

Scheme of Work

Cambridge Primary

Digital Literacy 0072

Stage 5

For use with the curriculum framework published in 2019



Copyright © UCLES 2019

Cambridge Assessment International Education is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.

UCLES retains the copyright on all its publications. Registered Centres are permitted to copy material from this booklet for their own internal use. However, we cannot give permission to Centres to photocopy any material that is acknowledged to a third party, even for internal use within a Centre.

# Contents

[Contents 3](#_Toc3296963)

[Introduction 4](#_Toc3296964)

[Unit 5.1 – The podcast revival 7](#_Toc3296965)

[Unit 5.2 – Our changing digital world 13](#_Toc3296966)

[Unit 5.3 – My digital presence 17](#_Toc3296967)

[Unit 5.4 – Robot designers 23](#_Toc3296968)

[Sample lesson 1 29](#_Toc3296969)

[Sample lesson 2 31](#_Toc3296970)

Introduction

This document is a scheme of work created by Cambridge Assessment International Education for Cambridge Primary Digital Literacy Stage 5.

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 5. 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 5. 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 5.1 – The podcast revival** | **7.5 hours** |
| **Unit 5.2 – Our changing digital world** | **7.5 hours** |
| **Unit 5.3 – My digital presence** | **7.5 hours** |
| **Unit 5.4 – Robot designers** | **7.5 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 5

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 5

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. During stage 5, you may wish to include a suitable typing scheme of work as part of your regular lesson planning.

# Unit 5.1 The podcast revival

| Unit 5.1 The podcast revival |
| --- |
| Outline of unit: |
| Podcasts are digital audio files that are downloaded through the internet, and are usually published on a regular basis. Learners will research existing podcasts online and identify how and where the files are saved. They will then create their own podcast, thinking about its content, the skills needed to produce it, and how they might share it.  This unit builds to a project in which learners use their content creation skills to make a series of podcasts. |
| Knowledge, understanding and skills progression: |
| This unit builds on the basic computer skills that were taught in previous stages. It may therefore be necessary to revisit some of the learning from those stages so that learners are able to achieve the objectives of this unit. The unit specifically builds on learners’ use of devices and they should have a solid understanding of folder structures and hierarchy.  Learners should also have a good understanding of literacy skills, as speaking and listening will play a large role in the project at the end of this unit. |
| Language: | |
| * podcast * audio/sound * sharing * import/export * program * file * online content * published * hardware/software * device/application * peripheral * microphone | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Ask learners to search for and explore podcasts online. They should find out:   * who makes them * what topics they cover * what audiences they are made for.   They could look for podcasts which tell stories, discuss exciting developments in technology or their favourite sport, or they might look for podcasts that are related to a current school topic.  Learners should open up audio recording equipment. This could be one built into the device they are using, one that is downloaded as an application, or it could be a small handheld recorder. They should use the audio recording equipment to record a short voice message.  Learners should listen back to their recording and review it.  *How does it sound?*  *Is the sound quality suitable?*  *How could you improve the quality?*  Learners spend time trying to improve the sound quality of their recordings. This could be done by asking learners to work in small groups, or spreading them out around the room or school. Elicit the ideas of reducing background noise and speaking clearly into the microphone.  Make sure that learners save their recordings in an appropriate place as they will be revisiting them in later activities.  **Resources:**   * Voice recorders or recording software. | It is important to discuss with learners what is appropriate and inappropriate here. Some podcasts may use unsuitable language, so they should only use safe and trustworthy sources, possibly from a selection that has been checked in advance. |
| **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Continue the learning from the previous activity by editing the sound recordings using audio editing software. There are a number of free examples of sound editing software available online.  Demonstrate how to use the software, including how to load the previous recordings, how to trim the beginning and end of each sound clip to remove quiet areas or mistakes, and how to join recordings together.  Learners use the software to enhance the quality of their recordings, for example by removing pauses or mistakes, and to link all of the parts together into a suitable order.  Allow time for learners to experiment and to refine the edits that they make to their sound files.  **Resources:**   * Sound editing software. | Take some time to familiarise yourself with the editing software. Make sure you have practised using it, and are able to demonstrate simple skills, such as cropping content or changing the volume. |
| **5TC.03** Know ways to transfer files across devices. | Review the ideas and understanding behind folder structure by revising folder hierarchies. Challenge learners to either find a folder that has been saved previously or find a suitable place to store the sound files that they created in the previous activity.  *Can you find the previous work you saved?*  *Which folder is it saved in?*  Show learners a series of sound effect files. These should be saved in an online file storage system. Challenge learners to find the folder and listen to some of the sound effects.  *Which ones do you like?*  *Which ones could you use in your podcast?*  Discuss where these files are saved at the moment. Explain that this is not on the computer, not even in the school, but in a server farm somewhere in the world. Instead of the file sitting on the computer in front of them it’s actually hundreds of miles away in a building full of computers, storing files for millions of people.  *How do you think they got to my computer?*  *How did I put them there?*  *How far have they travelled?*  *Why is it useful to save files online?*  Allow learners time to research cloud storage. This could be done by using a search engine or by searching for information on a video sharing platform. Suggest some different search terms, such as:   * How does my file get saved in the cloud? * What is the cloud? * What does a server farm look like? * How do files travel through the internet?   Learners select the sound files that they like. They make copies of them and move them to their own designated area on the computer. They then add these sound files to the podcasts that they created in the previous activity.  **Resources:**   * 10 to 15 short sound effect files. The files should be small in size so that they can be transferred quickly by learners. * Headphones. | Assemble a collection of 10 to 15 sound effects files in a folder.  Learners should use headphones for this part of the activity.  If internet access is limited these files can be saved locally but it is important that learners are given a description of how online storage works. |
| **5TC.04** Locate and use standard tools on a device, e.g. the calculator and calendar. | Display the screen of your desktop or laptop computer and demonstrate how to open the built-in calendar. Also demonstrate how to navigate through it.  *Can you think of another tool that is on all home computers?*  Lead learners towards answers like the calculator, voice recorder, camera and clock.  Allow time for learners to explore each of these tools. Using a worksheet as a guide, they investigate the function of each tool and make a note of when and how they might use them.  Ask learners to link the notes they made on the worksheet to the production of their podcasts. For example, they could use the calendar to plan the recording and release dates of their podcasts, and the clock to time the recordings.  **Resources:**   * A worksheet with the standard computer tools listed. Under each tool leave a small space for learners to write and a further space to link each tool to the production of their podcasts. | Allow learners time to practise and use the skills on a regular basis. |
| **5SW.04** Know that online content can be published and accessed instantly. | Discuss how the internet can be used to instantly access different types of media from all over the world.  *What do you watch online?*  *What can you read online?*  *What can you listen to online?*  *What can you learn online?*  Revisit the concept of podcasts as a tool for people to share and access news and media.  *What are podcasts?*  *How do they work?*  *What makes them a good way to share information online?*  Learners review their previous learning by opening their audio recording software and creating an audio message for a friend in the classroom. Discuss the difference between positive and negative messages.  *What might be the consequences of sharing these messages online?*  *What does the word ‘viral’ mean?*  *How do messages like these spread across the internet?*  *Are viral messages always appropriate?*    **Resources:**   * Voice recorder, recording software. |  |
| **5DW.03** Understand that some hardware and software can be incompatible with other hardware and software.  **5TC.01** Develop fluency and accuracy when typing in increasing quantity. | Ask learners to conduct a web search for ‘Computer Hardware’ and ‘Computer Software’.  *What have you found?*  *Can you explain the difference between hardware and software?*  Learners may have come across other keywords such as ‘device’, ‘peripheral’ and ‘application’.  Ask learners to search these keywords and create a document that lists them and their definitions. They should add examples that support each of their definitions. The examples could be taken from what they use in school or at home.  Finish the activity by discussing the idea of compatibility and incompatibility of hardware and software.  *Can you use all software with all hardware?*  *Is all hardware compatible with other hardware?*  *Can you find examples of some that are compatible and some that are not?* | Age-appropriate examples of incompatibility between hardware and software could include:   * moving work between a Mac and a Windows device * video files not working on a sound player * some apps working on Android and others working on iOS. |

|  |  |  |
| --- | --- | --- |
| Example Project – Unit 5.1 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.  **5TC.03** Know ways to transfer files across devices.  **5DW.03** Understand that some hardware and software can be incompatible with other hardware and software.  **5TC.04** Locate and use standard tools on a device, e.g. the calculator and calendar.  **5SW.04** Know that online content can be published and accessed instantly.  **5TC.01** Develop fluency and accuracy when typing in increasing quantity. | In this project, learners create a series of podcasts. This is an opportunity to link to another subject, so that learners are writing their podcasts about another area of their learning.  Learners use audio recording equipment to create a short podcast-style audio file. This file should be edited and sound effects added.  Learners use the audio editing software to produce quality sound files. They should apply all of their learning from earlier in the unit, for example they could plan their recordings and save their sound files in an appropriate location.  Learners should create one podcast, edit it and then add further recordings if time allows.  The sound files should be shared with the whole class. They could also be shared somewhere so that parents can access them from home.  When the podcasts have been created and listened to, learners should review each other’s work. These reviews could be delivered verbally in the classroom or, if possible, be written on the platform where the podcasts were shared.  This is a great opportunity to discuss the idea of leaving a positive footprint on the internet, and to think about how learners can be positive, but helpful, in their reviews.  **Resources:**   * Free audio editing software. | All aspects of the learning for this unit can be seen when creating the podcasts. Therefore this project provides an opportunity to assess whether any of the learning objectives need teaching further.  If learners add their feedback as comments on the sharing platform, this will also provide an opportunity to remind them about what is and is not appropriate to share. |

# Unit 5.2 Our changing digital world

| Unit 5.2 Our changing digital world |
| --- |
| Outline of unit: |
| In this unit, learners will look at the impact that the internet and technology has around the world. Learners will select a country that contrasts to their own and find out about its geography and the impact that technology has on people who live there.  Learners will use online presentation tools to create interesting and attention-grabbing pages to share their work and learning. |
| Knowledge, understanding and skills progression: |
| This unit builds on work in previous stages where learners looked at using devices to create digital content. It also builds on the idea of instant online communication, and its positive and negative uses around the world.  Learners will also find it beneficial to recall their previous learning about how computers and their uses have changed over time. |
| Language: | |
| * image * copy/paste * edit/modify * create * crop/stitch * pixel * search * function * video * web page * instant messaging * copyright | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **5TC.06** Use search functions within applications to find information.  **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Learners should load a digital mapping software (e.g. Google Earth). Discuss how the internet has changed our ability to view the geographical features of other countries around the world.  Learners use the search function within the software to find either a country that is relevant to their current studies or one that they would like to find out more about.  Their search should load a whole screen view of the country.  Learners then use the search function to find places within the country. This could be the capital city, other important cities, places of interest, tourist attractions and coastlines. They take a screenshot of each one and add each image to a text document. They should also add a caption or label to go with each image.  **Resources:**   * Access to digital mapping software. | Learners can choose a country to study or you can allocate countries to individuals or groups. Ideally the countries chosen should contrast with the learners’ current experience (by having either more or less developed digital technologies). |
| **5TC.05** Edit images by changing colour, size and by cropping. | Learners find three images of the selected country using an online search engine. They copy and paste these into the selected text editing software and edit each one so that the output is different for each image, for example:   * one image should be changed from colour to black and white * one should be changed in size so that it fits the width of the page * one should be cropped so that the focal point of the image is in the centre.   Learners should also place the original, unedited, images into their document and add a few sentences underneath describing the visual changes that they have made.  **Resources:**   * Text editing software that also allows basic edits to be made to images. * If it is not practical for learners to search for their own images online, prepare a selection of images for them to choose from. | This is an opportunity to introduce the idea of copyright on images. Talk to learners about how some images are restricted by their owners and how others are free to copy. Use the tools on the search engine to filter the content so that learners are only copying images that are free to use.  Check the images that learners select so that the learning can be achieved. For example they should not select an image that is already black and white, and should select one where work is required so that the focal point can be placed at the centre. |
| **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Learners locate and open the image documents that they have created in the previous two activities. In small groups, they share and discuss the edits that they made so that they can all benefit from any interesting discoveries. These should then be shared with the whole class.    Discuss the different ways of sharing media on a website.  *What other media do you see, other than images, when you view websites?*  Display an example of a website that features a slideshow of images. This might be your school or local news website.  *Why have they chosen to use a slideshow on their website?*  *How does it engage the viewer?*  Learners use the images they have collected to make a digital slideshow. The images should be linked together to make a short video clip.  This activity can be extended by asking learners to add a piece of music that will play while the slideshow progresses.  This slideshow should be saved and used as part of the digital presentations in the final project.  **Resources:**   * Presentation software suitable for creating a slideshow with added sound. | Continue the discussion about copyright when looking at adding music. Have learners found a piece of music that is appropriate to use? |
| **5DW.02** Describe key benefits of computer use to society and individuals. | Introduce a discussion about the impact that computers and technology are having on the lives of your learners.  *How have computers changed our classroom?*  *Where do we use technology in this school?*  *Can you tell me which appliances in your homes contain computers?*  *Can you think of areas of your home that technology has improved?*  Learners create a list of five different ways that technology influences their lives. They should consider the technologies that they use.  *What was life like before those technologies existed or when they were not able to do the things that they can do today?*  *How do those technologies make your life better?*  Learners share and discuss their five examples within small groups and the most interesting observations should then be shared with the whole class. | It might be necessary to scaffold this discussion so that learners are able to visualise what life in the classroom and at home would have been like at various points over the past 15 to 20 years. Suitable images could be displayed to help with this. |

|  |  |  |
| --- | --- | --- |
| Example Project – Unit 5.2 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **5DW.02** Describe key benefits of computer use to society and individuals.  **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.  **5TC.05** Edit images by changing colour, size and by cropping.  **5TC.01** Develop fluency and accuracy when typing in increasing quantity. | Learners create a presentation about their chosen country using online presentation tools. There are a variety of online platforms for learners to use, and either you or the learner can decide which one they work with.  The presentation should include a variety of media such as images, text and audio content. The focus of the presentation should be on how technology has had an impact on the chosen country. This could include:   * how businesses use technology * the new and emerging technologies that are being used * how children use technology * how technology has improved how we can learn about that country.   Allow sufficient time for learners to gather content and to work on the output.  At the end of the project, learners share or present their work to the whole class. Links to the presentations could also be shared with parents. | This project can either take place at the end of the unit or can be completed in stages as part of the activities that are carried out during the unit.  Learners will benefit from being given a choice about which platform to use for their presentation, and it will allow them to demonstrate that they know what is appropriate for the task. |

# Unit 5.3 My digital presence

| Unit 5.3 My digital presence |
| --- |
| Outline of unit: |
| In this unit, learners will think about the information that they create whenever they use the internet. They will also consider how that information stays online, and the consequences of this. They will create documents that demonstrate their knowledge and understanding of how to protect themselves and others.  They will also think about what it means to be a positive influence on the internet, and how they can contribute in a constructive way. |
| Knowledge, understanding and skills progression: |
| This unit builds upon learning in the previous unit where learners thought about how they communicate with each other online. This should be something that is constantly included in activities to promote good eSafety skills.  The project at the end of the unit will also allow learners to showcase their document making skills, therefore previous learning of word processing, other document creation platforms and typing will be useful. |
| Language: | |
| * online * gaming * impact * footprint * positive/negative * pledge * consequences * digital * safeguarding | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **5DW.01** Describe the benefits and risks of instant online communication.  **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Discuss the idea of instant messaging with learners, including reference to the different platforms that they use.  *How do you talk to your friends or family using technology?*  *Is this a good or bad thing? Explain your reasons.*  Learners write down three ways that instant messaging has made a positive impact on their lives. This could include how they talk to their friends and family and how they are easily able to make arrangements to meet.  Have a discussion about the dangers of instant messaging. Topics that should be discussed include:   * not always knowing who you are talking to * posting something without pausing to consider the harm that it could do * strategies for keeping safe * strategies for using instant messenger platforms in a positive way.   Learners create a guide on using instant messenger platforms. The guide could be in any format, such as a video, poster or leaflet, but it should include the positive impact instant messaging has on society, as well as any potential dangers. The audience of the guide could be their peers, younger children in the school, or their parents. The language that is used should be appropriate to the audience. |  |
| **5SW.01** Understand the need to set security and privacy settings to ensure only content they want people to access is seen. | Display the word ‘Permission’ and ask learners to give a definition of what the word means.  Then change what you are asking to:  *What does ‘permission’ mean when we are talking about computers?*  Discuss how this has changed their answers.  *Who has permission to look at our data online?*  *Which websites have you given permission to?*  Discuss whether learners are aware of:   * the privacy settings that exist in the platforms that either they or their friends and family use * how they can adjust these settings * the reasons why they may choose to adjust the settings.   Learners work independently to look through some of the privacy policies of popular social media companies.  Learners should spend some time looking at these policies. The policies should give helpful information about how to protect privacy online and should provoke discussion about the permissions that we give to social media platforms.  *Who is storing your data?*  *What data do they store?*  *Who owns the content that you upload?*  Using the information on the privacy websites, learners should create a leaflet or poster which contains five helpful tips for protecting privacy and for setting permissions. This could be aimed at learners of their own age, or maybe created to explain privacy settings to their parents, who might be using social media without consideration of privacy and security.  **Resources:**   * Access to the privacy settings on popular social media sites or printed versions of the relevant pages. | You may find it appropriate to use the word ‘Consent’ rather than ‘Permission’.  It might not be possible to access some social media sites on the school network and some of the policies may contain too much text for learners of this age. Therefore it might be necessary to either prepare summaries or to print out copies of pages that relate to privacy settings in advance.  It might help to give context if learners are reminded about the consideration that was given to the ownership of images in the previous unit. |
| **5SW.03** Understand the risks of engaging with people online that they do not know. | Display a list of the following people:   * parent * teacher * brother/sister * delivery person * family friend * taxi driver * person seated behind you on public transport.   *What is a stranger?*  *Who is and who is not a stranger from this list?*  *What makes them a stranger?*  Discuss whether there are some people on this list that learners were not sure about.  *Which ones and why?*  Move the discussion forward so that it relates to talking to someone online.  *Do you ever talk to people online?*  *What platforms are there for talking online?*  This is a particularly good opportunity to talk to learners about their online activity and to learn from them. Learn what they do and their attitudes to keeping themselves safe online. As a whole class discuss what they do, and the potential dangers and benefits.  Learners write a letter or email to your school’s head teacher which outlines the dangers of talking to someone online. Learners should include a list of suggestions of things that the head teacher could put in place to keep the children in the school safe. | Talk about online gaming, and the ‘chats’ that are involved, as a useful tool for generating discussion.  In preparation for any concerns that result from this discussion, it is recommended that local policies and procedures about online safety are understood. |
| **5SW.02** Understand that what a user does online can have positive and negative consequences for themselves and for others, both online and offline. | *When we walk on soft ground, what do we leave behind us?*  This should lead to a discussion about footprints.  Explain that, when we use the internet, we also leave footprints.  *Can anyone think how?*  Discuss the information that learners might ‘leave behind’ when they are online.  *What information have you put online?*  *Have any of you, or a member of your family, created an online profile?*  *What information might you have shared?*  Discuss the idea of everyone leaving small pieces of information behind them whenever they use the internet. This could be a ‘comment’ or a ‘like’ on a friend’s online profile.  *If a friend posts a picture of him/herself online, what kind of comment could you leave?*  *Is it a positive or negative contribution?*  Discuss how a negative comment might make someone feel. Think about why a person might leave a negative comment.  *What might the consequences be of someone leaving a negative online footprint?*  When discussing a negative online footprint, encourage learners to consider things that should not be shared. For example:   * negative opinions * private stories * pictures of others.   Discuss the idea of a pledge with learners. A pledge is a way of making a promise or a commitment to something.  Learners create a pledge promising to be positive contributors and to give careful consideration to what they share when they use the internet. They could use their typing and other content creation skills to make the pledge look like an official document. | It is not necessary for a learner to fully understand what a digital footprint is at this stage. They only need to know that they can create information each time they are online. |
| **5SW.05** Recognise that cyberbullying takes place online and can take many forms. | Talk to learners about what they think cyberbullying means. Can they define it?  *What is cyberbullying?*  *Is it always intentional?*  *When does a joke go too far?*  *When can a joke become mean?*  Often when cyberbullying occurs it happens in a public platform where others can see it. This can lead to some people becoming either ‘bystanders’or ‘champions’. A bystander sees the unacceptable behaviour, and although they do not contribute to it, they also do not report it. A champion is someone who sees negative behaviour online and tries to help to stop it.  *Can you think of something a champion would do to help?*  Learners present a list of key points about cyberbullying in a text document. Their document should include:   * ways that someone can report cyberbullying or get help if they are being bullied online * a description of what makes a good online champion and a pledge of what the learner will do to become a champion themselves. | Cyberbullying is a form of bullying or harassment using digital devices, typically by sending messages of an intimidating or threatening nature. |

|  |  |  |
| --- | --- | --- |
| Example Project – Unit 5.3 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **5DW.01** Describe the benefits and risks of instant online communication.  **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.  **5SW.02** Understand that what a user does online can have positive and negative consequences for themselves and for others, both online and offline.  **5SW.03** Understand the risks of engaging with people online that they do not know.  **5SW.05** Recognise that cyberbullying takes place online and can take many forms. | For this project, learners should review the documents that they have created during this unit and combine the messages from these to produce a leaflet which encourages its audience to think about:   * their own online safety * the longer term implications of content that is posted online * how to be respectful to others * how to support others.   The leaflet should include details about staying safe when talking to someone online, how to protect personal privacy, and how to leave a positive footprint online.  The target audience for the leaflet can either be younger learners or the learners’ own parents. This means that they will be writing for an audience that will be of a different age to themselves, therefore the words that they use and their broad message will need to demonstrate an awareness of that audience.  The leaflet should also be an opportunity for learners to show their skills at using an appropriate software. They should use an appropriate font, size and colour. They should also include at least two images in their leaflet.  Their work could then be shared and discussed with the intended audience so that learners can understand its effectiveness. | Writing with purpose, rather than just for the teacher, can be a good way of engaging writers. |

# Unit 5.4 Robot designers

| Unit 5.4 Robot designers |
| --- |
| Outline of unit: |
| In this unit learners will design their own robot. The unit covers the effects that robots have on our lives currently, before thinking about how a robot could have an impact in learners’ homes. During the sessions learners will create a variety of different documents, using search tools effectively, and learning how to create digital images.  Learners will also consider their own use of digital devices, as well as that of family members, and think about the strategies they need to adopt to make sure that they create a balance between their use of devices and their physical or other social activity. |
| Knowledge, understanding and skills progression: |
| While requiring no particular prior knowledge, this unit will enable learners to think about what they know about the role of computers within the workplace. |
| Language: | |
| * design * impact * robot/robotics * industry * devices * addiction/overuse * future tech | |

| Learning objectives | Suggested teaching activities and resources | Teaching notes |
| --- | --- | --- |
| **5SW.06** Recognise the implications of overuse of devices.  **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Introduce this unit by asking learners to think of examples of where people use computers in their jobs.  Explain that a robot is a machine that is designed to perform a specific task accurately and automatically.  Move the discussion on to jobs that use robots or automated computers to complete tasks.  *Why do you think businesses use robots?*  *What are the benefits?*  *Where might the disadvantages be?*  Learners use the internet to research industries that use robotics. They could use various sources, including:   * specific company websites * online videos of robots in action * news reports and other commentaries.     Learners create a document, in a format of their choice, which lists three positive and three negative aspects of the use of robots in the workplace. | The automotive industry and despatch warehouses are good examples to use here. |
| **5SW.06** Recognise the implications of overuse of devices.  **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Remind learners about the positives and negatives of the use of robots in the workplace.  Focus the discussion on the negative impacts, especially on the skills gap it creates.  *Who might lose out when factories use robots for everything?*  *Will there be a negative effect on the factory?*  *What would happen if the robots broke?*  *Who would do the work?*  *Would they be able to?*  Relate this discussion to how we use technology in our homes and to the devices that we rely on.  *How many of you have a mobile device that you use every day?*  *Who has siblings or parents that use a device daily?*  *What purposes do you rely on mobile devices for?*  *Have you lost any skills because of this reliance on digital devices?*  *How does a reliance upon digital devices affect our social skills?*  *Could the time that you spend using digital devices at home be better spent on other activities?*  Learners use the internet to research the effects of the overuse of digital devices, including the use of mobile phones.  Using the information that they collect, learners should create a guide for older family members. It should include an explanation of the skills and leisure opportunities that may be lost as a result of an overreliance on devices.  This activity can be extended by learners suggesting ideas of how to get back the skills that are being lost through the overuse of digital devices, including strategies for ensuring that devices are used in moderation. | Skills here might include things like remembering phone numbers, using a map, or mental arithmetic.  To help their understanding of the impact that developments in digital technology have had upon older generations, learners could interview their parents and ask questions about changes they have observed in communication over their lifetimes. Possible questions might include:   * What methods did they use to communicate with their friends when they were young? * What methods do they use to communicate with their friends now? * Which telephone numbers can they remember (and how old were they when they learned them)? * Do they think changes in communication have led to them gaining skills or losing skills? |
| **5TC.06** Use search functions within applications to find information. | Explain that, in most programs on our computers, we have a search function to find information or help us in how we work. The most obvious of these are the search functions on the web.  Explain that an ability to use these search technologies effectively is a really important skill towards being effective lifelong learners.  Using internet search engines, learners find different robots that are already for sale for use in the home. Explain that they have an imaginary, unlimited budget which they should use to equip their homes with as many useful robots as they can find.  As well as using the search engine, learners should be shown how to search for keywords within a website. Demonstrate how to search for a word within a webpage by pressing CTRL + F. Explain that this feature is common within most programs we use on a computer.  *When would you use this?*  *Why might it be a useful tool for when you are researching a topic?*  Ask learners about their experience of using the search engine, as well as the specific robots they found.  *What keywords did you include?*  *Which websites did the search list first?*  *Which websites were reliable? Why?*  *Did any of your searches produce unhelpful results? Why?* | The information that learners find will be used to help them in their final project.  Mac keyboards use Command + F. |
| **5TC.05** Edit images by changing colour, size and by cropping. | Discuss learner’s perceptions about what robots look like.  *What do they look like in cartoons and films?*  *How does this compare to the ones you have seen in factories and other workplaces during this unit?*  *What do you want your own robots to look like?*  Learners each create three drawings of different robots. The three robots they design should all have the same overall purpose, but have different layouts or features to achieve this.  When they share their designs, each learner should explain the form that they have taken, for example are their robots based on modern industrial examples or are they inspired by those seen in classic films?  Learners should consider how real-life robot designers transfer their drawings of initial ideas from the page onto a computer. Three possible solutions would be:   * they scan their drawn designs * they photograph and then upload their drawn designs * they recreate their designs using drawing software.   Learners should transfer their designs to their computer using an appropriate method.  Once learners have their designs on the computer they should put them into a document and resize and crop versions of them, so that specific aspects of each design can be discussed in detail. For example, they might choose to include an enlarged picture which just shows the arm of the robot so that they can explain the specific function of that arm. Learners should annotate their designs using the arrow or shape tools within their software.  Learners should add appropriate notes to their document to explain:   * the overall purpose of their robot * the purpose of specific parts * the rationale for their design. | The method(s) chosen will depend upon the technology that is available in the classroom. |

|  |  |  |
| --- | --- | --- |
| Example Project – Unit 5.4 | | |
| Learning objectives | Project outline and resources | Teaching notes |
| **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.    **5TC.05** Edit images by changing colour, size and by cropping. | For the final project in this unit, learners design a robot for their home or classroom.  Learners start by drawing their designs on paper, and then they add annotations. The drawings should be as detailed as possible and should explain the features and abilities of their robot.  These images are uploaded to the computer and are adapted in a digital format.  The final images and designs are used to create a digital presentation that will explain the robot to potential investors. The presentation should explain any:   * interesting features * potential uses in the home * benefits that those uses could bring * possible negative responses that are likely to be generated by the launch of the robot, and suggestions for how those responses could be overcome * materials that will be needed to make the robot, such as plastics or metals, or supplementary devices such as speakers or cameras.   Learners should then present their work either in small groups or to the whole class. | This project could be developed further in either Art & Design or Design Technology lessons, where learners could build a model of their robot. |

# Sample lesson 1

|  |  |
| --- | --- |
| CLASS: | |
| DATE: | |
| **Learning objectives** | * **5TC.06** Use search functions within applications to find information. * **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. |
| **Lesson focus /**  **success criteria** | Learners research a country of their choice while learning how to increase the productivity of their research through the use of the search function. |
| **Prior knowledge / Previous learning** | Using key words to search for information. |

**Plan**

| **Lesson** | **Planned activities** | **Notes** |
| --- | --- | --- |
| **Introduction** | Explain that over this unit learners are each going to research a different country, and they are going to look at how technology has impacted upon it.  Start by asking learners to make a list of things they could find out about their chosen country. | Use these ideas to create a checklist of features to search for. For example the capital city; other large cities; places of historical interest; tourist attractions; coastlines, rivers or mountains. |
| **Main activities** | Learners load Google Earth and find the country that they have chosen to research.  Demonstrate how to use the search tool within the software. Not only does it find the country, but it also allows us to delve deeper and look at key features of that country. Demonstrate this by searching for different cities and places within a country.  Learners use the search function to find different key features within their chosen country. They should search for the list of features discussed at the beginning of the lesson.  To record what they have found learners should use the screenshot function or the snipping tool to capture their findings. They transfer each image to a text document and add labels and captions.  Discuss how technology has improved how we are able to explore our world.  *How would you have looked at this country before you could do so on a computer?*  *What can you do with a computer that you could not do with a map or atlas?* | It might be useful to give learners some time here to familiarise themselves with the controls to use Google Earth. This might include zooming and moving around the globe. |
| **End/Close/**  **Reflection/**  **Summary** | Learners share their work with a partner.  *What have they found?*  *What was new information to them?*  *What were new skills for them?* | Either save incomplete work, so that it can be continued, or print it if is complete. |

|  |
| --- |
| **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

|  |  |
| --- | --- |
| CLASS: | |
| DATE: | |
| **Learning objectives** | * **5SW.03** Understand the risks of engaging with people online that they do not know. |
| **Lesson focus /**  **success criteria** | When considering how to stay safe online, learners can make decisions about who they should and should not speak to and share information with. |
| **Prior knowledge / Previous learning** | Learners should already be aware of the general risks associated with sharing personal information online. |

**Plan**

| **Lesson** | **Planned activities** | **Notes** |
| --- | --- | --- |
| **Introduction** | Write a list on the board of the following people:   * parent * teacher * brother/sister * delivery person * family friend * taxi driver * person next to you on public transport   *What is a stranger?*  *Who is or is not a stranger on this list?*  *What makes them a stranger?*  *Are there any on this list you are not sure about?* |  |
| **Main activities** | Ask learners who they talk to when they are online.  *Do you talk to people online?*  *Who do you talk to online that you know?*  *What platforms are there for talking online?*  Use this opportunity to talk to learners about their online activity and be prepared to learn from them. For example, ask:   * what they do * their attitudes to keeping themselves safe online.   Have a whole class discussion about what they do, and the potential dangers and benefits. This will be very specific to learners in the class, therefore be prepared to intervene.  Learners write a letter or email to the school’s head teacher. They explain:   * the potential dangers of talking to a stranger online * information to help keep children safe in school * possible steps that can be taken to encourage all learners to be positive and responsible users of the internet. | Make sure you are aware of the policies and procedures for online safety. |
| **End/Close/**  **Reflection/**  **Summary** | Finish by asking some learners to read their letters/emails to the class.  *What did you like about that letter/email?*  *Is there anything you can take from it and add to your own letter/email?*  Ask learners to make small changes to their letters/emails based on the discussion.  Learners should either print or save their letters/emails and, if appropriate, send them to the head teacher. |  |

|  |
| --- |
| **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?** |

Cambridge Assessment International Education

The Triangle Building, Shaftsbury Road, Cambridge, CB2 8EA, United Kingdom

t: +44 1223 553554    f: +44 1223 553558

e: [info@cambridgeinternational.org](mailto:info@cambridgeinternational.org)    [www.cambridgeinternational.org](http://www.cambridgeinternational.org)

Copyright © UCLES September 2019