

| APS CURRICULUM<br>– Computing |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                              | YEARLY OVERVIEW                                                                                                                                                                                                                                                                                                                                  |
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|                               | Knowledge, Skills and understanding breakdown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |
| Year 5                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |
| National Curriculum Links     | Algorithms and Programs<br>(Computer Science)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Data Retrieving and Organising<br>(Information Technology)                                                                                                                                                                                                                                                                                                                                                   | Communicating<br>(Digital Literacy).                                                                                                                                                                                                                                                                                                             |
|                               | <ul style="list-style-type: none"><li>Can they combine sequences of instructions and procedures to turn devices on or off?</li><li>Do they understand input and output?</li><li>Can they use an ICT program to control an external device that is electrical and/or mechanical?</li><li>Can they use ICT to measure sound or light or temperate using sensors?</li><li>Can they explore ‘What is’ questions by playing adventure or quest games?</li><li>Can they write programs that have sequences and repetitions?</li></ul> | <ul style="list-style-type: none"><li>Can they listen to streaming audio such as online radio?</li><li>Can they download and listen to podcasts?</li><li>Can they produce and upload a podcast?</li><li>Can they manipulate sounds using Audacity?</li><li>Can they select music from open sources and incorporate it into multimedia presentations?</li><li>Can they work on simple film editing?</li></ul> | <ul style="list-style-type: none"><li>Can they use instant messaging to communicate with class members?</li><li>Can they conduct a video chat with someone elsewhere in the school or in another school?</li><li>Can they use the word count tool to check the length of a document?</li><li>Can they use bullets and numbering tools?</li></ul> |
| Coverage                      | Autumn 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Coverage – year 4                                                                                                                                                                                                                                                                                                                                                                                            | Spring 1 – Networks and sharing information                                                                                                                                                                                                                                                                                                      |
| Resources                     | Using the internet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Databases                                                                                                                                                                                                                                                                                                                                                                                                    | Presentation                                                                                                                                                                                                                                                                                                                                     |
|                               | <ul style="list-style-type: none"><li>Can they use a search engine using keyword searches?</li><li>Can they compare the results of different searches?</li><li>Can they decide which sections are appropriate to copy and paste from at least two web pages?</li></ul>                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"><li>Can they create a formula in a spreadsheet and then check for accuracy and plausibility?</li><li>Can they search databases for information using symbols such as = &gt; or &lt;?</li><li>Can they create databases planning the fields, rows and columns?</li></ul>                                                                                                    | <ul style="list-style-type: none"><li>Can they use a range of presentation applications?</li><li>Do they consider audience when editing a simple film?</li><li>Do they know how to prepare and then present a simple film?</li><li>Can they use ICT to record sounds and capture both still and video images?</li></ul>                          |

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|                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Can they save stored information following simple lines of enquiry?</li> <li>Can they download a document and save it to the computer?</li> </ul>                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Can they create graphs and tables to be copied and pasted into other documents?</li> </ul>                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>Can they make a home page for a website that contains links to other pages?</li> <li>Can they capture sounds, images and video?</li> </ul>                                                                                                                                                            |
| Coverage                                                                                                                                                                                                                                                                                                                                   | Spring 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Summer 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Spring 2<br>Summer 1<br>Autumn 2                                                                                                                                                                                                                                                                                                             |
| Year 5 – More challenging                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>Can they incorporate graphics where appropriate, using the most effective text wrapping formats?</li> <li>Can they conduct a video chat with more than one person at a time?</li> <li>Can they compare the information provided on two tabbed websites looking for bias and perspective?</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                              |
| Year 6                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                              |
| National Curriculum Links                                                                                                                                                                                                                                                                                                                  | Algorithms and Programs<br>(Computer Science)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Data Retrieving and Organising<br>(Information Technology)                                                                                                                                                                                                                                                                                                                                                                                                                | Communicating<br>(Digital Literacy).                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Can they explain how an algorithm works?</li> <li>Can they detect errors in a program and correct them?</li> <li>Can they use an ICT program to control a number of events for an external device?</li> <li>Can they use ICT to measure sound, light or temperature using sensors and interpret the data?</li> <li>Can they explore 'what if' questions by planning different scenarios for controlled devices?</li> <li>Can they use input from sensors to trigger events?</li> </ul> | <ul style="list-style-type: none"> <li>Can they explore the menu options and experiment with images (colour effects, options, snap to grid, grid settings etc.)?</li> <li>Can they add special effects to alter the appearance of a graphic?</li> <li>Can they 'save as' gif or i peg. wherever possible to make the file size smaller (for emailing or downloading)?</li> <li>Can they make an information poster using their graphics skills to good effect?</li> </ul> | <ul style="list-style-type: none"> <li>Can they confidently choose the correct page set up option when creating a document?</li> <li>Can they confidently use text formatting tools, including heading and body text?</li> <li>Can they use the 'hanging indent' tool to help format work where appropriate (e.g. a play script)?</li> </ul> |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Can they check and refine a series of instructions?</li> </ul>                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                        |
| Coverage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Autumn 1/2                                                                                                                                                                                                                                                     | Summer 1/2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Autumn 2/ Cross Curricular/ Summer 2                                                                                                                                                                                   |
| Resources                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Using the internet                                                                                                                                                                                                                                             | Databases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Presentation                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Can they contribute to discussions online?</li> <li>Can they use a search engine using keyword searches?</li> <li>Can they use complex searches using such as '+' 'OR' "Find the phrase in inverted commas"?</li> </ul> | <ul style="list-style-type: none"> <li>Can they collect live data using data logging equipment?</li> <li>Can they identify data error, patterns and sequences?</li> <li>Can they use the formulae bar to explore mathematical scenarios?</li> <li>Can they create their own database and present information from it?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Can they present a film for a specific audience and then adapt same film for a different audience?</li> <li>Can they create a sophisticated multimedia presentation?</li> </ul> |
| Coverage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Spring 1</li> </ul>                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Spring 2</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Cross curricular/ Summer 1                                                                                                                                                                                             |
| <b>Year 6 – more challenging.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                        |
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| <b>E-safety</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                        |
| Knowledge and understanding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                | Skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>Discuss the positive and negative impacts of the use of ICT in their own lives and those of their peers and family.</li> <li>Understand the potential risk of providing personal information online.</li> <li>Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content.</li> <li>Understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented.</li> <li>Recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing).</li> <li>Understand that some material on the internet is copyrighted and may not be copied or downloaded.</li> <li>Understand that some messages may be malicious and know how to deal with this.</li> </ul> |                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Follow the school's safer internet rules.</li> <li>Make safe choices about use of technology.</li> <li>Use technology in ways which minimises risk, e.g. responsible use of online discussions etc.</li> <li>Create strong passwords and manage them so that they remain strong.</li> <li>Independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school.</li> <li>Competently use the internet as a search tool.</li> <li>Reference information sources.</li> <li>Use appropriate strategies for finding, critically evaluating, validating and verifying information, e.g. using different keywords, skim reading to check relevance of information, cross checking with different websites or other not ICT resources.</li> </ul> |                                                                                                                                                                                                                        |

- Understand that online environments have security settings, which can be altered, to protect the user.
- Understand the benefits of developing a 'nickname' for online use.
- Understand that some malicious adults may use various techniques to make contact and elicit personal information.
- Know that it is unsafe to arrange to meet unknown people online.
- Know how to report any suspicions.
- Understand they should not publish other people's pictures or tag them on the internet without permission.
- Know that content put online is extremely difficult to remove.
- Know what to do if they discover something malicious or inappropriate.

- Use knowledge of the meaning of different domain names and common website extensions (e.g. .co.uk; .com; .ac; .sch; .org; .gov; .net) to support validation of information.