

Guide



iCompute



in the
EYES



iCompute

www.icompute-uk.com





iCompute

in the EYFS

Overview

iCompute makes teaching computing to primary pupils easier. Packed with inspiring, engaging, activities and ideas it contains all of the planning and materials you need to teach computing creatively and confidently.

iCompute in the Early Years Foundation Stage (EYFS) is designed to complement our best-selling whole school scheme of work by introducing very young children to computing, laying the foundations for their future work in Key Stage 1 and Key Stage 2.

We know that children love computing and understand that, whilst computing in the EYFS is not statutory, many schools would like their children to benefit from being introduced to a wider range of computing activities.

EYFS Activities

The units contain all the materials you need to teach computing in the Foundation Stage.

Each is presented in a comprehensive, step-by-step, format to support the teacher.

For each activity you have:

Unit Plan

- ✔ An introduction
- ✔ Detailed objectives matched to the Early Learning Goals (ELGs) of the EYFS framework
- ✔ Preparation – what you will need to do before teaching the unit
- ✔ Links – ‘Hot links’ to the resources you will need for the unit and further support
- ✔ A step-by-step plan of how to teach the unit

Resources

All the resources you need for each unit for the teacher and pupils.

- ✔ Resources for whole-class teaching
- ✔ Pupil support materials

Worksheets

- ✔ Pupil worksheets

Assessment

End of unit assessment guidance and comprehensive pupil progress trackers for the EYFS.

Want More?

Our EYFS pack is specifically designed to provide computing coverage in the foundation stage and is an ERA finalist and BETT Awards Finalist for Foundation Stage Computing. Our BETT/ERA Awards 2014-2021 finalist iCompute whole-school scheme of work provides full National Curriculum coverage for Computing at Key Stage 1 and Key Stage 2. That's everything including Information Technology, Computer Science, Digital Literacy and eSafety.

To find out more, download and try our free introductory packs 'iCompute - Let's Get Going' which contains free units per year group and all of the materials you need for a taste of what our comprehensive schemes of work offer.

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Background

The National Curriculum for Computing marks a radical shift in thinking about how children learn, both, about and using technology. Moving away from the previous ICT curriculum - which focused primarily on children's ability to use technology - it is designed to equip children in England with the knowledge, skills and understanding of computing that they will require throughout their lives.

Fifty percent of the objectives - more in Key Stage 2 – now concern the fundamental principles of computer science: learning how computers and computer systems operate and how they are programmed.

Throughout their primary school education, children will develop computational thinking skills and design and create their own digital content. This provides an exciting opportunity for schools to engage children in becoming digital creators rather than passive consumers.

Digital Literacy

One of the intentions of the computing curriculum is to enable children to become digitally literate: to develop the knowledge and skills necessary to fully participate in modern digital world. This means having access to a broad range of software and technologies and experiencing them in different ways and contexts.

Using iCompute schemes will provide children with the opportunity to use a rich variety of digital tools and technologies and learn how to develop ideas, communicate, collaborate, create, present and evaluate.

We believe that digital literacy should not be developed in discrete computing sessions alone and encourage all schools to continue with their best practice of embedding Information Technology into other curriculum areas. This will give children further access to a range of software, technologies and tools and allow them to apply their knowledge and skills in different areas.

Our cross-curricular computing scheme of work provides lesson plans and teaching resources for enhancing and enriching other subjects with computing.

We want children have as much exposure to learning, about and with, digital technologies as possible. We have put together a guide to continuous provision, and possible software you could use, as part of it for computing and information technology in this guide.

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iCompute in the EYFS Units

Unit	Early Learning Goals	Outcomes
1 iMake Music	ELG16 – Creating with materials; ELG17 – Being imaginative & Expressive	Creating simple musical compositions using digital tools
2 iMake Media	ELG16 – Creating with materials; ELG17 – Being imaginative & Expressive	Capturing images and use software to combine images with text & effects
3 iMake Videos	ELG16 – Creating with materials; ELG17 – Being imaginative & Expressive	Using a camera/tablet to record moving images
4 iCan Play	ELG1 – Listening & Understanding; ELG7 – Fine Motor Skills; ELG5 – Building relationships	Taking turns playing games both on and offline
5 iCan Move	ELG1 – Listening & Understanding; ELG7 – Fine Motor Skills; ELG5 – Building relationships	Tracing paths; The children use a mouse to play computer games
6 iCan Direct	ELG1 – Listening & Understanding; ELG7 – Fine Motor Skills; ELG5 – Building relationships	Using simple directional language to navigate around a set of obstacles
7 iFind Patterns	ELG1 – Listening & Understanding; ELG12 – Number Pattern	Identifying and talk about patterns; the children create a repeating pattern
8 iAm Logical	ELG1 – Listening & Understanding; ELG11 - Number	Sorting on criteria
9 iOrganise Data	ELG1 – Listening & Understanding; ELG11 - Number	Collecting data and creating simple graphs
10 iSearch Online	ELG1 – Listening & Understanding; ELG9 - Reading	Making simple searches for data organised alphabetically
11 iCan Sequence	ELG1 – Listening & Understanding; ELG11 - Number	Sequencing simple instructions to make something
12 iCan Program	ELG1 – Listening & Understanding; ELG7 – Fine Motor Skills	Giving sequences of commands to a programmable toy
13 iStay Safe	ELG1 – Listening & Understanding; ELG4 – Managing Self	Exploring and explaining simple rules for keeping safe online
14 iMake Art	ELG16 – Creating with Materials	Finding and making collages of 2D shapes
15 iCan Control	ELG1 – Listening & Understanding; ELG11 - Number	Programming a toy to move along a number line
16 iCan Sort	ELG15 – The Natural World	Making predictions about sorting criteria, sort and order objects
17 iCan Turn	ELG1 – Listening & Understanding; ELG2 - Speaking	Designing trails & programming toys to move along a trail with turns
18 iCan Animate	ELG1 – Listening & Understanding; ELG2 – Speaking; ELG17 – Being imaginative & Expressive	Capturing images and animating them using digital tools
19 iTell Stories	ELG1 – Listening & Understanding; ELG2 – Speaking; ELG17 – Being imaginative & Expressive	Recounting a classic tale using digital book creation tools
20 iSend Email	ELG9 – Reading; ELG10 – Writing;	Composing and sending simple emails to a fictional character
21 iCan Model	ELG1 – Listening & Understanding	Using digital tools to explore computer models
22 iMake Pictograms	ELG1 – Listening and Understanding; ELG11 – Number	Collecting and organising data into simple pictograms
23 iCan Surf	ELG16 – Creating with materials	Finding, printing and colouring images
24 iCan Report	ELG16 – Creating with materials; ELG17 – Being imaginative & Expressive	Combing text and images to make a class/school newsletter
25 iCatch Aliens!	ELG16 – Creating with Materials	Using an Augmented Reality app to find hidden aliens
26 iMake Algorithms	ELG1 - Listening and Understanding; ELG2 - Speaking; ELG9 - Reading	Creating algorithms and flowcharts for classic nursery rhymes
27 iGuess Beasts	ELG7 – Fine Motor Skills; ELG11 - Number; ELG14 – People Communities & Culture	Scanning and creating QR (Quick Response) Codes
28 iMake Pixel Art	ELG7 – Fine Motor Skills; ELG11 - Number; ELG16 – Creating with materials; ELG17 – Being imaginative & Expressive	An introduction to image representation



Framework Statements	Information Technology	Computing	Digital Literacy	Assessment
<p>Communication & Language Development</p> <ul style="list-style-type: none"> ★ ELG1 - Listening & Understanding <p>PDED</p> <ul style="list-style-type: none"> ★ ELG3 - follow instructions with several ideas or actions ★ ELG3 – Set and work towards simple goals ★ ELG4 – Show resilience and perseverance in the face of challenge ★ ELG5 – play cooperatively, taking turns <p>Physical Development</p> <ul style="list-style-type: none"> ★ ELG7 – Use a range of small tools <p>Mathematics</p> <ul style="list-style-type: none"> ★ ELG12 - Explore and represent patterns <p>Literacy</p> <ul style="list-style-type: none"> ★ ELG10 – Writing <p>Understanding the World</p> <ul style="list-style-type: none"> ★ ELG13 - Know some similarities and differences between things in the past and now <p>Expressive Arts & Design</p> <ul style="list-style-type: none"> ★ ELG16 - Safely use and explore a variety of materials, tools and techniques ★ ELG16 - Share their creations, explaining the process they have used; ★ ELG17 – Being imaginative & expressive 	<ul style="list-style-type: none"> ✔ Provide opportunities for children to use a range of devices such as cameras, mobile devices, audio recording devices ✔ Model and enable the use of real and imaginary technologies, including online tools ✔ Enable children interact with computer systems using different inputs – e.g. by using a mouse, voice, speech or touch ✔ Ask the children to use a keyboard to copy or write a title or caption for work ✔ Discuss how technology is used at school and at home ✔ Encourage children to operate devices and equipment in school, sometimes with adult support ✔ Tour the school photographing the various ICT equipment ✔ Encourage children to speculate about why things happen or how things work ✔ Model how to and support the saving and retrieval of children's work 	<ul style="list-style-type: none"> ✔ Ask the children to 'program' each other to find hidden objects (programming) ✔ Play Simon Says (algorithms/debugging) ✔ Ask the children to come up with a set of instructions (pictures of arrows) to navigate a partner around a simple obstacle course in PE (algorithms) ✔ Take a simple 'problem' and split it into smaller steps – E.g. to dress a teddy (computational thinking - decomposition) ✔ Record instructions for friends (programming) ✔ Listen to and follow recorded instructions ✔ Explore playing with programmable toys (e.g. Bee bots, remote controlled cars etc.) (programming) ✔ Use simple software applications to make something happen (e.g. Bee Bot iPad app) ✔ Draw or give simple instructions to a partner to build a simple structure using building blocks (programming) ✔ Look at a set of drawn instructions (e.g. arrows) and predict what will happen if they were entered into a programmable toy (predicting algorithms) ✔ Encourage the children to understand that operations can be predicted and have a cause and effect (e.g. press a button turns on/off) ✔ Encourage the children to develop an understanding that an operation has a predictable result (e.g. clicking a mouse selects an object) (predicting algorithms) ✔ Ask the children to sequence a series of photographs to recount a story (algorithms) ✔ Invite the children to point out simple errors in images or texts (debugging) ✔ If you have them, show the children the cables that connect computers to the school network (networks) 	<ul style="list-style-type: none"> ✔ Provide opportunities for children to explore a range of computer applications, e.g. drawing apps, age-appropriate games etc., ✔ Follow shortcuts, favourites or weblinks to explore simple websites ✔ Model using web pages to find things out ✔ Play with imaginary technologies in role-play ✔ Get the children to use recording devices to say something about themselves or express their ideas ✔ Listen to stories, music, watch animations using digital devices ✔ Ask the children to choose a website appropriate for an activity ✔ Ask the children to match images to a sound ✔ Supervise the children choosing appropriate images for a specific purpose (e.g. images of trains) ✔ Provide opportunities for children to share their work online (e.g. upload to a website) ✔ Provide opportunities for children to represent/express ideas & feelings using technology ✔ Use passwords to access devices ✔ Talk about the images on a website and who they belong to ✔ Use play technology (e.g. toy mobile phones) to role-play speaking nicely to one another ✔ Ask the children what they know about themselves – e.g. names and where they live ✔ Tell and discuss stories with morals and stranger danger <div>Green Text = eSafety</div>	<ul style="list-style-type: none"> ✔ Know that Information Technology (incl. online tools) can help them do things ✔ Can use a mouse to move objects ✔ Can use a keyboard for basic activities ✔ Can use a camera, sound recorder or mobile device to collect photographs and/or sound ✔ Recognises and can use the common icons for save and print ✔ Identify some of the steps needed to achieve a simple task – E.g. brushing teeth ✔ Understand that people and computers follow instructions ✔ Can follow instructions and correct mistakes ✔ Know that devices and objects on a screen can be controlled ✔ Recognise that a printer is connected to a computers and devices ✔ Understand that the internet can be used to play and learn ✔ Know that the things they create digitally can be shared with others ✔ Recognise purposes for using technology at home and in school (e.g. TV for watching movies; interactive whiteboard for showing work in school) ✔ Can match images to appropriate sounds (e.g. 'duck' to 'quack') ✔ Understand that a password protects a device from someone else using it ✔ Understand that an adult should be present when they access online material ✔ Know who to go to for help if they need it when using the world wide web ✔ Understand to take turns when using technology ✔ Know that care is needed when using equipment