establish that all the information on the cards could be personal, if it is about the learners themselves.  *Which information is safe to share online? Why?*  Discuss the learners’ ideas and then ask them to regroup the cards, this time into ‘safe to share online’ and ‘unsafe to share online’.  *Why have you chosen to sort the cards the way you have?*  Explain that any information that can be used to identify them should not be shared.  *What are the risks of sharing information that can identify you?*  Discuss possible scenarios, e.g. identity theft, thieves finding out when a home is empty, etc.  *What could you share safely online?*  Establish that you can still have a lot of fun online without giving any identifying information. Discuss how hobbies and shared interests can still be discussed, and you can have an anonymous username on a lot of websites.  Once learners understand what is safe to share online and what is not, ask them to adjust some example profiles to make them safe.  **Resources:**   * A card-sort activity with different types of personal information on them such as: name, address, hair colour, favourite food, school, username, hobby, etc. * Some example online profiles with a variety of personal information on them, some safe to share, some not. | You may need to establish that ‘personal’ means ‘about you’.  Do not correct the learners at this stage, it is more important to elicit their ideas now and introduce correction and emphasise the need for self-assessment later.  It is essential that you identify things that learners might not even consider to be information, for example: pictures of them in their school uniform, pictures of birthdays (the date can be found in the EXIF data of the file), pictures next to houses (easy to find the address). |
| **3SW.02** Safely engage in online spaces, including in group chats, being aware that personal information and identifying photographs and/or videos should not be shared. | Review material from the previous two activities, ensuring that learners remember:   * the THINK acronym * what personal information means * what they can and cannot share.   *What applications could we use to communicate online?*  *What are the benefits and risks of each?*  Draw up a table of the different social and communication media that your learners use, or, if they do not use any, what they would use if they could do so. Add in headings for ‘Benefits’ and ‘Risks’. Discuss what the risks and benefits of each might be and add these to the table.  Establish that for the learners’ own safety, some social and communication media must not be used until they are much older.  Either as a class or in groups, work through a series of imaginary scenarios and discuss the correct way to deal with each situation. The imaginary scenarios should include those where the correct outcomes would be:   * block and report * adjust privacy settings * changing real personal information to fake information that is not related to either themselves or to anybody else that they know.   Make sure that learners understand what each of the solutions entails in relation to the social and communication media that they use.  **Resources:**   * A series of imaginary scenarios for discussion. | For this activity, it would be useful for you to familiarise yourself with the key social media and messaging platforms in your country. You may find it useful to refer to online videos that are appropriate to both the age of your learners and to your local context.  A good general rule for learners in Stage 3 is that they should not contact anyone they do not know in real life.  Any social or communication mediashould have the following, otherwise it is considered unsafe for Stage 3 learners:   * effective blocking tools * easy to find reporting tools which are acted upon * detailed privacy settings * no requirement for real names to be used. |
| **3TC.04** Identify common features of onscreen layouts and icons across a range of applications.  **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups. | Explain that now learners know the theory of being safe online, in this session they will have an opportunity to put it into practice.  Begin by reminding them of the common icons they can expect to find in a variety of applications. Open your chosen online communication application and go to the message composition window.  *Can you find any of the icons we have looked at previously?*  *Why might there be similar icons in a messaging or email client to those found in text processing software?*  Establish that there are a number of similarities between text processing software and email clients or chat applications. This is because all work with the written word needs to be typed and edited regardless of the purpose or platform  *Can you identify any differences?*  Demonstrate the rest of the app, by paying attention to the inbox and describing its function.  Provide screenshots of the inbox and composition windows in an email application. Also provide labels for the key parts of the inbox and composition window screenshots. These should include:   * for the inbox window: * list of messages/emails * sender line (who the message is from) * subject line (what the message is about) * message preview box * Compose or New message button * Reply button * list of other folders (e.g. drafts, sent items, any other folders for organisation) * for the composition window: * To field * From field * Cc field (if applicable) * Bcc field (if applicable) * Subject field (if applicable) * text box (where the message goes) * Send button * Save draft button.   In pairs or groups, learners match the labels with the features of the application in the screenshot.  Once this activity is complete, demonstrate the function of each of the key features and explain that learners will have an opportunity to use these for themselves later in the unit.  For learners who are already confident with the use of messaging or email applications, this activity can be extended by asking them to write a short explanation of what each of the features does.  **Resources:**   * An email client or chat app. * Screenshots of the inbox and composition windows in the email or chat application. * Labels for the key parts of the inbox and composition window screenshots. | You may wish to create a quiz to revise the common icons. To make it more engaging, you could turn it into a competition or use an online quiz platform. |
| **3TC.03** Identify and use spell-checking and proof-reading tools.  **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups. | Give each learner a copy of a draft email containing errors that need to be corrected.  *How can we use our messaging or email applications to help us check if our work is written correctly?*  Remind learners of the spell-check function and how it works.  *What are the limitations of using a spell-checker?*  Make sure that learners understand that spell-checkers are not faultless and that they can pick near-spellings or homophones instead. They also require the misspelling to be close to the correct one for a suitable suggestion to be made.  Learners proofread and correct the draft emails with the help of the spell-checker.  **Resources:**   * A draft email with spelling errors to correct. * An email or messaging client. | You may wish to combine this activity with the one below, depending on how confident your learners are with using proof-reading tools. |
| **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups. | Display your message inbox but make sure that there are currently no unread messages.    Arrange for another member of staff to send an imaginary email which has been written by a learner in a different country. The learner should talk about life in their country and should ask your class for information about their own lives.  *What has just happened? What has changed?*  Discuss what the learners have seen, then explain that they have just seen a message or email arrive in your inbox. Read the email to the learners.  *It would be lovely to reply, but what do we need to remember when communicating with other people?*  Remind learners not to give their personal information to others and that their message needs to follow the THINK rules.  Model drafting an email. When doing so, make sure you explain your thought processes and create opportunities for learners to correct you when giving away overly personal information, or when writing something that does not conform to the THINK rules.  Give learners time to draft responses of their own. To extend this activity, you can also ask learners to proofread each other’s work and suggest improvements.  Once the drafts have been completed to your satisfaction, ask:  *Now that I have written my email or message, how do I send it?*  Model the process of sending the message/email step-by-step in reply to the original message, ensuring that learners have understood each step correctly. Ask them to send their own messages to the account that you have been using during the demonstration.  Display your inbox again.  *What do we notice now?*  Explain that the messages sent by learners have all arrived in your inbox.  **Resources:**   * An imaginary email from another learner in a different country. * A messaging or email client – ideally without the ability to send or receive messages outside of the school network. | It would be a good idea to set up a special account that does not receive your usual work or personal messages.  Depending on how well learners remember these rules, it may be necessary to thoroughly review the previous activities before continuing.  Pause to share good examples of emails periodically, emphasising the importance of being kind and safe.  If your messaging or email application requires you to write an email address, take some time to model getting the “@” symbol on the keyboard. |

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| Example Project – Unit 3.2 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **3SW.04** Understand that people can be upset by things said to, or about, them.  **3SW.01** Know that their information is personal and identify the risks of sharing that information online.  **3SW.02** Safely engage in online spaces, including in group chats, being aware that personal information and identifying photographs and/or videos should not be shared.  **3TC.01** Develop fluency and accuracy when typing in increasing quantity.  **3TC.03** Identify and use spell-checking and proof-reading tools.  **3TC.05** Add images to a document. | Once learners fully understand the concepts of online messaging, they produce an information poster showing what they have learned about how to safely engage in online messaging. The poster should include advice about:   * the THINK acronym * what personal information is and what should and should not be shared * when users should block and report content * why users should adjust their privacy settings * the value of changing real information to fake information where a user cannot post using a pseudonym.   The project can also include the learning from the previous unit so that learners format their text and select and import at least one appropriate image.  This project could be extended by asking groups of learners to develop an acronym of their own which can be used to explain the important things to consider when engaging in online messaging. | Learners should be encouraged to experiment with the text formatting and layout of their posters but the objective is not for them to produce something that is aesthetically pleasing. However, they might want to consider formatting issues such as making the text on their poster big enough so that it is visible from a distance. |

# Unit 3.3 Safe digital research

| Unit 3.3 Safe digital research |
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| Outline of unit: |
| In this unit, learners begin to understand what websites are and what they are not. They should also understand some common website features. They will consider the role of search engines and will use keywords to search for information.  The concept of a digital footprint is introduced, along with some of the reasons why website use is tracked. Learners are then given the opportunity to assess the reasons why some of the information that they find online might be less reliable than others.  Learning is consolidated through a project that requires learners to research information about their local area which is then presented in the form of a leaflet. |
| Knowledge, understanding and skills progression: |
| This unit focuses on using the World Wide Web to find information safely, therefore learners should:   * know that digital technology can give access to a wide variety of information * know that the world wide web is a network * be able to enter familiar words, using a physical or digital keyboard * be able to identify key information from within a body of text. |
| Language: | |
| * web browser * search engine * address bar * website * URL * web page * search bar * bookmark * tabs (in the context of a web browser) * index * keyword * ISP * cookie (in the context of a web browser) * reliable (in the context of information) * reputable | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **3TC.04** Identify common features of onscreen layouts and icons across a range of applications. | Display an appropriate website in your browser and allow time for learners to think about what they see.  *What do we call this program?*  *What does it do?*  Explain that a web browser’s primary function is to display web pages.  *Which websites can you think of?*  Write a list of common websites given by learners.  Spend some time modelling the most useful features of your chosen web browser. In particular, make sure that you identify and model the use of the:   * address bar to access a website using its URL * address bar to use a search engine (if applicable) * search bar (if applicable) * ‘bookmarks’ or ‘favourites’ facility * history page * back, forward, refresh and stop buttons * browser tabs (if applicable) * share button (if applicable).   Learners visit the websites noted earlier and try using different features of the web browser. This activity can be extended if they take a screenshot of the different features and add them to a document, before adding an explanation of how they arrived at each outcome.  Distribute copies of a screenshot of a web browser and pre-made labels containing the features mentioned above, along with their descriptions. Learners match the labels to the appropriate place on the screenshot.  This activity can be extended by separating the labels and the explanations so that the learners firstly match them before using them to label the screenshots.  **Resources:**   * Screenshots of most commonly used web browsers in your school. * Labels detailing website features. | Do not accept the name of a type of web browser as correct, for example Mozilla Firefox or Internet Explorer.  Many learners confuse web browsers with search engines. Make sure that they understand that a web browser renders (displays) web pages and that most have the facility to search the web, but that this is not their primary function.  This is another opportunity to address any misconceptions related to what websites are. Learners will often confuse them with apps, especially where a service has an app and a website, such as when using social media.  When modelling the usage of the address bar, very clearly make the distinction between using a search engine and entering a URL.  This time to explore is crucial to allow learners to familiarise themselves with the software before any activities are set.  It might be necessary to demonstrate how to take screenshots, how to post them to the learning journal and how to add notes to the postings. |
| **3TC.07** Use keywords to search for information in a search tool. | Explain that the objective for this activity is for learners to understand what a search engine is.  Ask the following question:  *What is the difference between a web browser and a search engine?*  Explain that a web browser displays websites and a search engine allows users to find websites.  To illustrate this point, set up the following activity.  Place 5 to 8 pieces of information on the walls around the classroom and then cover them with another piece of paper, each with a number on. Create an index of the information beneath each of the pieces of paper. Finally, create a set of questions which can be answered by the information on one of the sheets of paper that are placed on the walls.  Start by giving one learner the role of being the ‘Search Engine’. Give this learner the index of what lies beneath each of the numbered pieces of paper. Then give another learner a question to answer. This learner needs to choose a keyword relating to the question (e.g. ‘Maths’ or ‘Science’) and say this to the ‘Search Engine’. The ‘Search Engine’ checks their index and tells the questioner which piece of paper to look at (e.g. ‘Go to paper 3’). The questioner goes to paper 3 and finds the answer.  Once this process has been modelled it can be extended by having several learners being ‘Search Engines’ and others being ‘questioners’ at the same time.  End this activity with a discussion about how quickly a search engine works. Also ask the following question:  *What information might be difficult to find using a search engine?*  **Resources:**   * Printed pieces of information on discrete subjects. * Numbered sheets to cover the information on discrete subjects. * An index showing the numbers and corresponding pieces of information. | Many learners struggle with this concept, especially as the results from a search engine are often displayed as a web page. Take plenty of time to make sure that this misconception is addressed before moving on.  Each piece of information should be on a different subject and it should be obvious that this is the case. For example:   * 37542 ÷ 32 = 1173.1875 (Maths) * mammals give birth to live young (Science) * a comma is used to separate items in a list (English).   Make sure that you explain how a search engine works before the activity begins, and again afterwards to ensure learners understand the concept. |
| **3TC.07** Use keywords to search for information in a search tool. | *What is a keyword?*  Establish that a keyword is a word that illustrates the information you are trying to find.  Give learners a selection of questions (no more than five) from which they need to identify the keyword that they would enter into a search engine to find the answer.  Once complete, model this process in a search engine to illustrate how this works.  Search for a topic of interest within your class that would normally yield results in child-unfriendly language, such as sites which use a large amount of technical language.  *What could we add to these keywords to help us find information that is child-friendly?*  Explain that there are often websites written for children and that these can be found by adding more keywords to a search, such as:   * for kids * for children * primary school * for 7 year olds * elementary school.   *Is the order in which you enter your keywords important?*  Ask learners to search for websites that give them information on an appropriate topic of their choosing. They must record:   * the order in which they enter their keywords (always remembering to add one of the phrases above at the end) * the first three results that appear.   At least three searches, using different combinations of keywords, should be conducted and recorded by each learner.  This activity could be extended by asking learners to rate (1 to 10) the usefulness of the information they found with each combination of keywords.  At the end of the activity, review the question about the order of keywords and discuss what learners found.  **Resources:**   * A set of questions for learners to extract keywords from. * A table with columns that will enable learners to record their searches. | Address any misconceptions about search engines, web browsers and keywords that might emerge.  This is an ideal opportunity to draw parallels between this activity and scanning for keywords when answering reading comprehension questions.  If not switched on by default, this would also be an opportunity to stress the importance of ensuring that the safe search facility of your chosen search engine is switched on. You must use a search engine that has safe search functionality. |
| **3SW.03** Know that device use can be monitored. | *How can I find out which websites I visited yesterday?*  Remind learners of the ‘History’ feature in their web browser and explain that it keeps a track of every website they visit.  *What are the possible advantages of this feature?*  *Who or what might also keep a record of which websites you visit?*  Explain that the following organisations will be monitoring the websites you visit:   * the school (if true) to keep all learners safe and identify any bad behaviour or risk taking * the ISP (internet service provider) who need that information in order to deliver the desired web page * the actual websites that learners visit * many websites use tracking cookies to follow which other websites are visited alongside their own * the browser maker, to monitor the effectiveness of their service and to check for malicious websites * the manufacturer of the operating system (unless your school runs a system which does not track usage).   *Does that change how you think you should behave online?*  Discuss the implications of the discussion and summarise the main points.  Explain that the record of what people do online is called their ‘digital footprint’.  Learners capture this information by drawing a mind map with the website that they have visited at the centre and then writing around the edge who is likely to have monitored that information, and why.  Introduce the idea that the digital footprint is linked to some of the reasons why people create online content and, therefore, why it might be useful for those people to understand what their potential audience are using digital devices for. | It is not necessary to explain the digital footprint in depth at this stage. It will be sufficient for learners to understand that they create information with each visit to a website.  This is covered more fully in the next activity. |
| **3DW.01** Understand that people create online content for a purpose, including advertising, expressing their opinions and sharing information. | *Why might someone write something and put it on the internet?*  Discuss possible reasons and record them for future reference. Establish that people create content for many different reasons.  *Are some of the reasons for writing less trustworthy than others as sources of information?*  Establish that people who write things to sell a product or to persuade or deceive are likely to be less reliable than those who write for an educational website. Introduce the concept of reliability.  *How could you decide whether a source of information is trustworthy?*  Discuss the possibility of a number of different ideas, however you will ultimately need to steer your learners towards the following criteria:   * Can the same information be found on different websites? * Can you find similar information on a reputable website? You should have a list of reputable websites that might include a fact-checking website or a reputable news outlet with child-friendly content. * Are the motives of the authors likely to be honest (are they trying to sell you something, do they want to trick you into downloading malicious software)? * Is there a lot of advertising on the site? This could mean that the information is likely to be less reliable.   Give learners copies of website extracts and get them to assess their reliability against a checklist. This checklist can be based upon the bullet points above. It would be best to do this in pairs or groups, so that learners can discuss what they are seeing. This activity can be extended by asking learners to write a detailed justification for their choices.  **Resources:**   * A list of reputable websites in your country that are known for producing reliable information. * A selection of website extracts of varying degrees of reliability. * A reliability checklist for learners. | You may need to prompt learners think beyond their own experiences of writing, so that they can understand that some people write things in order to make money, to persuade and to deceive.  There are many resources freely available online to help explain this to young learners. Check for any content produced on this topic in your country. You may, however, need to produce a summary before sharing it with learners.  It is important to distinguish between those websites that sell advertising space in order to pay for their existence and those which are aimed at selling one particular product. Therefore the content of each advert should also be considered. |

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| Example Project – Unit 3.3 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **3TC.01** Develop fluency and accuracy when typing in increasing quantity.  **3TC.03** Identify and use spell-checking and proof-reading tools.  **3TC.05** Add images to a document.  **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups.  **3TC.07** Use keywords to search for information in a search tool.  **3TC.08** Navigate storage hierarchy appropriate to the device.  **3DW.01** Understand that people create online content for a purpose, including advertising, expressing their opinions and sharing information. | The outcome of this project will be a leaflet, ideally created using text processing software, which will be about the learner’s local area. To be successful, learners should combine the document creation skills learned in Unit 1 with the research skills from Unit 3.  When completing this project, learners should:   * Use a search engine to find information about their local area. This information could include: * notable landmarks * important amenities (e.g. municipal swimming pool, shops, parks, etc.) * areas for recreation and enjoyment * local history. * Assess the reliability of the information that they do find. * Produce a document, retelling this information using their own words. * The text should be formatted in a variety of different ways. * Images should be added to support the text. * The document should be saved in an appropriate place. | This is an ideal point to revisit the skills learned in Unit 1 to make sure that the skills and knowledge are retained.  When searching for information, learners should continue to use the techniques learned to find accurate, age-appropriate material.  At this stage, it is more important to make sure that learners are able to format text and add images. Producing an aesthetically pleasing document comes in later stages. However, highlight the difference between the scale of this document with that of the poster that was produced at the end of Unit 2. |

# Unit 3.4 The history of computers

| Unit 3.4 The history of computers |
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| Outline of unit: |
| In this unit, learners consider how computers, and their uses, have changed and how these changes have led to what has become the current reality for learners.  They will develop this knowledge through experiencing tasks that were done differently in the past and through identifying the efficiencies that developments in digital technology have enabled. |
| Knowledge, understanding and skills progression: |
| This unit builds upon all of the skills taught in previous Stage 3 units with a view to consolidating this and applying it to the context of the project. In addition, learners should understand that:   * there are a range of devices that are computers * technology can give access to a wide variety of information * technology can be used to communicate locally and globally. |
| Language: | |
| * mainframe * client * smartphone * tablet * the cloud * terminals * chat * IRC * server * blogging * online collaboration | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **3DW.02** Know that computers and their use has changed over time. | Focus on different historical periods of computer use or on different purposes of computer use.  Write two headings on your whiteboard, or equivalent: ‘How we use computers today’ and ‘How computers were used in the past’. Ask learners to contribute ideas that could be listed under these headings.  *What do you notice?*  *What is different?*  *What is the same?*  Display a presentation on the history of computers and their use. Answer any questions that arise during your presentation. If your presentation includes pictures of old devices, ask learners if they have seen any of these devices before and, if so, where.  Give learners labels that show key points in computing history and include pictures of computers that were frequently used during each of the time periods covered. Ask learners to order the labels chronologically.  *Let’s look at all of these different computers. What has stayed the same? What has changed?*  Learners record what has stayed the same, for example that computers still perform arithmetic and that the primary means of input is a keyboard, whether virtual or real. They also record what has changed, for example, computers are much faster, they can perform many more functions and they connect to the internet.  Once they have recorded their own observations, ask learners to share the important points with the whole class.  **Resources:**   * A presentation detailing the key points in computing history for your country. * Some timeline labels with key points in computing history. | The way in which computers have been used varies considerably around the world. We recommend that you teach the history of computing appropriate to your context.  What you include in your presentation is dependent on your context, but it could include:   * the first computers * mainframes and their terminals * the first ‘personal computers’ * internet enabled computers * smartphones, tablets and the cloud.   The content should have meaning for learners so should focus on uses that they can relate to, for example devices that were used in the home. |

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| --- | --- | --- |
| Example Project – Unit 3.4 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **3DW.02** Know that computers and their use has changed over time.  **3TC.06** Compose, read, respond to and share online messages with specific individuals and with groups.  **3SW.02** Safely engage in online spaces, including in group chats, being aware that personal information and identifying photographs and/or videos should not be shared. | In this project, learners will have an opportunity to experience using a computer in the way that older generations may have done. As the focus in Stage 3 has been on document creation and online communication, these are the areas that this project will focus on.  In each activity, learners should be given the opportunity to role-play the use of computers in a different way to reflect a different point in the history of computers. They then record their experiences using the blogging skills they developed in Unit 1.  The suggested activities are:   * Role-playing a human computer (someone who does calculations manually and writes them into a reference book for others to use). * Taking it in turns to role-play a writer and their secretary, where the writer dictates their handwritten notes to a secretary who types them into a computer, prints the document and posts it to the recipient. * Revisit sending emails, but limit the content to plain text as this was all that was available initially. * Learners create reflective blogs about their different experiences. They then spend a session commenting on, and learning from, each other’s blogs. * Create a collaborative document using a cloud service which is then contrasted with the ‘collaborative’ activities that were experienced in the past, such as the writer and their secretary.   **Resources:**   * An email client. * A blogging service. * A collaborative document creation service. | Unlike previous units, this project is where the majority of information will be delivered, as the focus is less on developing discrete Digital Literacy skills, and more on developing knowledge through experience.  Learners should be reminded to practise the skills they learned in Unit 2, particularly applying the **THINK** rules to any messages they send, and not posting any personal identifying information.  Each of these activities are suggestions only and you should feel confident in adapting them to make it more relevant to the history of computer use in your context. |

# Sample lesson 1

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| CLASS: | |
| DATE: | |
| **Learning objectives** | * **3TC.08** Navigate storage hierarchy appropriate to the device. |
| **Lesson focus /**  **success criteria** | Learners can:   * successfully navigate around the school folder structure * create and organise a filing structure. |
| **Prior knowledge / Previous learning** | Learners understand how to:   * find, open, save and delete documents within a folder structure. |

**Plan**

| **Lesson** | **Planned activities** | **Notes** |
| --- | --- | --- |
| **Introduction** | *What is a file?*  Discuss and remind learners that a file is a store of a specific type of digital information.  *Can you think of some examples of files?*  *What things do you already know how to do with a file?*  Remind learners of their Stage 2 skills of finding, opening, saving and deleting files from within a folder structure. | Make sure that you distinguish between file names (such as school report), and file types (such as music files, pictures and documents). Specific file types are not important at this stage. |
| **Main activities** | Provide a selection of cards that display the names of items that could be grouped. For example, some cards could include the titles of books, others could include recipes for different meals and a third group could display the names of holiday destinations. In groups, learners sort the cards and then categorise them with an appropriate ‘filename’.  *Why did you choose to group the ‘files’ in the way that you did?*  Choose two groups to discuss this with, ideally one group that has categorised the cards correctly and another incorrectly. Ask which group’s choices are more effective.  *You have grouped your files by subject but how do you think we would do this on a computer?*  Establish that you can do the same thing on a computer using folders.  *Where do you think you have seen folders before?*  *Can you find one now?*  Demonstrate the navigation through folder hierarchies on your school’s preferred devices. Provide learners with a list of files that are saved in different folders and explain that they are now going to find those files.  *What could you use to help you locate the documents?*  Explain that the files have been grouped into folders relevant to their content. This makes it easier for the files to be found.  Learners locate the files on their list and note in a separate document where they found them. They then save this document in an appropriate place.  *How could you make sure that you have moved all the files to the correct place?*  Explain that the learners could tick off the files from their list after they have moved them to a folder. | It is highly likely that you will see some novel, but unhelpful categories, such as the main colour on the card. Make sure you explain to the learners why this is unhelpful.  If your learners are aware of physical folders, you could draw parallels here if you feel it would aid their understanding.  You could support your learners here by asking them to categorise the files on their list on paper first. |
| **End/Close/ Reflection/ Summary** | Select a group to explain how they chose to organise their files.  *Why did you choose to organise them in this way? Could you have organised them in a different way?*  Discuss other, equally valid, possible methods for organising the folders, establishing that the most important thing is that files are organised logically and are easy to understand by others. |  |

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| **Reflection Use the space below to reflect on your lesson. Answer the most relevant questions for your lesson.** |
| *Were the learning objectives and lesson focus realistic? What did the learners learn today? What was the learning atmosphere like? What changes did I make from my plan and why?*  *If I taught this lesson again, what would I change?*  *What two things went really well (consider both teaching and learning)?*  *What two things would have improved the lesson (consider both teaching and learning)?*  *What have I learned from this lesson about the class or individuals that will inform my next lesson?* |
| **Next steps**  **What will I teach next, based on learners’ understanding of this lesson?** |

# Sample lesson 2

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| --- | --- |
| CLASS: | |
| DATE: | |
| **Learning objectives** | * **3TC.07** Use keywords to search for information in a search tool. |
| **Lesson focus /**  **success criteria** | Learners understand:   * the difference between a web browser and a search engine * what a search engine is * how a search engine works * how to select appropriate keywords when searching for information. |
| **Prior knowledge / Previous learning** | * The internet is a network and that has physical parts. * Digital technology can give access to a wide variety of information. * The features of a web browser. * What an index is and its purpose within non-fiction books. |

**Plan**

| **Lesson** | **Planned activities** | **Notes** |
| --- | --- | --- |
| **Introduction** | *What is an index? What do you use it for?*  Demonstrate using an index in a recipe book (e.g. to find a recipe for a chocolate cake).  After ensuring that all learners understand what an index is, explain that a search engine works in a similar way, but for websites. A search engine works by using computer programs called ‘bots’ to scan the contents of as many websites as possible and adds this information to a huge index. Then, when users enter keywords (words that summarise the main idea for a given subject), the search engine looks for those keywords and presents the user with a list of websites. | Learners will often confuse web browsers with search engines or websites.  You may wish to use an online quiz app such as Quizizz or Kahoot for this activity. |
| **Main activities** | Place 5 to 8 pieces of information on the walls around the classroom and then cover them with another piece of paper, each with a number on. Create an index of the information beneath each of the pieces of paper. Finally, create a set of questions which can be answered by the information on one of the sheets of paper that are placed on the walls.  Start by giving one learner the role of being the ‘Search Engine’. Give this learner the index of what lies beneath each of the numbered pieces of paper. Then give another learner a question to answer. This learner needs to choose a **keyword** relating to the question (e.g. ‘Maths’ or ‘Science’) and say this to the ‘Search Engine’. The ‘Search Engine’ checks their index and tells the questioner which piece of paper to look at (e.g. ‘Go to paper 3’). The questioner goes to paper 3 and finds the answer.  Once this process has been modelled it can be extended by having several learners being ‘Search Engines’ and others being ‘questioners’ at the same time.  *If I wanted to find out the recipe for chocolate cake online, what would my keywords be?*  Demonstrate how to enter the keywords into a search engine. | Make sure learners understand what a keyword is.  Each piece of information should be on a different subject and it should be obvious that this is the case. For example:   * 37542 ÷ 32 = 1173.1875 (Maths) * mammals give birth to live young (Science) * a comma is used to separate items in a list (English).   Explain that learners will use their own keywords in the next lesson. |
| **End/Close/ Reflection/ Summary** | Ask learners to explain to a partner how a search engine works.  *Who can tell me how their partner thinks a search engine works?* | This is an opportunity to develop listening skills as well as conceptual understanding. |

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| **Reflection Use the space below to reflect on your lesson. Answer the most relevant questions for your lesson.** |
| *Were the learning objectives and lesson focus realistic? What did the learners learn today? What was the learning atmosphere like? What changes did I make from my plan and why?*  *If I taught this lesson again, what would I change?*  *What two things went really well (consider both teaching and learning)?*  *What two things would have improved the lesson (consider both teaching and learning)?*  *What have I learned from this lesson about the class or individuals that will inform my next lesson?* |
| **Next steps**  **What will I teach next, based on learners’ understanding of this lesson?** |

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