Key Stages 1 & 2

Rewarding Learning

Primary Using ICT

Desirable Features Update 2019

Contents

Update to CCEA Desirable Features 2019

The statutory curriculum requirements for Using ICT (the 5 'E's) can be addressed in primary school through different types of ICT. We have updated our non-statutory guidance (Desirable Features) for these types and renamed some of the categories to align with changes to the technologies available in primary classrooms.

The Desirable Features guidance sets out what is desirable to see at each of the statutory Levels of Progression. As the guidance shows a progression in learner competency in specific types of ICT, it can support you to plan appropriate activities for pupils in the different stages of primary school. It also shows the type of evidence to look for when observing a pupil and assigning a level to their work in Using ICT. All of these types of ICT also provide opportunities to feed into CCEA's framework for Digital Skills.

The updated categories of Desirable Features for primary schools are:

- Computational Thinking and Coding
- Digital Art and Design
- Digital Audio: Music and Sound
- Digital Storytelling: Film and Animation
- Digital Storytelling: Presenting
- Digital Storytelling: Publishing
- Managing Data

Using the Desirable Features to cover the 5 'E's

You don't have to teach your pupils all of these types of ICT. You must ensure that you cover the 5 'E's across every year group in primary school. Make sure that pupils have appropriate experiences in Digital Skills to develop skills in a range of these categories.

The different types of Desirable Features can meet the requirements of Using ICT, depending on how you plan and deliver a lesson.

The requirements for **Explore** include two statements.

Explore 1 refers to looking for, finding, choosing and using information. If you plan appropriately, you can cover this requirement through any of the categories for the Desirable Features.

Explore 2 refers to using digital tools to investigate and solve problems. You can cover this requirement through Computational Thinking and Coding and/or Managing Data type activities.

Express involves pupils being creative, developing and presenting their ideas. Activities in any of the Digital Storytelling (Film and Animation, Presenting and Publishing) types of ICT, or through Digital Art and Design and/or Digital Audio: Music and Sound will support this 'E'.

Exchange refers to communicating online to share and develop ideas. To cover **Exchange** through any of the different types of ICT, you can plan in using an online collaborative tool to allow for meaningful opportunities in this E. This could include:

- video conferencing;
- emails;
- blogging;
- using discussion boards to share ideas;
- using online functions such as commenting to leave opinions on others' work;
- collaborating on a shared document;
- creating material online together;
- sharing work in a Virtual Learning Environment (VLE);
- using Cloud tools to store, organise, complete, share and submit work; and
- sharing materials such as images or written activities to a wider audience.

Evaluate involves pupils reflecting on how they are carrying out and/or how they have carried out an activity. They focus on the process and outcome of an activity and assess how they might improve these. All types of ICT should include an element of **Evaluate**. Activities with a strong problem-solving focus such as Computational Thinking and Coding and Managing Data require children to **Evaluate** what they are doing as they consider whether their approach to a problem is effective and efficient.

Exhibit involves pupils managing and displaying their work digitally. This could range from printing and saving their work to organising and maintaining digital files and folders. You should include **Exhibit** in any ICT activity.

For all of types of Using ICT, it is important to show pupils what good examples of work look like in practice, for example listening to musical compositions in Digital Audio or viewing film or animation clips to explore the structure of the story.

Copyright

For many types of creative ICT, pupils use material, such as images or sound files, they have found from different sources. You should ensure that any images you provide for pupils to use are copyright-free. As pupils move up the levels and source their own materials, they should be aware of copyright issues and only use appropriate material.

Computational Thinking and Coding

In **Computational Thinking** and Coding, pupils enter instructions or commands to make a computer solve problems. This type of ICT was previously called Interactive Design. At lower levels, pupils control devices such as Bee-Bot or Sphero and explore digital environments such as Scratch Jr or Kodable. As they move up the levels, pupils begin to solve increasingly complex problems and create interactive programs with more efficient use of coding commands in Logo or block-based coding apps or environments such as Scratch, Tynker or Hopscotch.

As they progress through the levels, pupils develop problem-solving skills that are important for this type of Using ICT. These include writing instructions to carry out an activity (algorithm), identifying why some instructions or commands haven't worked and fixing them (debugging), breaking down projects or problems into smaller parts (decomposition) and using logical reasoning to predict what will happen if they enter a command or set of commands in a coding project.

Level 1

Pupils should:

- introduce the concept of an algorithm by creating sets of instructions for normal everyday activities such as making toast or changing their shoes;
- explore interactive games or apps, making choices by clicking or tapping different buttons or images onscreen to create different outcomes;
- explore a digital device or environment using simple commands, for example after discussion make a Bee-Bot move by entering commands or use the SpheroEdu app to draw a route for the Sphero robot to follow;
- use pre-existing commands in a coding app, such as Scratch Jr or Kodable, to make a sprite move, change its appearance or change direction;
- use motion blocks and look or sound blocks in coding software such as Scratch or code.org to control a sprite;
- with teacher help, identify why some instructions or commands haven't worked and fix them (debug);
- talk about what they have done; and
- save their work, with teacher help.

Computational Thinking and Coding

Level 2

Pupils should:

- look at and talk about examples of simple coding projects;
- know that they can break any activity (including coding) down into smaller parts (decomposition); and
- plan what they want to happen in a coding project and write a set of instructions (algorithm) for this.

Programmable devices

Pupils should:

- use their algorithm and logical reasoning to make a Bee-Bot, Sphero or Dash and Dot robot move to a specific location;
- with a partner or in a group, talk about why some instructions or commands haven't worked and fix these (debug);

or

Onscreen turtle, Logo or Minecraft

- use their algorithm and logical reasoning to make the turtle or Minecraft agent follow a specific route;
- with a partner or in a group, talk about why some instructions or commands haven't worked and fix these (debug);

or

Block-based coding apps or software

- use their algorithm and logical reasoning to code a range of motion, looks and sound commands that control a sprite; and
- with a partner or in a group, talk about why some instructions or commands haven't worked and fix these (debug).

Finally

Pupils should:

- with teacher help, save their work to a specific location (if using an app or software) and know how to find and open it again;
- if appropriate, with teacher's help, use digital tools to share their work; and
- show their work and talk to the teacher about what they did and any improvements they could make.

Computational Thinking and Coding

Level 3

Pupils should:

- create a coding project such as a game or animation in Scratch (or similar software), make a pattern or shape or follow a route in Logo.

Programmable devices (such as Pro-Bot, Blue-Bot, Parrot Drone or Sphero)

Pupils should:

- look at and talk about examples of coding projects, including the use of movement, speed, direction and loops;
- talk about how these projects are composed of different components and break the larger task into smaller manageable tasks (decomposition);
- plan what they want to happen in their own coding project, work out what different parts of the program must do and use logical reasoning to predict the commands that are required;
- use a range of commands, including movement with direction and speed, and light or sound commands;
- make code more efficient, for example by using loop control commands;
- test the program, checking that the commands are logical and debugging any errors, at regular intervals;

or

Onscreen turtle or Logo

- look at and talk about examples of coding projects, including using sequences of commands and the repeat command;
- plan what they want to happen in their own coding project, work out what different parts of the program must do and use logical reasoning to predict the commands that are required;
- use a range of commands, including movement and turns;
- make code more efficient, for example by using a repeat;
- test the program after every step, checking that the commands are logical and debugging any errors;

or

Computational Thinking and Coding

Level 3

Block-based coding apps or software

- look at and talk about examples of coding projects, including using motion, looks, costumes, sensing, control and events;
- talk about how these projects are composed of different components, for example plot, character, actions, setting, background and stage;
- plan what they want to happen in their own coding project, for example using a storyboard, working out what different parts of the program must do and using logical reasoning to predict the commands that are required;
- use a range of commands including triggering commands in a program, for example when the space bar key or a button is pressed, a specific object is clicked, the green flag in Scratch is clicked or a device is shaken;
- make code more efficient, for example by using a repeat command; and
- test the program after every step, checking that the commands are logical and debugging any errors.

Finally

Pupils should:

- save using filenames into a given folder or, if using an app, into the location the teacher specifies;
- share their work with the teacher or others and discuss how they can improve it (possibly using digital tools to comment on the work and respond to feedback); and
- make any agreed changes and save again.

Computational Thinking and Coding

Level 4

Pupils should:

- create a more sophisticated coding project using a broad range of commands; and/or
- solve a given problem using commands in a programming environment.

Programmable devices (such as Parrot Drone, MicroBit or Sphero)

Pupils should:

- look at and talk about examples of coding projects, including the use of motion, looks, lights or sounds, sensors, control and events such as 'if...then' and 'loop until' (or equivalent) that make the code more efficient;
- recognise that these projects are composed of different components and break the task into smaller manageable tasks (decomposition);
- in small groups, plan and storyboard their own coding project, working out what different parts of the program must do, using logical reasoning to discuss and compare the commands that are required for their algorithm and predict the outcome;
- use a range of commands to create a project including triggering commands such as 'if...then' and 'loop until' to facilitate a more efficient method of interaction;
- test and debug at regular intervals and collaborate with others to solve problems as they arise;

or

Onscreen turtle or Logo

- look at and talk about examples of coding projects that have procedures;
- recognise how they might decompose these projects;
- individually or in pairs, plan their own coding project, working out what different parts of the program must do, using logical reasoning to discuss and compare the commands that are required for their algorithm and predicting the outcome;
- create a project that requires using more efficient code such as a procedure;
- test and debug at regular intervals and collaborate with others to solve problems as they arise;

or

Computational Thinking and Coding

Level 4

Block-based software (Scratch 3.0 or equivalent)

- as a class look at and talk about examples of coding projects, including the use of motion, looks, costumes, sensing, control and events such as 'broadcast' and 'when I receive' (or equivalent) that make code to be more efficient;
- recognise how they can decompose these projects into the different parts of the program, for example plot, character, actions, setting, background, stage, scoring, timer and number of lives;
- in small groups, plan and storyboard their own coding project, working out what different parts of the program must do, using logical reasoning to discuss and compare the commands that are required for their algorithm and predicting the outcome;
- use a range of commands to create a project including triggering commands such as 'broadcast' and 'when I receive' that allow scripts to continue across different sprites and backgrounds to facilitate a more efficient method of interaction; and
- test and debug at regular intervals and collaborate with others to solve problems as they arise.

Finally

Pupils should:

- share their work (possibly using digital tools), respond to feedback and comment on others' work; and
- organise files and export work in an appropriate format so that others may view it.

Computational Thinking and Coding

Level 5

Pupils should:

- create more sophisticated coding projects using a broad range of commands and more than one platform; and
- solve a more complex problem using commands in a programming environment.

Programmable devices (such as Parrot Drone, MicroBit or Sphero)

Pupils should:

- as a class look at and talk about examples of coding projects, including using multiple 'if...then' and 'if...then...else' commands, variables, sensors, events, operators and comparators;
- recognise how they can decompose these projects;
- in small groups, plan their own coding project, demonstrating a clear sense of purpose and audience, showing understanding of abstraction by deciding what details they need to include and what they can leave out, working out what different parts of the program must do and using logical reasoning to discuss and compare the commands that are required for their algorithm and predicting the outcome;
- use a range of commands to create a project, including variables, operators and control statements such as 'if... then...' alongside the use of 'if...then...else' and comparators;
- test and debug at regular intervals and collaborate with others to solve problems as they arise;

or

Onscreen turtle or Logo

- look at and talk about examples of coding projects that have embedded procedures;
- recognise how they can decompose these projects;
- individually or in pairs, plan their own coding project, showing understanding of abstraction by deciding what details they need to include and what they can leave out, working out what different parts of the program must do and using logical reasoning to discuss and compare the commands that are required for their algorithm and predicting the outcome;
- create a project that requires embedded procedures;
- test and debug at regular intervals and collaborate with others to solve problems as they arise;

or

Computational Thinking and Coding

Level 5

Block-based software (Scratch 3.0 or equivalent)

- as a class look at and talk about examples of coding projects including the use of multiple 'broadcast' and 'when I receive' commands, variables, data, operators and control statements such as 'if... then...';
- recognise how they can decompose these projects;
- in small groups, plan and storyboard their own coding project, demonstrating a clear sense of purpose and audience, show understanding of abstraction by deciding what details they need to include, and what to leave out, work out what different parts of the program must do and use logical reasoning to discuss and compare the commands that are required for their algorithm and predict the outcome;
- use a range of commands to create a project including variables, operators and control statements such as if... then... alongside the use of multiple or embedded 'broadcast' and 'when I receive' commands; and
- test and debug at regular intervals and collaborate with others to solve problems as they arise.

Finally

Pupils should:

- share their work (possibly using digital tools), respond to feedback, and comment on the work of others evaluating process and outcome; and
- organise files and publish work online (if available) so that others can view it.

Digital Art and Design

Digital Art and Design was previously known as Working with Images. This is the use of ICT in Art and Design. Pupils make their own digital art as a creation in its own right or as an illustration to use in other digital products such as a story. As they move through the levels, pupils develop their skills in taking digital photographs and creating digital drawings, paintings or collages. They acquire a more varied visual vocabulary to describe their work. At higher levels, pupils move on to understanding how to use focal points in a photocomposition or experiment with using layers in a digital art app such as Brushes.

Level 1

Pupils should:

- look at, respond to and talk about examples of photographic images and artworks, beginning to think about specific elements of art such as colour, shape or texture;
- with teacher help, frame the subject of their photo and attempt to keep the camera steady when taking a photo with a digital device;
- with teacher help, review the shot and decide if they need to take it again;
- with teacher help, take photographs with a tablet or camera to create a collection of images suitable for a class discussion or to respond to a challenge to capture images such as finding a specific colour, shape or texture and view on screen;
- use software or an app to create their own digital artwork, which could be 3D, exploring tools such as the pencil, paintbrush, stickers and stamp and also use the undo button;
- use visual language to describe their images when talking about their work, for example the colours, shapes and textures of something they have photographed or created; and
- with teacher help, save and/or export their work.

Level 2

Pupils should:

- look at, respond to and talk about examples of photographic images and artworks, thinking about specific elements of art such as colour, line, shape, form, space and texture or pattern;
- take photographs with some control, thinking about framing (for example, not chopping off parts of the subject) and focus;
- review the shot and decide if they need to take it again;
- use software to review their own photographs and/or other images provided by the teacher and, if desired, edit these using tools in the software, for example crop the image or add a filter or effect;
- use software or an app to create their own digital artwork, which could be 3D, using more control and a wider range of tools such as fill, shape and special effects and beginning to consider elements of art such as colour, line, shape, form, space and texture or pattern;
- with the teacher's help, save their work to a specific location and know how to find and open it again; and
- share and review their work (using online tools if appropriate) and talk about what they did and any improvements they could make.

Digital Art and Design

Level 3

Pupils should:

- look at, respond to and talk about examples of photographic images and artworks, beginning to consider all the elements of art;
- take photographs with more purpose and control (holding the camera steady and in focus) showing some understanding of how to compose their shot, for example finding a point of interest and deciding how to position it in their frame or checking that the background isn't cluttered or distracting;
- understand that they can shoot from different angles, (eye-level, high and low), and that they can move close to the subject for a close-up and step back for a wide shot;
- access, select and import images from a range of given sources such as a camera, the internet and/or their own artwork scanned or photographed by the teacher, scaling the images proportionally if appropriate by dragging only the corner handles of the image;
- create a digital artwork, which could be 3D, with purpose using appropriate tools and tool options such as size, colour, pencil, paintbrush, paint, fill, special effects, wallpaper and/or repeat options thinking about the elements of art such as colour, line, shape, form, space and texture or pattern;
- share their work with someone (possibly using online digital tools to comment on the work of others and respond to feedback on their own);
- consider any feedback they have received and make adjustments as appropriate; and
- save using filenames into a given folder, or if using an app, export into the location given by the teacher.

Level 4

Pupils should:

- look at, respond to and talk about examples of photographic images and artworks considering visual language including the elements of art;
- take photographs with purpose and control showing greater understanding of how to compose their shot, for example finding a point of interest and deciding how to position it in their frame, checking the background isn't cluttered or distracting, considering using the rule of thirds and choosing a perspective that appeals to them;
- edit images to enhance them, for example by applying filters, adjusting contrast or resizing proportionally;
- create a digital artwork with control, which may include their own artwork or scanned images, photos or stills from a film, for a given audience or purpose, possibly combining work from different apps or software to best effect or including the use of layers, or creating a 3D digital artwork using appropriate tools and options, considering the elements of art;
- share their work with someone (possibly using online digital tools to comment on others' work and respond to feedback on their own); and
- save and export the artwork in the appropriate file format.

Digital Art and Design

Level 5
Building on previous levels

Pupils should:

- respond to and think critically about examples of photographic images and artworks considering visual language, including the elements of art;
- plan and create more complex digital artwork using a range of image software tools and effects, possibly including (if appropriate software is available) the design and creation of 3D artworks, demonstrating a clear sense of purpose and audience and considering visual language including the elements of art;
- demonstrate an understanding of image resolution when creating digital artwork and importing images;
- use a range of features and techniques to enhance work;
- be aware of copyright regulations and reference sources, where appropriate;
- save and export artwork in appropriate file formats such as a .jpg, .gif or .png for bitmap graphics and .pdf, .svg or .eps for vector images, or for sending 3D work to a 3D printer, using or .stl or .obj. formats; and
- throughout the process engage in discussion with the teacher or other pupils and respond to feedback on work (this can be through a collaborative tool such as Fronter or an online forum, if available).

Digital Audio: Music and Sound

In **Digital Audio: Music and Sound** pupils find, create, record and edit sound and/or music, for example sound effects to use in digital story, podcast or radio show, a recording of a musical performance, a soundtrack for a film or animation or their own original digital musical composition. As they move up the levels, they create increasingly complex sound files by using multiple tracks, balance sound levels and demonstrate appropriate use of effects.

Level 1

Pupils should:

- listen to a range of digital sounds, for example playground sounds or traffic, and identify and talk about them;
- explore and interact with a digital device, for example click on images and objects, and use virtual musical instruments in a sound app or software to create their own music and sounds;
- with help, use a USB microphone, tablet or computer to record sounds such as voice, a musical performance or sound effects, in real time for a class story;
- share and talk about their digital work with someone; and
- save their work, with teacher help.

Level 2

Pupils should:

- listen to a range of sounds or music to develop awareness of audio features such as high or low (pitch), loud or soft (dynamics) or fast or slow (tempo);
- explore and interact with a digital device, for example click on images and objects in a sound app or software to create their own music and sounds or a soundscape for a story, routine or event, for example by using a sequence of images or loops;
- with teacher help, carry out simple edits such as copying and pasting sound files to repeat a sequence in their project;
- be aware that digital sounds can be manipulated by, for example changing the pitch or volume of sounds in the software or app they are using;
- use and understand terms such as pitch (higher or lower sounds), tempo (fast or slow) and reverb (echo);
- with more independence record in real time, for example capture voice, musical performance or sounds with a USB microphone, tablet or computer;
- experiment with using sound effects in their software or app to change their recording, for example make a voice sound higher, lower or as though it is in different locations*or change the tempo (make it faster or slower);
- share and talk about their digital work; and
- save the work, with teacher help.

* The choice of software or app will affect how difficult this is to do. Using programs such as Garageband or Chrome Music Lab will allow children working at this level to achieve this. However, at this level, Audacity is more difficult to use, if working independently.

Digital Audio: Music and Sound

Level 3

Pupils should:

- listen to some examples of soundscapes, music clips or podcasts and identify features such as:
  - » the tempo, pitch, dynamics or atmosphere of a soundscape or piece of music; or
  - » the elements that make up a podcast such as its structure (beginning, middle and end), length, voiceover, sound effects or atmosphere (note the importance of atmosphere in sound work as there are no visual cues);
- plan and create a soundscape or digital music composition using virtual instruments or simple podcast-style project using one sound layer (one track);
- create a short piece of music or sound work and carry out simple editing, for example use Audacity or similar software to crop a sound file or use GarageBand to compose a piece of music using pre-existing loops, virtual instruments and/or sound recordings;
- manipulate their sounds to suit the purpose of the project, for example change the pitch or volume of sounds and work with tempo to create atmosphere;
- save into a given folder, using filenames, or if using an app, save work and with teacher help, export it in an appropriate format, for example an audio file such as .mp3 into the location the teacher specifies; and
- in their group, listen to their project and discuss how they could improve it, make any agreed changes and save again.

Level 4

Pupils should:

- listen to some examples of soundscapes, music clips or podcasts and identify features such as:
  - » using more than one track (layers), the tempo, pitch, dynamics or atmosphere of a soundscape or piece of music; or
  - » the elements that make up a podcast such as its structure (beginning, middle and end), the use of more than one track (layers), voiceover, interviews, backing track or sound bed, length, sound effects or atmosphere;
- plan, storyboard and create a soundscape, digital music composition or podcast-style project, using more than one layer (track) that combines sound files from a range of sources;
- create music or sound clips and edit these for use in their project, considering how to manipulate their sounds to suit the audience and purpose of their product;
- use music and sound language when reviewing and editing their work, for example describe editing decisions using language such as track, layer, trim, split, cut, crop, reverb, tempo and dynamics;
- make clear editing decisions, for example deciding what to omit or include during the editing process;
- show their sound product to another group, discuss it with them and modify it using the editing tools; and
- organise saved work and export it in an appropriate format such as .mp3 or upload to the cloud so that others may listen to it.

Digital Audio: Music and Sound

Level 5

Pupils should:

- listen to examples of soundscapes, music clips or podcasts relevant to their project and identify features such as:
  - » the use of more than one track (layers), the tempo, pitch, dynamics and features of different genres of music or soundscapes;
  - » the elements that make up a podcast such as its structure (beginning, middle and end), the use of more than one track (layers), voiceover, interviews, backing track or sound bed, length, sound effects and atmosphere;
- plan and create a multitrack soundscape, digital music composition or podcast-style project that combines sound files from a range of sources, including their own compositions created using virtual instruments;
- adjust volume (gain) in each track to balance the sounds and use fade-ins and fade-outs;
- review and edit their work showing a clear understanding of audience and purpose, confidently using sound editing language during ongoing reflection, discussion and evaluation of how they are carrying out the activity and describing editing decisions;
- share their sound product with another group, discuss it with them and modify it (use digital tools to collaborate online, if appropriate);
- integrate self-produced assets into their production;
- be discriminating in the use of audio effects, for example the sound levels and timings, use of reverb and special effects;
- export their project, if appropriate, into another app, for example an existing iMovie or Book Creator project; and
- organise saved work and export it in an appropriate format such as .mp3 or upload to the cloud so that others may listen to it.

Digital Storytelling: Film and Animation

Digital Storytelling describes how we use digital tools to tell stories. These can be personal, biographical, fictional or factual stories about a specific interest or topic.

For Using ICT, Digital Storytelling is a useful term that covers three different ways that we can use technology across the curriculum: Presenting, Publishing, and Film and Animation. Digital storytelling tools give pupils opportunities to develop their technical skills, as well as other skills such as communication, visual, audio, design, planning and collaboration.

In **Digital Storytelling: Film and Animation** pupils create a moving image story. Pupils plan and create films, using still or moving images, or animations. These could be stop-motion animation (using objects, figures with moveable joints or clay models) or computer animation (drawing frame by frame into animation software). Pupils may work individually or in small group. As they move up the levels, they include appropriate sound such as narration and/or music. They also devote more time to planning their productions, including storyboarding and using moving image language such as close-up and long shot as part of this process.

Level 1

Pupils should:

- look at and talk about examples of still images and moving images, for example look at photographs the teacher has taken and tell the story of what they can see or view a short animated film and talk about what it shows and how it makes them feel;
- take photographs or select from given still images to create a collection of images suitable for a class topic, for example take photographs as part of a topic they are covering in class;
- with teacher help, arrange and order still images onscreen and talk about them, for example use suitable software or an app to tell a story with their images;
- if appropriate, add a sound or narration to their photo story;
- make a moving image film of a class or school activity or event, talk about what they would like to film and decide what to include to tell the story, for example help the teacher film a classroom activity such as construction play or describe a part of their school day such as break time;
- with teacher help, save their work; and
- talk about their work.

Digital Storytelling: Film and Animation

Level 2

For any type of film or animation, pupils should:

- look at and talk about examples of short films, animations or screencasts, for example advertisements, cartoons, film clips or instructional video, and tell the story of what they can see, where the story is set, or pick out a number of key events or characters in scenes; and
- plan and create a simple film or animation, adding a title and/or music, if they can.

Then, if:
carrying out still image sequence activities, pupils should:

- use suitable software to work with pre-loaded still images;
- arrange the images into a sequence to tell a story and record a voiceover or add music, if appropriate, for example use Photo Story 3, iMovie or a suitable app to rearrange a sequence of still images;

or
creating an animation, pupils should:

- use a digital device to take still images of objects or models, for example using modelling clay or mini figure models, in graduated poses or positions;
- use their photographs of an object or person in graduated poses or positions to create an animation, using Windows Live Movie Maker, iMovie or suitable app;

or
making a film, pupils should:

- work in small groups and use a tablet camera to tell a story with some structure or organisation, for example by making an unedited short film (less than a minute) showing how to skip, how to draw a picture, what they have they learned about road safety or describing something relevant to a class topic;

or
making a screencast, pupils should:

- use suitable software or an app such as Explain Everything to create a screencast; and
- use one or more images using the pen or pointer tools along with a voiceover, if appropriate, to explain something they have learned, or want to teach someone else, for example describing how to solve a mathematics problem or a video explaining to younger children how to line up in the canteen.

Finally
Pupils should:

- with teacher help, save their work to a specific location and know how to find and open it again;
- if appropriate, with teacher help, share their work using digital tools such as Seesaw, Fronter or Google Classroom; and
- play their work back to the teacher or others, talking about what they did and any improvements they could make.

Digital Storytelling: Film and Animation

Level 3

Working in a small group to create a simple film or animation, pupils should:

- begin to use film language such as scene, setting, character, colour (in relation to mood and emotion), close-up shot or long shot (distance between camera and subjects) or soundtrack when viewing and talking about film clips the teacher has selected;
- identify the number of shots in a short film clip;
- identify the features of a good story by exploring examples from fairy tales, legends, poems, songs, short films, novels, advertisements or a news or weather report, identifying how even a very short story needs a beginning, middle and end;
- use a storyboard to plan the story they want to tell in their film or animation and create a script to accompany it, if necessary;
- compose and record a variety of still or moving images either in an actual location or stage or alternatively in front of a green screen (if using a green screen editing app);
- use suitable software to import high-quality images and carry out some editing to produce a simple animation or film;
- add a narration, sounds or music to the film or animation;
- add some features such as titles, transitions or effects;
- save using filenames into a given folder, or if using an app, into the location the teacher specifies;
- share their work with the teacher or others (possibly using digital tools to comment on the work and respond to feedback); and
- in their group, view their completed film and discuss how they could improve it, make any agreed changes and save again.

Digital Storytelling: Film and Animation

Level 4

Working in a small group, to create a film or animation, pupils should:

- view and talk about selected film clips using film language such as scene, setting, plot, costume, props, close-up, mid shot, long shot, camera angle, soundtrack, atmosphere, style or genre and consider how these are used to tell the story, convey different emotions and engage the audience;
- consider and describe how they might change the structure and content of familiar stories or film clips in order to tell them in a different way;
- plan and storyboard a short film or animation showing an awareness of audience and consideration of plot;
- use moving image language when planning, for example annotate their storyboard using appropriate language such as close-up, mid shot or long shot;
- plan how best to engage the audience by considering length of film, length of scenes, music, sound effects and choice of camera angles;
- compose a script, using a teleprompter app or program, if available;
- allocate roles for each person and choose settings and/or locations for shooting scenes, deciding on props and costumes required;
- shoot scenes, considering what to add to or omit from their original plan and import into an appropriate software package such as Windows Live Movie Maker or iMovie to construct their film or animation;
- edit the film, making decisions about what to omit and what to include and experiment with adding a variety of features such as titles, transitions, backgrounds (if using green screen apps), effects and credits (these may be created in another app) relevant to the style and content of their film, saving their work as they edit;
- add appropriate sound effects, music or narration, considering timing;
- when reviewing and editing their work use moving image language, for example describe editing decisions using the language of film such as trim, split, cut, crop or fade;
- show their edited film to another group, discuss it with them and modify it using the editing tools;
- if appropriate, share their work digitally with the teacher or others using digital tools to comment on the work and respond to feedback; and
- organise saved work and export it in an appropriate format so that others may view it.

Digital Storytelling: Film and Animation

Level 5

Working in a group to create a film or animation production, building on skills required at previous levels, pupils should:

- plan and storyboard a film or animation, demonstrating a clear understanding of audience, for example plan a film about a special event in their school or an animation showing a day in the life of linen mill workers in the nineteenth century with a voiceover narration and self-produced sound effects school;
- integrate self-produced assets into their production, including those produced in other software or apps, for example moving image footage, stills, high quality photographs and audio recordings;
- be discriminating in using effects and transitions, for example when choosing backgrounds for green screen apps, avatars, sound levels and timings;
- make clear editing decisions, for example what to omit and what to include when shooting and during the editing process;
- use moving image language with confidence when planning and during ongoing reflection, discussion and evaluation of how they are carrying out the activity and describing editing decisions;
- if appropriate, use a collaborative tool such as Fronter or Google Classroom; and
- organise and save project assets in a meaningful file structure and export them in an appropriate file format.

Digital Storytelling: Presenting

Digital Storytelling describes how we use digital tools to tell stories. These can be personal, biographical, fictional or factual stories about a specific interest or topic.

For Using ICT, Digital Storytelling is a useful term that covers three different ways that we can use technology across the curriculum: Presenting, Publishing, and Film and Animation. Digital storytelling tools give pupils opportunities to develop their technical skills, as well as other skills such as communication, visual, audio, design, planning and collaboration.

Digital Storytelling: Presenting is any type of activity that involves using a digital tool to help deliver a story or presentation.

At the lower levels, pupils enter text and insert images or sounds into presenting software. They move on to researching and selecting assets from a range of sources to incorporate into a presentation. Showing an awareness of audience is an important element. At all levels, pupils need to present to an appropriate audience. At higher levels, pupils need to know how to use the features of their digital tool and consider which tools to use to tell their story to best effect.

Level 1

Pupils should:

- find and select an image and a sound (if appropriate) and with teacher help insert these into appropriate presentation software;
- create a simple phrase or sentence to accompany the image and sound or add a voiceover;
- with teacher help, save the work; and
- with teacher help, present their work to the class and talk about it.

Digital Storytelling: Presenting

Level 2

Pupils should:

- find and select images and, if appropriate, sounds from a given source that will be suitable for their work;
- combine these with found or their own text and/or a voiceover;
- consider layout and adjust placement for best effect;
- explore backgrounds and fonts;
- adjust the text size and colour to suit;
- resize images by dragging from a corner handle so they are not stretched or distorted;
- spell common and familiar words with capital letters where required;
- select and use a simple transition;
- consider how best to arrange their slides in order to tell their story or present their facts effectively;
- show their presentation to the group or class with teacher help and talk about any improvements they could make; and
- with teacher help, save their work to a specific location and know how to find and open it again.

Level 3

Pupils should:

- access, select and import images (and sounds, if appropriate) from a range of given digital sources, for example from a camera or tablet, their own artwork, sound recordings, audio network, picture library or shared folder;
- create text or edit found text, altering the content, font size, style and colour for best effect and to suit the purpose of their work;
- make use of slide layouts provided by the software;
- combine and position text and images and use sounds appropriately;
- include titles and captions, if appropriate;
- scale an image proportionally;
- spell frequently used words accurately and use correct punctuation and word spacing;
- select and use one or more appropriate transitions;
- experiment with and adjust the order of their slides to tell their story or present their facts effectively;
- share their work with the teacher or others (possibly using digital tools or supervised online tools such as Fronter or Google Classroom);
- consider any feedback they have received and make changes as appropriate; and
- save using filenames into a given folder or, if using an app, export into the location the teacher provides.

Digital Storytelling: Presenting

Level 4

Pupils should:

- plan and create a presentation or digital story showing an awareness of audience and purpose;
- research and select found and/or self-produced assets, such as text, still and/or moving images, maps, graphs, tables or sounds (pupils should be able to add appropriate websites to favourites or bookmarks, save their assets and research into a folder and be aware that not all sources are reliable);
- download assets in a format suitable for using in presenting software;
- create text or edit found text and format it using features such as text boxes, borders, bullets and numbering;
- explore how using custom animation can affect the order images and text appear in on the slide;
- use design features such as templates, colour, borders or themes;
- use one or more transitions between slides to make the presentation suitable for the content and context;
- share their work with someone (possibly using digital tools to comment on others' work and respond to feedback on their own);
- save and export the publication in the appropriate file format so that it can be played on another device; and
- prepare and rehearse what they are going to say and deliver their presentation to the group or class, responding to questions or comments.

Digital Storytelling: Presenting

Level 5

Pupils should:

- plan and create a presentation or digital story that is structured logically and coherently, showing a clear awareness of audience and purpose;
- research assets, such as still and/or moving images and audio, from a wider range of sources;
- analyse the assets researched and be discerning in relation to their relevance, veracity and quality;
- know that not all information is objective and not all sources are reliable;
- select, edit and use assets, some of which should be self-produced such as a moving image or soundscape file in the presentation, demonstrating a clear understanding of the intended audience and purpose;
- maintain a folder with subfolders to organise assets and content for the publication;
- understand and use appropriate custom animation, transitions or navigation;
- demonstrate an understanding of how layout, font, styles and colour enhance the visual impact and accessibility of the presentation;
- add effects such as filters, shadows and styles to enhance moving or still images;
- use a digital spellchecker, thesaurus and dictionary;
- reference sources and be aware of copyright regulations;
- throughout the process engage in discussion with the teacher or other pupils and respond to feedback on work (if available, this can be through a collaborative tool such as Fronter or an online forum);
- save and export the publication in the appropriate file format; and
- plan and rehearse a structured commentary for their presentation, taking their audience into account, delivering it clearly and effectively to the group or class, making best use of the content and effects in their presentation to support their delivery and modifying their commentary to include responses to questions or comments, referring to the presentation if necessary to illustrate their responses.

Digital Storytelling: Publishing

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In **Digital Storytelling: Publishing** pupils use software to communicate information through traditional printed materials or digital publications such as e-books or websites. At the lower levels, pupils can combine text and images to create a simple poster, invitation or e-book (which can also include sounds). They progress to researching and selecting assets such as text, images and sounds from a range of sources and incorporate these into their own publications such as newspapers, brochures, booklets, e-books, blogs or websites. As pupils progress through the levels, they will use advanced features such as alignment, justification, columns, text wrapping or website navigation to enhance the publication.

Level 1

Pupils should:

- look at, respond to and talk about examples of digital publishing such as a leaflet or a simple e-book, using terms such as text, image and page to describe what they see;
- find and select an image and a sound (if appropriate) from a source the teacher provides and with teacher help insert these into appropriate publishing software;
- create a simple phrase or sentence to accompany the image (and sound);
- share and talk about their digital work; and
- with teacher help, save their work.

Level 2

Pupils should:

- look at, respond to and talk about examples of digital publishing, beginning to think about placement of text and images on a page;
- find and select images and, if appropriate, sounds from a given source that will be suitable for their work;
- combine these with their own or found text;
- create a digital publishing product, for example a poster, ticket or e-book;
- consider layout and adjust placement for best effect;
- explore and choose a font, adjusting their text size and colour to suit;
- resize images by dragging from a corner handle so they are not stretched or distorted, and be able to move them around the page;
- spell common and familiar words and use spaces, full stops and some capital letters;
- with help, share their work (possibly using digital tools such as Seesaw, Fronter or Google Classroom) and talk about any improvements they could make; and
- ensure that they save their work and know how to find and open it again.

Digital Storytelling: Publishing

Level 3

Pupils should:

- look at, respond to and talk about examples of digital publishing, beginning to think about elements of design such as size of images and text, choice of font, space, texture and pattern;
- search for text and high quality images (and sounds, if appropriate) from given digital sources such as a camera or tablet, their own artwork, shared folders or C2k digital libraries;
- use a template, if appropriate, to create their product for example a leaflet, e-book, greetings card, poster or comic;
- create text or edit found text, altering its content, font size, style and colour for best effect and to suit the purpose of their work;
- combine and position text and images appropriately, showing an awareness of text layout such as the use of text boxes and bullet points and be able to drag images into place;
- include a title, subtitles and captions, if appropriate;
- scale an image proportionally;
- spell frequently used words accurately and use correct punctuation and word spacing;
- share their work with the teacher and/or others (possibly using digital tools to comment on others' work and respond to feedback on their own);
- consider any feedback they have received and make changes as appropriate; and
- save using filenames into a given folder or, if using an app, export into the location the teacher provides.

Digital Storytelling: Publishing

Level 4

Pupils should:

- look at, respond to and talk about examples of digital publishing, beginning to think about elements of good design and functionality for the product;
- plan and create a document, such as a tri-fold leaflet or newspaper page, electronic publication, such as an interactive e-book or webpage, website or blog, showing an awareness of the purpose of their product and its intended audience in their choice of format or content;
- research and select found and/or self-produced assets, such as text, high quality still and/or moving images, maps, graphs, tables or sounds, adding appropriate websites to favourites or bookmarks, saving their assets and research into a folder and being aware that not all sources are reliable;
- download assets in a file format suitable for publication;
- create text or edit found text and format it using features such as alignment, justification, numbering, paragraphs, columns and word wrap and text wrap or flow;
- use text boxes and format them appropriately, for example using a border, making it transparent or rotating the box for effect;
- use design elements such as alignment, proximity*, contrast, borders or page numbers to enhance the document;
- make use of review features such as the digital spellchecker;
- share their work with someone (possibly using digital tools to comment on others' work and respond to feedback on their own); and
- save and export the publication in an appropriate file format so that a different user can open it on a different device.

* Proximity refers to grouping related items together, moving them closer to each other so they are seen as a cohesive group rather than unrelated parts.

Digital Storytelling: Publishing

Level 5

Pupils should:

- respond to and think critically about examples of digital publishing, including the design and functionality of the product;
- plan and create a complex publication such as a website, newspaper, leaflet or electronic publication, showing a clear awareness of audience and purpose in their finished product;
- research and select assets, possibly self-produced, such as text, images, graphs or tables, from a wider range of sources;
- analyse the assets researched and be discerning about their relevance, veracity and quality;
- know that not all information is objective and not all sources are reliable;
- select, edit and use assets demonstrating a clear understanding of the intended audience and purpose;
- create appropriate assets if required, for example create and embed a moving image or soundscape file in the publication;
- maintain a folder with subfolders to organise assets and content for the publication;
- understand and use publication layout settings such as page margins, tabs, page and section breaks, and headers and footers for documents;
- demonstrate an understanding of how design elements, such as alignment, proximity, colour contrast, borders or page number, transfer from screen to print (if creating documents);
- use linked text boxes and grouping, for example picture and caption, in documents to improve layout;
- add effects such as filters, shadows and styles to enhance moving or still images;
- use a digital spellchecker, thesaurus and dictionary, if appropriate to the product;
- reference sources and follow copyright regulations pro-actively when publishing their work;
- engage in discussion with the teacher or other pupils throughout the process and respond to feedback on work, if available this can be through a collaborative tool such as Google Classroom or Fronter;
- save and export the publication in the appropriate file format, for example movie for a multimedia publication or html for web; and
- maintain any online publication such as a website or blog to keep it current.

Managing Data

In **Managing Data**, pupils at the lower levels enter data into a database or other software package and produce a graphical representation. They progress to collecting their own data, possibly using online survey tools, then presenting and analysing it. They move on to solving problems using some of the tools in a database or spreadsheet. At higher levels, pupils adapt formulae to solve problems, make observations and draw conclusions.

Level 1

Pupils should:

- explore a given digital database with the rest of the class and make observations about the names of the fields;
- with teacher support enter information into a given database, for example add a record for each pupil into an Ourselves database in software such as Information Workshop or J2 Database;
- explore interactive graphing software or apps such as RM Starting Graph or 2Count;
- make choices by clicking different buttons or images onscreen to create a graph or chart from given data;
- share and talk about their work with the teacher and/or peers;
- if appropriate and with teacher support, share work using digital tools such as Seesaw; and
- print or save the work, with teacher help.

Level 2

Pupils should:

- look at and talk about ways to collect data linked to a class topic;
- collect the data that needs to be analysed, for example use a given data collection sheet to collect data;
- enter the collected data into a database or other graphing software;
- produce a graphical representation such as a block graph, simple pictogram or diagram with title and labels;
- discuss and interpret information from their graph or database;
- if appropriate and with teacher support, share work using digital tools such as Seesaw, Fronter or Google Classroom; and
- ensure that their work is printed, saved or copied as a screenshot into a document or folder.

Managing Data

Level 3

Graphical representation
Pupils should:

- discuss what information they will need to collect to produce a graph related to a classroom project;
- plan how to collect and record their information using a data collection sheet;
- with teacher help, design a data collection sheet and use this to collect the data (if appropriate, using a digital survey tool);
- enter the collected data into graphing software;
- choose and produce a suitable graphical representation with labels; and
- save their graph and copy it as a screenshot into a document where they can record observations or using the screen recording function on iOS devices (iOS II or higher).

Spreadsheets
Pupils should:

- input their own or given data into a given database or spreadsheet; and
- solve simple problems using some of the tools available in a given database or spreadsheet, for example by entering numbers into a spreadsheet with an inbuilt function and using the results.

Finally
Pupils should:

- share and comment on each other's work, if appropriate using digital tools; and
- draw conclusions, for example make comments about the data, results or graphical representation.

Level 4

Pupils should:

- use a range of sources, such as catalogues, websites, tables or lists, to research the data needed to solve a problem;
- with teacher guidance, discuss what information they will need to collect for a project;
- discuss what questions to use and create a survey using digital tools such as SurveyMonkey, Google Forms or Office365 Forms;
- present their data in suitable graphical format such as a spreadsheet and relate it to the purpose of their project;
- answer simple questions by using SORT or using simple formulae such as + and -;
- use features such as simple queries in a database to interrogate data organised in table format, for example design a search, using two criteria, that identifies all the third-class passengers who survived the Titanic disaster;
- share their work, possibly using digital tools, respond to feedback and comment on the work of others; and
- organise files and export work in an appropriate format, for example .pdf, so that it others can view it.

Managing Data

Level 5

Pupils should:

- research the data required to carry out a project;
- independently design a data collection form or create a survey using a digital tool such as SurveyMonkey, Google Forms, Office365 Forms deciding on the format of the question, choices for answers and how they to present the information;
- use features of digital tools to analyse data and solve problems, for example use built-in spreadsheet or database functions and adapt formulae to solve problems after discussing the initial result;
- share their work, using digital tools if appropriate, respond to feedback and comment on others' work evaluating process and outcome; and
- organise files and publish work online, if available, so that others can view it, for example using an online tool such as Fronter, Google Classroom, Office 365 or Seesaw.

COUNCIL FOR THE **CURRICULUM, EXAMINATIONS** AND **ASSESSMENT**
29 Clarendon Road, Clarendon Dock, Belfast BT1 3BG
Tel: +44(0)28 9026 1200 Fax: +44(0)28 9026 1234
Email: info@ccea.org.uk Web: www.ccea.org.uk

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