



## KS1 Computing Curriculum

### Significant people in computing: Grace Hopper

#### Computer Science

*(How computers and computer systems work and how they are designed and programmed)*

#### Information Technology

*(the purposeful use of existing programs to develop products and solutions)*

#### Digital Literacy

*(the skills, knowledge and understanding needed in order to participate fully and safely in an increasingly digital world)*

**A- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions**

**B- create and debug simple programs**

**C- use logical reasoning to predict the behaviour of simple programs**

**D- use technology purposefully to create, organise, store, manipulate and retrieve digital content**

**E- recognise common uses of information technology beyond school**

**F- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies**

|                         | Autumn 1                                                                                        | Autumn 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Spring 1                                                                                                                                                                                              | Spring 2                                                                                                                                                                                                                                                                                                                                                              | Summer 1                                                                                                                                                                                                                                                                                                                          | Summer 2                                                                                                                                                                                                                             |
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| <b>Computer Science</b> | <b><u>Computer Systems and Networks</u></b><br>Teach Computing<br>Technology around us<br>(1.1) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b><u>Programming A</u></b><br>Teach Computing<br>Beebots                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                   | <b><u>Programming B</u></b><br>Scratch Junior                                                                                                                                                                                        |
| <b>IT</b>               |                                                                                                 | <b>Creating Media:</b><br><br>Digital writing (1.5)<br>Teach Computing                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                       | <b><u>Creating Media</u></b><br>Teach Computing<br>Digital photography<br>(2.2)                                                                                                                                                                                                                                                                                       | <b><u>Data and Information</u></b><br><br>Block Charts                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                      |
| <b>NC objectives</b>    | <b>DEF</b>                                                                                      | <b>DF</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>ABC</b>                                                                                                                                                                                            | <b>DE</b>                                                                                                                                                                                                                                                                                                                                                             | <b>DE</b>                                                                                                                                                                                                                                                                                                                         | <b>ABC</b>                                                                                                                                                                                                                           |
| <b>Key Vocabulary</b>   | <b>Key Vocabulary:</b><br>Technology<br>Computer, mouse,<br>keyboard, screen,<br>click, drag    | <b>Key Vocabulary:</b><br>Word processor,<br>keyboard, keys, letters,<br>Microsoft Word,<br>Google Docs,<br>numbers, space,<br>backspace, text<br>cursor, capital letters,<br>toolbar, bold, italic,<br>underline, mouse,<br>cursor, select, font,<br>undo,<br><b>OR</b><br>(2.5) to be taught as<br>part of Music<br>Curriculum<br>music, planets, Mars,<br>Venus, war, peace,<br>quiet, loud, feelings,<br>emotions<br>Pattern, rhythm, pulse<br>Neptune, pitch,<br>tempo, rhythm, notes,<br>create, emotion, beat,<br>instrument, open, edit | <b>Key Vocabulary:</b><br>Forwards, backwards,<br>turn, clear, go,<br>commands<br>Instructions, directions<br>Left, right,<br>Plan, algorithm, Route<br>, program, sequence,<br>prediction, debugging | <b>Key Vocabulary:</b><br>Device, camera,<br>photograph, capture,<br>image, digital,<br>Landscape, portrait,<br>horizontal, vertical,<br>field of view, narrow,<br>wide,<br>Framing, focal point,<br>subject matter, field of<br>view, compose,<br>Editing, tools, colour,<br>filter, images, Pixlr,<br>Format, framing,<br>lighting, focus, filter,<br>changed, real | <b>Key Vocabulary:</b><br>Sort, Criteria, block<br>chart, Data, Collate<br>More than, less than,<br>most, least, organise,<br>data, object, tally<br>chart, votes, total,<br>enter, compare,<br>count, more common,<br>least common<br>Attribute, group,<br>same, different,<br>popular, least popular,<br>conclusion<br>sharing, | <b>Key Vocabulary:</b><br>Sequence, command,<br>program, run, start,<br>outcome, predict,<br>blocks, sprite,<br>algorithm, design,<br>actions, project,<br>modify, change, build,<br>match, compare,<br>debug, features,<br>evaluate |

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|  | -I can identify rules to keep us safe and healthy when we are using technology in and beyond the home<br>-I can recognise technology beyond the school<br>-I can explain how information technology benefits us<br>-I can identify a computer and its main parts<br>*I can use a mouse in different ways<br>*I can use a keyboard to type on a computer<br>*I can use the keyboard to edit text | -I can use a computer to write<br>-I can add and remove text on a computer<br>-I can identify that the look of text can be changed on a computer<br>-I can make careful choices when changing text<br>-I can explain why I used the tools that I chose<br>-I can compare writing on a computer with writing on paper | -I can say what an algorithm is<br>-I can write, use and improve an algorithm<br>-I can tinker to find out about Bee-Bots<br>-I can combine four direction commands to make sequences<br>-I can use logical reasoning to predict the outcome of a program<br>-I can explain that programming projects can have code and artwork<br>-I can create and debug a program that I have written | -I can know what devices can be used to take photographs<br>-I can use a digital device to take a photograph<br>-I can describe what makes a good photograph<br>-I can decide how photographs can be improved<br>-I can use tools to change an image<br>-I can recognise that images can be changed | -I can recognise that we can count and compare objects using tally charts<br>-I can recognise that objects can be represented as blocks<br>-I can create a block chart<br>-I can select objects by attribute and make comparisons<br>-I can recognise that people can be described by attributes | -I can choose a command for a given purpose<br>-I can show that a series of commands can be joined together<br>-I can explain that each sprite has its own instructions<br>-I can design the parts of a project<br>-I can use my algorithm to create a program |
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### Computing End Points for KS1

- Develop the basic skills of computer science in order to create simple programmes which employ the use of algorithms with an understanding of what algorithms are.
- Pupils will be able to find errors in their programmes and predict outcomes.
- As digital citizens, pupils will know how to keep themselves safe online in a range of ways including how to respond to inappropriate contact and content. They will also understand how to keep their information private and also be able to identify cyber-bullying, knowing what actions to take if they encounter it.
- Pupils will have a secure understanding and range of information technology skills. They will be able to locate and handle information from a range of digital sources including the online world.