



## Medium Term Computing Plans

### Who are the Computing Medium Term Plans for?

The purpose of this planning document is to map out the Computing medium term plan for teaching and learning at Newcroft for Reception to Year 6. It should be used in conjunction with the appendices in the National Curriculum 2014 and the EYFS Framework.

There are objectives identified for each year group for each half term, ensuring curriculum coverage over the academic year. However, teachers should use professional judgement when deciding how much time should be spent on each theme (although suggested times are included). Objectives should be extended for the most able pupils, drawing on objectives from later terms or years if pupils are secure at the current expectation for the year group.

The aim is that all pupils are able to meet the objectives by the end of each year. It is designed to support the 2014 National Curriculum for Computing at Key Stages 1 and 2.

### How do I use the Medium Term Plans?

These plans should be used with the online scheme purchased for the whole school - **iCompute**, which is available at **www.icompute-uk.com**. The school has a login: [computing@newcroft.sch.uk](mailto:computing@newcroft.sch.uk) and there is a shared password to use for this. If you cannot remember the password, please come and see me.

There are lots of units of work on iCompute, but please keep to the units specified on the planning to ensure correct coverage for each year group. Each unit has lesson plans and resources that are downloadable. It is recommended that you do not print and store these plans at the beginning of the year, but download them as you require them, as they are updated regularly by iCompute. If you should need any assistance to navigate the website and resources, please come and see me.

**Please note that as these plans are updated regularly online, some of these units may have changed slightly and have different objectives since this document has been produced. Please check the name of the unit carefully, download it and use that planning.**

Cover staff and HLTAs often teach Computing on behalf of the teachers. However, this year **teachers must ensure that they teach at least 3 units per year**, to ensure their Computing skills are kept up to date (referring to myself if they have any difficulties).

## E-Safety

The school gained an e-safety award in June 2017. It is important to keep heightening the awareness of e-safety to keep our children safe. Therefore it is incorporated into the planning each term.

Autumn 1 – iSafe unit

Spring 1 – Safer Internet Day (February)

Summer 1 – select an appropriate SWGfL or Project Evolve lesson to target an aspect of e-safety or digital literacy that would be beneficial for your class.

DfE guidance on teaching online safety in school (June 2019) emphasises the following knowledge and behaviours that should be taught:

- I can evaluate what I see online
- I can recognise techniques used for persuasion
- I understand online behaviour
- I can identify online risks
- I know how and when to seek support

**Please forward any evidence of e-safety work (Lesson plans/photos/Tapestry/written evidence) to the subject leader (Sarah Pickering) to keep a file of evidence ready for when we need to apply to have the e-safety award renewed.**

## Key Skills

In addition to the explicit skills taught in each of the units below, there are several key skills that pupils will need in order to use the necessary technology effectively. Depending on the prior knowledge of your class, it may be necessary to spend time explicitly teaching these skills as part of a computing lesson.

### KS1

- I can turn on and log into a computer
- I can use a mouse/track pad to select and move text and images
- I can type single words or sentences using a keyboard
- I can understand and use aspects of a keyboard e.g. space bar, caps lock, full stop, delete, backspace, enter etc.
- I know the symbol for saving work (floppy disk), and can save my work with support
- I can open a saved piece of work with support
- I can print my work with support
- I can use the double click function
- I can open a program using the start menu or a folder
- I can close a program using the X symbol
- I can take photographs or videos using appropriate technology
- I can log off and shut down a computer
- I can navigate a website
- I can navigate a tablet (iPad)

### KS2

- I can minimise, resize and close windows on the desktop
- I can get back to the desktop
- I know that the shift key can be used to access other symbols on the keys, and can use this to insert punctuation and capitalise letters
- I can open multiple tabs without leaving the search e.g. by right clicking and opening in a new tab
- I can copy and paste information (text or images) from the internet into a word document using ctrl + C or through right clicking
- I can use and save favourites/bookmarks in the web browser
- I can edit text using various features: font type, size and colour, bold, underline and italic, bullet points and numbers, alignment
- I can highlight text
- I can use undo and redo tools
- I can insert text or images from a file
- I can use menus effectively to navigate software
- I can use search engines effectively

## Computing Strands

There are three main strands in the Computing curriculum: Computer Science, Information Technology and Digital Literacy. E-safety comes under the Digital Literacy strand, though due to its importance, it is highlighted separately in the unit plans. Please use the coloured dots beside each unit to see which strands are covered in that unit. The information in brackets indicates which objectives are covered in that unit, and the key stage they relate to.

### KS1

### KS2



1. understand what algorithms are; how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions
2. create and debug simple programs
3. use logical reasoning to predict the behaviour of simple programs

1. use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
2. design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
3. use sequence, selection, and repetition in programs; work with variables and various forms of input and output
4. understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
5. appreciate how [search] results are selected and ranked



4. use technology purposefully to create, organise, store, manipulate and retrieve digital content

6. select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
7. use search technologies effectively



5. use technology safely and responsibly; recognise acceptable/unacceptable behaviour; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies\*
6. recognise common uses of information technology beyond school



8. use technology safely and respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact\*
9. be discerning in evaluating digital content
10. understand the opportunities [networks] offer for communication and collaboration

\*see above (E-Safety) for current DfE guidance on knowledge and behaviours to be taught.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	E-Safety – Digi Duck	<b>iSafe</b> ●● (KS1 – 5) Personal information and being safe online	<b>iSafe</b> ●● (KS1 – 5) E-safety	<b>iSafe</b> ●● (KS2 – 8) Staying safe online	<b>iSafe</b> ●● (KS2 – 8) Being safe, responsible digital citizens <b>Laptops/iPads</b>	<b>iSafe</b> ●● (KS2 – 8) Becoming safe and responsible digital citizens <b>Laptops</b>	<b>iSafe</b> ●● (KS2 – 8) Staying safe in a digital world <b>Laptops</b>
Autumn 2	Investigating technology in school and at home.  <b>Hour of Code</b>	<b>iAlgorithm</b> ●●● (KS1 – 1) Unplugged activities to support understanding of algorithms  <b>Hour of Code</b>	<b>iProgram</b> ●●● (KS1 – 1,2,3) Creating simple animations <b>Laptops (Scratch 3)</b>  <b>Hour of Code</b>	<b>iProgram Unit 1</b> ●●● (KS2 – 2) Games and animation development <b>Laptops (Scratch 3)</b>  <b>Hour of Code</b>	<b>iData</b> ●●● (KS2 – 6) Introduction to data representation <b>Laptops (Excel)</b>  <b>Hour of Code</b>	<b>iWeb</b> ●●●● (KS2 – 4) Remixing and creating web content using HTML <b>Laptops</b>  <b>Hour of Code</b>	<b>iProgram Unit 1</b> ●●● (KS2 – 2,3) Designing and developing computer programs <b>Laptops (Scratch 3)</b>  <b>Hour of Code</b>
Spring 1	Using Bee Bots and other programmable toys.  <b>Safer Internet Day</b>	<b>iModel</b> ●●● (KS1 – 4) Introduction to modelling <b>Laptops (Paint)</b>  <b>Safer Internet Day</b>	<b>iSearch</b> ●●●● (KS1 – 4,6) Using the web to find things out <b>Laptops (Chrome)</b>  <b>Safer Internet Day</b>	<b>iConnect</b> ●●●● (KS2 – 4,5,7,9) Internet and world wide web, including searching <b>Laptops</b>  <b>Safer Internet Day</b>	<b>iMail</b> ●●●● (KS2 – 4,6,8,10) Communicating and collaborating via email <b>Laptops (Gmail)</b>  <b>Safer Internet Day</b>	<b>iCrypto</b> ●●●● (KS2 – 3,4,6) Introduction to cryptography <b>Laptops</b>  <b>Safer Internet Day</b>	<b>iData</b> ●●●● (KS2 – 6) Introducing spreadsheets <b>Laptops (Excel)</b>  <b>Safer Internet Day</b>
Spring 2	Using iPads to take photos and videos.	<b>iProgram Unit 1</b> ●●●● (KS1 – 2,3) Programming physical and virtual toys <b>Laptops</b> <b>Bee Bots</b>	<b>iPub</b> ●●●● (KS1 – 4,6) Creating interactive eBooks <b>Laptops (Book Creator)</b>	<b>iData</b> ●●●● (KS2 – 6) Introducing databases <b>Laptops (Excel)</b>	<b>iProgram Unit 1</b> ●●●● (KS2 – 1,2,3) Making shapes and navigating mazes <b>Laptops (TurtleArt, RoboMind)</b>	<b>iAlgorithm lesson 1</b> ●●●● (KS2 – 1,5) Searching algorithms  <b>iProgram Unit 1</b> ●●●● (KS2 – 1,2,3) Designing and developing computer games <b>Laptops (Scratch 3)</b>	<b>iNetwork</b> ●●●● (KS2 – 4) Networks, data and creating web content <b>Laptops</b>
Summer 1	Using iPads to play games and access apps.  <b>Digital Literacy Lesson</b>	<b>iData</b> ●●●● (KS1 – 4) Introduction to data representation <b>Laptops</b>  <b>Digital Literacy Lesson</b>	<b>iAnimate</b> ●●●● (KS1 – 4) Introduction to animation <b>iPads (iMovie)</b>  <b>Digital Literacy Lesson</b>	<b>iNetwork</b> ●●●● (KS2 – 4,6) Introducing computer networks <b>Laptops (Paint)</b>  <b>Digital Literacy Lesson</b>	<b>iProgram Unit 3</b> ●●●● (KS2 – 1,2,3) Programming puzzles with LightBot <b>Laptops (LightBot)</b>  <b>Digital Literacy Lesson</b>	<b>iProgram Unit 1 (cont)</b> ●●●● (KS2 – 1,2,3) Designing and developing computer games <b>Laptops (Scratch 3)</b>  <b>Digital Literacy Lesson</b>	<b>Digital Literacy Lesson</b>
Summer 2	Using laptops – basic skills.	<b>iWrite</b> ●●●● (KS1 – 4) Creating, manipulating and storing digital text <b>Laptops (Word)</b>	<b>iBlog</b> ●●●● (KS1 – 4,6) Writing and responding using blogs <b>Laptops (G Suite Sites)</b>	<b>iSimulate</b> ●●●● (KS2 – 1,2,3) Exploring computer simulations <b>Laptops (Scratch 3)</b>	<b>iAnimate</b> ●●●● (KS2 – 1,2,3) Introduction to animation <b>Laptops</b>	<b>iProgram Unit 2</b> ●●●● (KS2 – 2,3) Designing and developing multi-level X-Box games <b>Laptops (Kodu)</b>	<b>iApp Unit 1</b> ●●●● (KS2 – 6) Designing and developing apps <b>Laptops (Android Emulator)</b>