

## Computing Scheme of Work Knowledge and Skills curriculum

<b>Class One:</b> Reception – follow EYFS curriculum Year 1 Year 2	
Understand the use of algorithms (CS) Write and test simple programs (CS)  Organise, store, retrieve & manipulate data (IT) Use a range of digital and wireless devices to create, organise and retrieve digital content (IT)  Recognise uses of IT outside the classroom (DL) Communicate online safely and respectfully (DL)	Can I understand what algorithms are? Can I understand that algorithms follow precise and clear instructions? Can I create algorithms with precise and unambiguous instructions? Can I locate, open, use and save a file? Can I enter simple data into spread-sheet and produce a graph? Can I locate, open, use and close a programme or app on a range of digital devices? Can I upload photographs to an appropriate folder or file and can I insert and manipulate images in a range of presentation programs? Can I describe how digital technology is used outside school; in the home, at work and the community? Can I use technology respectfully and safely, keeping personal information private? Can I identify where to seek help over concerns about content or contact on all platforms of digital media?
<b><u>'Implicit Skills'</u></b> These should be taught across a range of subjects, embedded into learning and across a range of digital devices. <ul style="list-style-type: none"><li>• Use of touch-screen devices (swipe, drop and drag, pinch and enlarge etc)</li><li>• Use of mouse and keyboard</li><li>• Identification of key buttons (space, return, delete, number lock etc)</li><li>• Basic word and excel skills</li></ul> <b><u>'Implicit Skills'</u></b> These should be taught across a range of subjects, embedded into learning and across a range of digital devices. <ul style="list-style-type: none"><li>• Use of touch-screen devices (swipe, drop and drag, pinch and enlarge etc)</li><li>• Use of mouse and keyboard Full use of key board short-cuts (i.e. CTRL C to copy/ CTRL V to paste etc)</li><li>• Identification of key buttons (space, return, delete, number lock etc)</li><li>• Basic word and excel skills; Fluency in a range of programs (word, excel, power-point etc); Folder and profile management; Manipulate and alter a range of elements into desktop publishing programs (jpg. png. sounds, digital photographs etc)</li></ul> All forms of safety on digital media should be considered: Online/ Media sites/ Chat rooms & forums/ YouTube and content/ Digital devices (iPad, tablet, smartphones, cameras)/ Reporting systems (CEOP, Child-line, Police etc)	

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### Class Two:

Year 3

Year 4

Use and apply logical reasoning to real-life tasks. (CS)

Design and write programs to achieve specific goals, including solving problems. (CS)

Collect and present data appropriately (IT)

Understand the workings and benefits of computer networks (DL)

Use the internet, apps and access online resources safely and appropriately (DL)

Can I explain how some simple algorithms work by decomposing them into smaller parts?

Can I debug simple programs? Can I compose and write simple programs that accomplish specific goals? Can I detect and correct errors in simple algorithms?

Can I create and develop increasing sophisticated presentations across a range of software?

Can I edit, improve and assess my presentations? Can I select and use a range of software to create and collate data?

Can I select and use a variety of software on a range of digital platforms and devices to present data and information?

Can I understand computer networks and describe examples like the world wide web?

Can I discuss and describe the programs and apps I like to use?

Can I evaluate online and digital content in a discerning way?

Can I describe the benefits computer networks offer?

### 'Implicit Skills'

These should be taught across a range of subjects, embedded into learning and across a range of digital devices.

- Use of touch-screen devices (swipe, drop and drag, pinch and enlarge etc)
- Use of mouse and keyboard - Full use of key board short-cuts (i.e. CTRL C to copy/ CTRL V to paste etc)
- Identification of key buttons (space, return, delete, number lock etc)
- Basic word and excel skills - Fluency in a range of programs (word, excel, power-point etc); Folder and profile management; Manipulate and alter a range of elements into desktop publishing programs(jpg. png. sounds, digital photographs etc)

Should consider all forms of digital programs and apps for:

- Intended use, demographic and audience
- Provenience of online repositories (i.e. can Wikipedia and other community-based 'factual' sites be trusted?)
- Using a range of information sources to confirm facts (avoiding lazy googling)

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### Class Three

Year 5

Year 6

Detect and correct errors in programs. (CS)  
Confidently use sequences, repetition, inputs, variables and outputs in programs (CS)

Continue to collect and present data appropriately across an increasing number of programs (IT)

Appreciate how online search results are selected and ranked (DL)  
Be discerning in evaluating digital content and identify a range of ways to report concerns about content and content (DL)

Can I test, detect and correct errors in computing programs? Can I use confidently sequences and repetition in creating computing programs? Can I include inputs, variables and outputs in computer programs?

Can I analyse the data I collect? Can I present my analysis appropriately to an audience? Can I evaluate the impact of my data presentations? Can I select different presentation programs and styles for different audiences?

Can I describe how internet searches are selected and ranked? Can I describe how to keep my internet research safe and reliable?

Can I understand how advertising affects search results? Can I describe the features of the programs I use and discuss their usefulness?

#### 'Implicit Skills'

These should be taught across a range of subjects, embedded into learning and across a range of digital devices; These should now be embedded across all digital platforms, devices and programs.

- 'Netiquette' rules; 'Netiquette' rules covering appropriate and inappropriate ways to comment on a range of social media
- Fluent use of email; Accessing internet, email, online resources (dictionary, weather apps etc) and different apps and programs
- Understanding of storing digital content including solid state (hard drives), school network, USB devices, memory cards and online storage (the cloud); All digital storage saving, opening, closing and naming of a wide variety of files.
- Word, excel, power-point, short-cut and command keys

Children given lots of opportunities to explore and discover technological tools and limitations of programming apps through play; Children given opportunities to apply logical reasoning to a range of non-digital tasks and develop their ability to make predictions; Children recognise how limitations in sequences leads to errors in program outcomes.

Introduction to the school's server, drives and areas; Focus on accessibility and collaborative working.

Children begin to be increasing aware and critical about how data gathered from their internet activities influences and affects search results, recommendations and advertising.

Links should be clearly made with PSHE so all children can empathise with others they connect with through the internet. All children should know how to limit personal information, how it can be accessed and viewed and how set controls in account settings etc across a range of programs.