## Morningside Curriculum Overview: Computing, Information Technology and Digital Literacy



## Computing, Information Technology and Digital Literacy at Morningside - A Sense of Connection Ensuring every Morningside child is a confident and safe digital citizen

We use the excellent Teach Computing curriculum to ensure our offer evolves at the same rate as the digital world around us and teaches children to be ready for and to embrace these changes. Updated annually, our children learn how to confidently use the internet and digital devices to enhance their learning, share with others and develop computational thinking skills. Units are **Systems and Networks**, **Computer Science** or **Information Technology** based and each lesson incorporates digital citizenship, linked to *Education for a Connected World*, to ensure children have the skills to remain safe online, both in and out of school. Digital learning is not exclusive to computing lessons; key skills children are taught so that children can apply these into their learning across the curriculum and beyond school.



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| Year 3  |   |  |   |   |  |  |  |  |  |
|---|---|--|---|---|--|--|--|--|--|
| SCRATCH   | SCRATCH   |  |   | j2data  |  |  |  |  |  |
| <ul> <li>Programming A</li> <li>Sequencing Sounds</li> <li>new programming<br/>environment</li> <li>commands with<br/>outcomes</li> <li>create a program from a<br/>task description</li> </ul> | Programming B<br>Events and Actions in<br>Programs<br>• moving sprites in four<br>directions<br>• adapting programs to a<br>new context<br>• designing and creating a<br>maze-based challenge | Computer Systems<br>and Networks<br>Connecting Computers<br>• how digital devices<br>function<br>• input and output devices<br>• information sharing<br>• physical network<br>components | Creating media<br>Stop-frame animation<br>• plan an animation<br>• review and improve an<br>animation<br>• add other media to an<br>animation<br>• evaluate animation | <ul> <li>Data and information</li> <li>Branching databases</li> <li>create a branching<br/>database</li> <li>understand good<br/>structure</li> <li>compare pictograms<br/>and branching<br/>databases</li> </ul> | Creating media<br>Desktop publishing<br>• editing text and layout<br>• page settings<br>• adding content<br>• choosing layout for<br>specific purposes |  |  |  |  |
| Year 4  |   |  |   |   |  |  |  |  |  |
|   | SCRATCH   | G  |   | paint.net   |  |  |  |  |  |
| Programming A<br>Repetition in Shapes<br>• programming accuracy<br>• text-based programming<br>language<br>• repeat<br>• count-control loops  | Programming B<br>Repetition in Games<br>• count-controlled loops in<br>Scratch<br>• infinite loops<br>• design and create a<br>programming project<br>with repetition                         | Computer Systems<br>and Networks<br>The Internet<br>• networks connecting to<br>other networks<br>• what the internet is<br>• the World Wide Web<br>• unreliable content                 | Creating media<br>Audio production<br>• digitally record sound<br>• storing sound as a file<br>• editing audio<br>• evaluate editing choices                          | Creating media<br>Photo editing<br>• changing the<br>composition of an image<br>• selecting tools<br>• recognising the not all<br>images are real<br>• evaluating changes to<br>an image                          | Data and information<br>Data logging<br>• collecting data<br>automatically<br>• data points<br>• collecting data over a<br>long duration               |  |  |  |  |

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| Year 5  |   |  |  |   |   |  |  |  |
|---|---|--|--|---|---|--|--|--|
| Raiselan  | SCRATCH   | G  |  |   | j2data  |  |  |  |
| Programming A<br>Selection in Physical  | Programming B<br>Selection in auizzes   | Computing systems<br>and networks  | Creating media<br>Video production   | Creating media<br>Introduction to vector  | Data and information<br>Flat-file databases   |  |  |  |
| Computing <ul> <li>control a simple circuit</li> <li>checking conditions using a loop</li> <li>creating a program that controls a physical computing project</li> </ul> | <ul> <li>sequences</li> <li>changing the order of instructions</li> <li>predicting outcomes</li> <li>coding and debugging</li> </ul>  | Systems and<br>searching<br>• transferring information<br>over the internet<br>• sharing information for<br>collaborative working<br>• shared online projects    | <ul> <li>capture video</li> <li>features of an effective video</li> <li>reshooting and editing</li> <li>consider the impact of the choices made when making and sharing a video</li> </ul>   | graphics<br>• create a vector drawing<br>by combining shapes<br>• layering<br>• grouping objects<br>• evaluate vector<br>drawings   | <ul> <li>forms</li> <li>compare paper- and<br/>computer-based<br/>databases</li> <li>applying knowledge of a<br/>database to ask and<br/>answer real-world<br/>questions</li> </ul> |  |  |  |
| Year 6  |   |  |  |   |   |  |  |  |
|   | SCRATCH   |  |  | TINKERCAD   |   |  |  |  |
| Programming A   | Programming B   | Computer Systems &   | Creating media   | Creating media  | Data and information  |  |  |  |
| <ul> <li>Variables in Games</li> <li>variables</li> <li>improve a game using variables</li> <li>design and evaluate a project using variables</li> </ul>                | <ul> <li>Sensing Movement</li> <li>creating a program to<br/>run on a controllable<br/>device</li> <li>updating variables with a<br/>user input</li> <li>developing a program to<br/>use inputs and outputs<br/>on a controllable device</li> </ul> | Network<br>Communication and<br>Collaboration<br>• internet addresses<br>• communicating using<br>technology<br>• evaluating different forms<br>of communication | <ul> <li>Web page creation</li> <li>review an existing<br/>website</li> <li>plan a web page</li> <li>copyright</li> <li>previewing pages</li> <li>navigation paths</li> <li>implications of linking to<br/>external content</li> </ul> | <ul> <li>3D Modelling</li> <li>creating and<br/>manipulating £D digital<br/>objects</li> <li>constructing a digital 3D<br/>model of a physical<br/>object</li> <li>developing and<br/>improving a digital 3D<br/>model</li> </ul> | Introduction to<br>Spreadsheets<br>• formula<br>• applying formula to data<br>• creating a spreadsheet<br>to plan an event<br>• choosing suitable ways<br>to present data           |  |  |  |