

| Key Stage 2 National Curriculum Objectives                                                                                                                                                                                                                                               |                                                                                    |                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Computer Science                                                                                                                                                                                                                                                                         | Information Technology                                                             | Digital Literacy                                                                                                                  |
| <i>(How computers and computer systems work and how they are designed and programmed)</i>                                                                                                                                                                                                | <i>(the purposeful use of existing programs to develop products and solutions)</i> | <i>(the skills, knowledge and understanding needed in order to participate fully and safely in an increasingly digital world)</i> |
| A - design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts                                                                                                         |                                                                                    |                                                                                                                                   |
| B - use sequence, selection, and repetition in programs; work with variables and various forms of input and output                                                                                                                                                                       |                                                                                    |                                                                                                                                   |
| C - use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs                                                                                                                                                         |                                                                                    |                                                                                                                                   |
| D - 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                                                                                       |                                                                                    |                                                                                                                                   |
| E - use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content                                                                                                                                                 |                                                                                    |                                                                                                                                   |
| F - 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 |                                                                                    |                                                                                                                                   |
| G - use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact                                                                                                              |                                                                                    |                                                                                                                                   |

Long Term Overview: Year 5

| Cycle |        |                                                                                     |                                                             |                                                                                                                                       |                                                                             |                                                         |                                                                                                     |
|-------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| A     | C<br>S | Computer Systems and Networks:<br>(Yr 5)<br>Systems and searching<br>ABD <b>F</b> G |                                                             | Programming A<br>(Yr 5)<br>Selection in physical computing<br>(requires Crumble boards) ABD <b>F</b><br><i>Alternatives available</i> |                                                                             |                                                         | Programming B -<br>(Yr 6)<br>Selection in quizzes:<br>ABD <b>F</b><br><i>Alternatives available</i> |
|       | I<br>T |                                                                                     | Creating Media:<br>(Yr 5)<br>Video production<br><b>F</b> G |                                                                                                                                       | Data and Information:<br>(Yr 5)<br>Flat file<br>Databases <b>E</b> <b>F</b> | Creating Media:<br>(Yr 5)<br>Vector drawing<br><b>F</b> |                                                                                                     |

| Cycle | Unit                     | Issue                 | Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------|--------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A     | Programming A (Crumbles) | No crumbles           | <b>Code.org</b> - Course D lessons 10 - 14 and lesson 18 - lessons focus on selection or<br><b>Microbit</b> - Data handling unit <a href="https://microbit.org/lessons/data-handling-unit-summary/">https://microbit.org/lessons/data-handling-unit-summary/</a><br>(Microbits needed)<br>OR<br><b>Barefoot Computing:</b> You're the Cyber Security Expert<br><a href="https://www.barefootcomputing.org/resources/you-re-the-cyber-security-expert">https://www.barefootcomputing.org/resources/you-re-the-cyber-security-expert</a><br>(conditions in loops) |
| A     | Programming B            | No Microbits          | Lesson adaptations to work with them emulator at<br><a href="https://makecode.microbit.org/">https://makecode.microbit.org/</a><br><br><a href="https://computing4schools.com/home-learning/">https://computing4schools.com/home-learning/</a>                                                                                                                                                                                                                                                                                                                  |
| A     | Vector Drawing           | Not a 'Google School' | Vector drawing = drawing with shapes<br>Microsoft alternatives: Powerpoint or Publisher                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| B     | Webpage Creation         | Not a 'Google School' | <b>W3 Schools</b> html building <a href="https://www.w3schools.com/html/tryit.asp?filename=tryhtml_basic">https://www.w3schools.com/html/tryit.asp?filename=tryhtml_basic</a><br>see tutorials here to support: <a href="https://www.w3schools.com/html/">https://www.w3schools.com/html/</a><br>Or<br><b>Code Club</b> - HTML <a href="https://projects.raspberrypi.org/en/codeclub">https://projects.raspberrypi.org/en/codeclub</a><br>Or<br>Use ppt/sway or something similar to show links between pages<br><br>Or Adobe Spark                             |

|                                     | Desktop or laptop | Chromebook | Tablet | Software or hardware                        |
|-------------------------------------|-------------------|------------|--------|---------------------------------------------|
| 5.1 Systems and Searching           | ✓                 | ✓          |        | Google Slides                               |
| 5.2 Video production                | ✓                 | ●          | ●      | Microsoft Photos (for Microsoft Windows 10) |
| 5.3 Selection in physical computing | ✓                 | ✓          |        | Crumble controller + starter kit + motor    |
| 5.4 Flat-file databases             | ✓                 | ✓          | ●      | j2data Database                             |
| 5.5 Introduction to vector graphics | ✓                 | ●          |        | Google Drawings                             |
| 5.6 Selection in quizzes            | ✓                 | ✓          |        | Scratch                                     |