

Key Stage 1 – Getting Creative – Theme Guide

Note that this theme should be taught in Year 2 as a follow on from *Let's Create*, taught in Year 1.

Children build understanding of digital texts. They use varied devices and software with increased precision to create digital content. They revisit differences between input and output and hardware and software. They develop understanding of networks related to computers at home and school, logging on to their areas. They build understanding of algorithms using unplugged approaches. They develop eSafe practice.

On-going Learning Objectives
To understand that elements in digital content contribute meaning or create atmosphere.
To review what a computer input device and output device is.
To review the differences between hardware and software.
To understand that computer systems enable us to store digital content in precise locations. 5
To investigate ways in which software supports writing. <i>Select a specific application for writing based on its tools.</i>
To recognise how digital imaging is used in and beyond school.
To explore differences between digital and non-digital images.
To know that digital devices need precise commands in “their language” to perform a specific task.
To select appropriate devices to capture images clearly and in frame, seeking consent before taking/using someone’s image. 5
To understand digital images can be stored in electronic collections and searched using key words and menus or categories. 5
To understand that images can be sequenced to tell a story or describe an event or process.
To understand objects can animated in digital content.
On-going Learning Objectives
<i>To talk about the choices they made. Revisit and refine their work.</i>
<i>To log on to the school system and save, locate and edit work using their own space; understand how and when to print.</i>
<i>To ask permission before taking or using images of others. 5</i>
<i>To use technology safely and increasingly respectfully, knowing how to respond if anything they access makes them feel uncomfortable or worried. 5</i>

Vocabulary – see Glossary for definitions (for terms in blue)	
<i>digital</i> , non-digital, animation, <i>Input and output</i> , <i>hardware and software</i> ,	<i>debug</i> , <i>refine</i> , Word processing terms: font, bold, italic, highlight etc.

Possible resources for this theme (further resources are suggested with the explanatory notes below. Note that these are examples and not formal recommendations.)	
<p>Online Film clips, Animations:</p> <ul style="list-style-type: none"> • Youtube (accessible to teacher, not pupils.) • BBC CBeebies • Vimeo <p>Cameras and image capture devices:</p> <ul style="list-style-type: none"> • Digital Cameras • Visualiser with image capture function • Digital Microscopes • Tablet camera 	<p>Writing tools:</p> <ul style="list-style-type: none"> • 2Write (as part of 2Simple Purple Mash) • Microsoft Word • Google Docs (as part of G-Suite for Education) • Clicker 7 • JIT5 Write / Mix (as part of J2E) <p>Digital image software:</p> <ul style="list-style-type: none"> • Microsoft® Paint • JIT5 Paint (as part of J2E) • 2Paint (as part of 2Simple Purple Mash)

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Image sequencing software: <ul style="list-style-type: none"> • Powerpoint • Photostory 3 • Book Creator app (iPad / Android / Windows) 	Digital image software (cont'd): <ul style="list-style-type: none"> • 2Paint-a-Picture (as part of 2Simple Purple Mash) • Drawing Box (iPad app) • Doodle Buddy (iPad app)
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Please note that with any online platform it is essential that you review the privacy policy and terms and conditions of the service. The school is responsible for the protection of data it holds and compliance with current data protection legislation. Always assess both the data protection and safety of the service you are considering using, and ensure the necessary permissions are in place before using with pupils.


Primary Computing Scheme online materials that are referenced in this guide can be accessed from:
<http://www.hertsforlearning.co.uk/user/login>

You will need to be logged into your school account and have a current subscription to the Primary Computing Scheme to gain access. The materials can be accessed from the *My Resources* link at the top/right of the screen, once you are logged in.

Key learning objectives (some objectives might be used for more than one lesson)
To understand that different elements in digital content contribute meaning or create atmosphere. <ul style="list-style-type: none"> • As a class, review films, onscreen stories and/or websites with talking text, sound effects, animated graphics etc. • To show how, for example, music can help create atmosphere or convey a mood, you could use animations from Youtube™, CBeebies™ Stories etc. • Talk about whether the technology helps our understanding or enjoyment. • Use a digital book app on a tablet/iPad® (or desktop/laptop) that features sound and animations, and compare to a paper book. What can we do / see / hear with the digital version that we cannot with the paper one? Which do you prefer?
To review what a computer input device and output device is. <ul style="list-style-type: none"> • Discuss how we put information into a computer / device. There are lots of different ways, not just keyboards and mice. Think about different electronic systems around us and discuss how information is put into the system. • Examples of input devices include onscreen and physical keyboards/keypads, voice or fingerprint recognition, touch screens etc. • Onscreen keyboards are available in programs such as Clicker or interactive whiteboards software. Alternatively, tablets/iPads® have onscreen keyboards. • Use onscreen keyboards in phonics sessions; practice typing the graphemes they learn each week. • Information comes out of a computer in many different ways. Output devices includes screens, speakers, vibration devices in phones etc., motors, lights and LEDs and more. • See the accompanying Smart® Notebook® 15 file [<i>Input and Output Devices Sorting Activity</i>] available in the scheme download area.
To review the difference between hardware and software. <ul style="list-style-type: none"> • See the glossary for definitions of hardware and software. • Look at and name the hardware found in the classroom. Be consistent with the names you use for each device/peripheral (sometimes there is more than one correct word for a particular piece of equipment. Decide with your team what term you will use for each device, and continue to use this.) • Talk about how the programs we use on different computers can be called software. Get examples of software you use in class and at home. • Talk about hardware devices / systems beyond the school, for example information displays in shops, airports and train stations.

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<p>To understand that computer systems enable us to store digital content in precise locations. </p> <ul style="list-style-type: none"> • If suitable to repeat the activity, take children to see the server and the comms cabinet where all the cables from devices around the school meet (do this with support from your technician.) • Depending on your school system and network, show the shared drives and talk about the places where children might save their work (they will ideally have their own log-ons and personal documents folder.) • How does the server know which files and folders we are allowed to see? (Through our log-on details.) • Discuss logging on and remind the children to keep logons and passwords private. Why is it important to keep our log-on details private? What could happen if everyone knew our details? • If you have access to a safe school online space (e.g. learning platform / VLE etc.) then extend your discussions to this space. • Talk about how we can name files and folders when we save / create them. What should be call our files so that we can find them again? Agree on a naming convention you could use for work so that it is easy to find again. • Practise logging-on, logging-off and saving, locating and opening files using the software that children frequently use in class.
<p>To investigate ways in which software supports writing. <i>Select a specific application for writing based on its tools.</i></p> <ul style="list-style-type: none"> • Look at ways in which software – ideally simple word processors – can help us write. • Start teaching the basic tools which can be found in most word processors and digital writing environments (as listed above.) Can they repeat a word or line many times but only type it once? Can they move text around the page? How do we get capital letters? • Develop fluency in writing and editing, using the following tools: <ul style="list-style-type: none"> ○ formatting (font size, style and colour etc.) ○ backspace and delete during inputting and editing ○ caps lock and shift key (used efficiently) ○ copy/cut/paste; drag and drop to reorder ○ spell-checker • Develop keyboard skills by linking phonics to keyboard input, suggesting fun activities for home learning or in golden time. (Do not use computing lessons for keyboard skills training.) • Give children the opportunity to write about a topic and change the appearance of their work using formatting tools, so that they can present it in a way they think looks good.
<p>To recognise how digital imaging is used in and beyond school.</p> <ul style="list-style-type: none"> • What is a digital image and how is it different to a non-digital image? • Discuss how easy it is to change digital images and share them. How can we change and share a non-digital image? • Include x-ray, ultra sound and satellite images. Collect examples and share in class • If possible, show a non-digital camera / roll of film etc. Show pictures of older cameras, Brownie cameras etc. • See the accompanying Powerpoint® file [<i>History of Cameras</i>] available in the downloads area. • Show a variety of digital images including ones you've taken yourself but also, for example, satellite images from Google Earth etc. Try and find an aerial photograph of your school to show the pupils.
<p>To explore differences between digital and non-digital images.</p> <ul style="list-style-type: none"> • Compare the differences between painting / drawing on paper, and by using a computer. Perhaps try creating a similar simple picture with 'traditional' methods and by using an app or desktop/laptop program. Which was easier? Which did you prefer? • Include paintings, photographs, animations etc. in your discussions. • Give children access to at least 2 different digital drawing/painting tools, for example an app and a desktop/laptop program. Explore the tools available and use them to create an image or adapt an existing one to accompany a poem, story or topic or to convey a mood. • How do the digital tools differ? What features are the same? Which input methods did you use? Which did you prefer? Why?
<p>To know that digital devices need precise commands in "their language" to perform a specific task.</p> <ul style="list-style-type: none"> • Remind / discuss how devices follow instructions that has to be in a language they understand. This is called a program and there are lots of programming languages. • Discuss some of the language/vocabulary we use related to capturing digital images (e.g. camera, lens, light, flash, zoom, image, capture button etc.) • How could we instruct a 'robot' to take a photo using a device available in your class? Remember that robots


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<p>and computers will only do exactly as instructed and can only understand specific commands.</p> <ul style="list-style-type: none"> Apply this to devices that can be used to capture still and moving images (for example camera, visualiser, tablet, microscope etc.) With a partner, write, debug, test and refine an algorithm to capture a clear image using one of the devices they have explored. Children test these on each other, role-playing the robot, and observe how effective their instructions are. They make changes to their algorithms as necessary and test them again until they are happy with the results.
<p>To select appropriate devices to capture images clearly and in frame, seeking consent before taking/using someone's image. S</p>
<ul style="list-style-type: none"> Remind children that we should always ask permission before taking a photograph of someone, and never do it without their consent. Why is this important? How would you feel if someone took and shared an image of you, without you knowing or giving permission? Practising this responsible use, pupils choose devices to capture images and, where possible, save them to their folders or shared area on the network. Encourage the children to evaluate their photographs, considering how well the subject is framed etc. How could the photo be improved?
<p>To understand that digital images can be stored in electronic collections (on and off line) and searched using key words and menus or categories. S</p>
<ul style="list-style-type: none"> Where can we find digital images? Discuss where we might access these images, including online and through software the children might use. Use a safe, suitable image collection to search by keyword. This might be, for example, a library provided with your interactive whiteboard software, other writing software, or education-specific website such as www.pics4learning.com. It should <u>not</u> be an open image search using a standard search engine. When we take a photograph or create a picture (by whatever method,) who owns it? Who owns the pictures of your school, on the school website? What about on the CBeebies / CBBC website (or any other site the children may be familiar with?) If we ask <u>and get permission</u> to use a photograph or picture that someone else owns, it's important to credit the owner. Pupils practice adding ownership information to their own images and pictures, just as they would name their own work. Practice crediting the source of any images used in work, taken from collections mentioned above. Please read the guidance in the main scheme document on finding and using digital images.
<p>To understand that images can be sequenced to tell a story or describe an event or process.</p>
<ul style="list-style-type: none"> Look at the pictures in some story books. Could we understand the story just by looking at the pictures? What would happen to the story if we jumbled the pictures up? Show a series of images on the board (perhaps using an online story or app) and ask the children to imagine what is going on in the story, just by looking at the images. Use a program / app that enables the sequencing of images. Children take photographs to tell a story or describe an event, and use the software to sequence these into a logical order. If the software enables it, add sounds or words. Link to topics being covered in other subjects. Examples of software include Microsoft® Powerpoint, Microsoft® PhotoStory 3, or apps such as Book Creator (iOS / Android) or 30 Hands (iOS.)
<p>To understand that objects can be animated in different ways in digital content.</p>
<ul style="list-style-type: none"> What is animation and how does it work? You could start unplugged by making simple flip-book style animations with paper. Show some clips of older cartoons/animations where the stop-motion is more visible (the animation is less 'smooth'.) Compare to modern day animations. Use a program or app to animate a simple stick figure or suchlike, frame by frame. Explore how changing the frame rate affects the animation. Consider making a simple physical stop-motion animation using toys, plasticine figures etc. and a suitable piece of software / app. For example, pupils could use plastic letters to animate their name.
<p>On-Going Learning Objectives</p>
<p><i>To talk about the choices they made. Revisit and refine their work in the light of comments and suggestions from peers.</i></p>
<p><i>To log on to the school system and save, locate and edit work using their own space; understand how and when to print.</i></p>
<p><i>To ask permission before taking or using images of others. S</i></p>

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To use technology safely and increasingly respectfully, knowing how to respond if anything they access makes them feel uncomfortable or worried. 

Suggested independent task – any open-ended activity (2-3 sessions) enabling the children to demonstrate their computing capability around the knowledge and understanding provided in the term

- Create or capture digital images that can be used for a sequencing activity,
- Create a simple algorithm to specify the process for a simple animation (which could be an image sequence).
- Use the algorithm to create the simple animation (or sequence of images).
- Use appropriate software to write a short description of their animation.
- Comment on their completed task (saying what they liked and what they would change).

Other considerations:

Does the task provide for children to work at different levels?

Is there support available for children to select if they wish?

Are there opportunities for the children to review and develop their work?

Is there an opportunity for the children to evaluate the finished task?

Here children are showing their knowledge of the process involved in creating a simple animation or digital story / sequence, and also of creating a simple algorithm. They create the animation / digital story using appropriate software and hardware (this might be through using an app, as tablets/iPads® have built-in cameras, making the process easier) and demonstrate their ability to use writing / word processing software to write the description.