

# Y1-6 Progression Resources & Activities 2019-2020

## Computing National Curriculum:

### Key stage 1

Pupils should be taught to:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Recognise common uses of information technology beyond school
- 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.

### Key stage 2

Pupils should be taught to:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- 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
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

## Start of Year Housekeeping:

- Logging onto computers/devices
- Refresh LGfL username and password (USO) in school and at home. Ius subscription services such as Purple Mash, Google Classroom
- **Unit 1 Online Safety SoW – Start of Year Rules for classroom, AUP (detailed at end of Doc)**
- Choose Barefoot lessons for your year group. Ideas are given below, but you might change these to suit class topics

|                         | Year 1  | Year 2   | Year 3  | Year 4  | Year 5  | Year 6  |
|-------------------------|---|--|---|---|---|---|
| <b>COMPUTER SCIENCE</b> | <b>Programming</b> <ul style="list-style-type: none"> <li>• Bee-bots,</li> <li>• LGfL,</li> <li>• Scratch,</li> <li>• PurpleMash: 2Code,</li> <li>• Code.org</li> <li>• Kodu</li> </ul> | Purple Mash 2Code<br><a href="#">Code.org</a><br><br>Islington Unit 1 (Bee-Bots)<br><br>Islington Unit 2 (onscreen turtles using resources on LGfL) Busythings, JIT, | Purple Mash 2Code<br><a href="#">Code.org</a><br><br>Islington Unit 1 (Pro-bots)<br><br>Islington Unit 2 Onscreen turtles using LGFL resources, including iBoard, JIT, Busythings | Purple Mash 2Code<br><a href="#">Code.org</a><br><br>Scratch<br>Islington Y3 Unit 1<br><br>Pro-bot Unit (Islington) | Purple Mash 2Code<br><a href="#">Code.org</a><br><br>Scratch<br>Islington Y4 Unit 1<br><br>SOGIT Kodu free Unit | Purple Mash 2Code<br><a href="#">Code.org</a><br><br>Introduction to HTML<br><br>Y6/7 Transition unit linking to blog (Islington )  |
|                         | <b>Barefoot Computing</b><br><br>List of possible lessons to choose from and implement.   | . Bee-Bot Tinkering<br>Bee-Bots 123  | Bee Bots Goes Wild<br>World Map Logic<br>Scratch Jr Tinker<br>Scratch Jr Knock<br>Knock Joke<br>Pizza Pickle  | Fossil Formation Animation<br>Bug in the Water Cycle (Scratch)  | Animated Poem (Scratch)<br>Maths Quiz – Selection (Scratch)<br>Pizza Party                                      | Viking Raid Animation (Scratch)<br>Maths Quiz – Variables (Scratch)<br>Shapes and Crystal Flowers (Scratch)<br>Solar System Simulation (Scratch)<br>Classroom Sound Monitor |

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| <p><b>Barefoot Continued</b></p> <p><b>SEND (Barefoot)</b><br/>Any of these unplugged activities can be adapted for any Early Years or KS1/ LKS2</p> <p><b>Digital Literacy (Barefoot)</b></p> | <p><b>Unplugged:</b><br/>Patterns Unplugged – Elephants, Cats and Cars</p> <p>Bee-Bot Basics<br/>Creating Patterns<br/>Sorting Objects<br/>Getting ready for school<br/>Head Shoulders Knees and Toes</p> | <p><b>Unplugged:</b><br/>Spelling Rules<br/>Sharing Sweets<br/>Crazy Characters</p> <p>Bee-Bot Route<br/>River Crossing<br/>Lego Building Activity<br/>Shopping list<br/>Story Sequencing<br/>Scratch Tinkering<br/>Musical Sequences<br/>Dance Move algorithms</p> <p>Safety snakes</p> | <p><b>Unplugged:</b><br/>Patterns Unplugged – Reusing recipes<br/>Crazy Characters revisit<br/>Decomposition unplugged KS2</p> <p>Safety snakes</p> | <p><b>Unplugged:</b><br/>Abstraction<br/>2D Shape Drawing</p> <p>Modelling the Internet<br/>Selecting Search<br/>Stop think do I consent</p> | <p><b>Unplugged</b><br/>Introduction to Code<br/>Cracking Variables<br/>Logical Reasoning<br/>Logical Numbers /sequences</p> <p>Network Hunt<br/>Ranking Search<br/>Stop think do I consent</p> | <p><b>Unplugged:</b><br/>Recap on Abstraction, Decomposition and Variables</p> <p>Understanding Computer Networks</p> |
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|                               |   | Year 1   | Year 2  | Year 3  | Year 4  | Year 5   | Year 6   |
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| <b>INFORMATION TECHNOLOGY</b> | <p><b>Multimedia &amp; Word processing</b></p> <ul style="list-style-type: none"> <li>• See <i>Islington Booklets</i></li> </ul> <p><u>Examples:</u><br/>                     Word<br/>                     Publisher<br/>                     Google Docs<br/>                     PowerPoint<br/>                     MS Sway<br/>                     Google Sheets<br/>                     Prezi</p> | <p>Word Processing: creating simple text documents using the keyboard:<br/>                     locating letters, locating keys: space bar, shift to enter capital letters, backspace to delete, locating full stops</p> <p>2Publish Extra, Purple Mash, LGfL JIT , Busy Things)</p> <p>Using the keyboard (BBC dance mat, Typing Club, Brown Bear Typing)</p> | <p>Word Processing, creating story boards, comics, etc.<br/>                     (2Simple,Purplemash 2Publish Extra, LGfL Jit, LGfL Busy Things)<br/>                     using a developing range of text tools:<br/>                     Changing font size, type colour.<br/>                     Create a simple multimedia book.<br/>                     Inserting images and audio. Purple Mash<br/>                     2Create a Story</p> <p>Using the keyboard (BBC dance mat, Typing Club, Brown Bear Typing)</p> | <p>Word Processing: Word, Google docs &amp; Publisher (using formatting tools, e.g. text boxes, WordArt, bullet points, spellchecker, right click menu to copy, paste, insert, etc.)</p> <p>Using the keyboard (BBC dance mat, Typing Club, Brown Bear Typing)</p> <p>Using different templates, e.g. newspaper (2Publish, Publisher)</p> | <p>Word Processing: Word, Google docs &amp; Publisher (using a wide range of tools and integrating other online resources: hyper linking to appropriate websites, embedding content, acknowledging sources.</p> <p>Using the keyboard (BBC dance mat, Typing Club, Brown Bear Typing)</p> <p>Using different templates for different genres, e.g. newspaper ( LGfL J2e5, Publisher)</p> | <p>Choose from a range of to create presentations. Organise, refine and present information for a specific audience. (LGfL J2E, Publisher, PowerPoint, Word, Google docs, Scratch 2Create)</p> <p>Evaluate their own and each other's work through peer assessment (Publish and add comments on blog)</p> <p>Develop confidence using both hands when typing</p> | <p>Create collaborative documents, (Wiki) to organize, present and publish information for different purposes to a range of audiences. (J2E on LGFL, Publisher, PowerPoint, Word)</p> <p>Present and evaluate my own and each other's work through peer assessment (Publish and add comments on blog)</p> <p>Consolidate keyboard techniques and touch typing skills</p> |

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| <p><b>Digital Media</b><br/>(graphics, video, music, sound)</p> <p>(See Islington Booklets)</p> | <p>Graphics:<br/>Create artwork (Purplemash, 2Paint, 2Paint a picture, 2Publish, 2Publish Extra, 2 Create a story, LGfL j2e Jit, LGfL Busy Things)</p> <p>Digital images/<br/>Video: take digital photographs</p> <p>Audio<br/>Music/Sound:<br/>Create/explore music (Purple Mash 2Explore, 2Beat, LGfL Magic School, Busy Things, Audio network, JIT sound Recorder)</p> | <p>Graphics: Create artwork (2Paint a Picture, LGfL Busy Things)</p> <p>Animation: create simple animation in Purple Mash<br/>2Animate, J IT (LGfL)</p> <p>Video: take digital photographs, edit using simple photo editing tool, (Paint, 2Paint a picture,)</p> <p>Create and edit a simple video using digital cameras/ iPads</p> <p>Photostory/Movie Maker app/Green Screen</p> <p>Music/Sound:<br/>Add voice, and sound effects to digital book, Purple Mash 2Create a story.<br/>Create/explore music and sound. Use microphones (Purple Mash 2Sequence, JIT sound Recorder)</p> | <p>Graphics: Creating digital artwork and interactive webpages for blog (J2E on LGfL)</p> <p>Animation: create complex animation Purple Mash 2Animate, JIT (LGfL)</p> <p>Edit images using crop, resize, recolour<br/>Microsoft Photo editor</p> <p>Create a video presentation using digital photographs<br/>Movie Maker/ iMovie app/ Green Screen</p> <p>Music/Sound: Create voice over and add backing track to video presentation.<br/>LGfL Audio Network microphones</p> | <p>Graphics: Creating digital artwork portfolio and interactive webpages for blog (J2e5 on LGfL)</p> <p>Video: Using stock video re-edit footage to create own presentation, insert captured footage.<br/>Espresso, Movie Maker</p> <p>Music/Sound: Radio Programme project (listen, evaluate, plan and write a script. Rehearse and record voice.</p> <p>Create and add backing track and sound effects.)<br/>Audacity, Audio Network</p> | <p>Graphics: Creating digital artwork and interactive webpages for blog (J2E on LGfL)</p> <p>Video &amp; Sound: Film project in groups (plan a video, use different filming techniques and sound effects, present and evaluate work to audience), Movie Maker, Audio Network</p> <p>Music/Sound: Radio Program project (listen, evaluate, plan and write a script. Rehearse and record voice.<br/>Create and add backing track and sound effects.)<br/>Audacity, Audio Network. Refine output before publishing.</p> | <p>Graphics: Creating digital artwork and interactive webpages for blog (J2E on LGfL)</p> <p>Video/Animation &amp; Sound: plan a storyboard, create an animation for a purpose. Film, edit and refine. Re-edit, create sound effects and backing track. Publish and present to an audience<br/>Movie Maker, Audio Network, Audacity.</p> |
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| <p><b>Communication &amp; Collaboration</b><br/>(online publishing, blogs, internet research)</p> <p>(See Islington Booklets)</p> | <p>Create and share story in pairs (2Publish), Use microphones to retell story.</p> <p>Online research for topic using child-friendly search engines.</p>   | <p>Create and share story/work/project (2Publish or Word), Use microphones to record information.</p> <p>Use J2e5 to blog work.</p> <p>Online research for topic using child-friendly search engines.</p>   | <p>Online publishing: creating and commenting on each other's blogs/work (See planning)</p> <p>Online research: use search technologies effectively including searching maps/images</p> <p>Complete an online quiz or survey, e.g. LGFL e-safety survey<br/>Make a quiz in Kahoot</p>            | <p>Online publishing: creating and commenting on each other's blogs/work. (See 'Blogging Unit' planning)</p> <p>Visit a variety of school blogs, discuss &amp; compare</p> <p>Online research: use search technologies effectively including searching maps/images</p> <p>Complete an online quiz or survey, e.g. LGFL e-safety survey<br/>Make a quiz in Kahoot</p> | <p>Online publishing: creating and commenting on each other's blogs/work (See 'blogging Unit' planning).</p> <p>Visit a variety of school blogs, discuss &amp; compare</p> <p>Online research: use search technologies effectively including copyright</p> <p>Complete an online quiz or survey, e.g. LGFL e-safety survey</p> | <p>Online publishing: creating and commenting on each other's blogs/work. Visit a variety of school blogs &amp; compare. Regularly update a blog during a term. Add photos and links to related sites or other blogs to make it personal.</p> <p>Online research: use search technologies effectively including copyright</p> <p>Complete an online quiz or survey, e.g. LGFL e-safety survey</p> | <p>Online publishing: creating and commenting on each other's blogs/work. Visit a variety of school blogs &amp; compare. Regularly update a blog during a term. Add photos and links to related sites or other blogs to make it personal.</p> <p>Online research: use search technologies effectively including copyright</p> <p>Complete an online quiz or survey, e.g. LGFL e-safety survey</p> |
| <p><b>Data</b><br/>(graphs, databases, data loggers)</p> <p>(See Islington Booklets)</p>  | <p>Collect information to answer a question about the class.</p> <p>Create pictogram, simple graph using LGfL Jit, Purple Mash 2Count, 2Graph (2Simple Video Toolkit)</p> <p>Talk about data and begin to compare data.</p> | <p>Design and collect information for a simple questionnaire</p> <p>Create simple graph using JIT (LGfL), Purplemash, 2Count, 2Graph (2Simple Video Toolkit)</p> <p>Branching database (iBoard LGfL, Mini-beasts database LGfL)</p> <p>Discuss data and begin to compare information.</p> | <p>Design and collect information for a simple questionnaire</p> <p>Collect data and present in a variety of formats, e.g. Purple Mash 2Caluculate. 2graph.</p> <p>Use a simple existing database to carry out a simple search to answer a series of questions.<br/>Purple Mash 2Investigate</p> | <p>Design and collect information for a simple questionnaire</p> <p>Collect data and present in a variety of formats, e.g. 2Purplemash Calculate 2graph, Excel.</p> <p>Design and create a database. Use database to carryout complex searches to answer questions</p> <p>(Purple Mash 2Simple – 2Investigate)</p>   | <p>Spreadsheet modelling</p> <p>Create a budget for a school tuck shop/ planning class party</p> <p>Change the data and formulae in a spreadsheet to answer 'what if ...?' questions and check predictions</p>   | <p>Spreadsheet modelling</p> <p>Use a spreadsheet to solve problems.<br/><a href="http://www.realworldmath.org/measurement-lessons.html">http://www.realworldmath.org/measurement-lessons.html</a></p> <p>Spreadsheet modelling. Create a budget to accompany a produce. Research the cost of materials, labour, packaging, transport etc. Present to audience in 'Dragon Den' style.</p>         | <p>Spreadsheet modelling</p> <p>Use a spreadsheet to solve problems.<br/><a href="http://www.realworldmath.org/measurement-lessons.html">http://www.realworldmath.org/measurement-lessons.html</a></p> <p>Spreadsheet modelling. Create a budget to accompany a produce. Research the cost of materials, labour, packaging, transport etc. Present to audience in 'Dragon Den' style.</p>         |

|  |   | Year 1   | Year 2  | Year 3   | Year 4  | Year 5   | Year 6  |
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| <b>DIGITAL LITERACY - Continuous throughout school day and reminder home use</b> | <p><b>Online Safety:</b></p> <p><b>Switched On Online Safety Scheme</b></p> | <p><b>1.1 Developing online safety guidelines</b><br/>Creating rules that help us stay safe online</p> <p><b>1.2 Social and Emotional Wellbeing and developing resilience</b><br/>Understanding the impact of our behaviour on others</p> <p><b>1.3 Responsible internet use</b><br/>Remembering to take time out from technology</p> <p><b>1.4 Keeping information safe</b><br/>Understanding what is meant by personal information</p> <p><b>1.5 Digital Citizenship</b><br/>Finding out what it means to be a good digital citizen</p> <p><b>1.6 Playing games and having fun</b><br/>Learning how to stay safe when playing online games</p> | <p><b>2.1 Developing online safety guidelines</b><br/>Reviewing and editing our online safety guidelines</p> <p><b>2.2 Social and Emotional Wellbeing and developing resilience</b><br/>Creating a strong message against online bullying</p> <p><b>2.3 Responsible internet use</b><br/>Learning how to use search engines safely</p> <p><b>2.4 Keeping information safe</b><br/>Generating strong passwords and keeping them safe</p> <p><b>2.5 Digital Citizenship</b><br/>Solving online safety problems</p> <p><b>2.6 Playing games and having fun</b><br/>Understanding and applying the PEGI rating system for games</p> | <p><b>Unit 3.1 – We are Year 3 rule writers</b><br/>Reviewing and editing our online safety rules</p> <p><b>Unit 3.2 – We are digital friends</b><br/>Developing an awareness of online bullying</p> <p><b>Unit 3.3 – We are internet detectives</b><br/>Assessing the trustworthiness of websites</p> <p><b>Unit 3.4 – We are aware of our digital footprint</b><br/>Understanding the digital trails we leave behind</p> <p><b>Unit 3.5 – We are netiquette experts</b><br/>Practising good netiquette</p> <p><b>Unit 3.6 – We are avatar creators</b><br/>Who do we really know online?</p> | <p><b>Unit 4.1 – We are Year 4 rule writers</b><br/>Reviewing and editing our online safety rules.</p> <p><b>Unit 4.2 - We are standing up to peer pressure</b><br/>Dealing positively with peer pressure</p> <p><b>Unit 4.3 - We are aware that our online content lasts forever</b><br/>Getting the message: pre- and post-internet</p> <p><b>Unit 4.4 - We are online risk managers</b><br/>Understanding risk and prevention of information loss</p> <p><b>Unit 4.5 - We are respectful of digital rights and responsibilities</b><br/>Understanding and respecting digital rights and responsibilities</p> <p><b>Unit 4.6 - We are careful when talking to virtual friends</b><br/>Virtual friendship vs real friendship; who we can trust</p> | <p><b>Unit 5.1 - We are Year 5 rule writers</b><br/>Reviewing and editing our online safety rules</p> <p><b>Unit 5.2 - We are responsible for our online actions</b><br/>Understanding the impact of online behaviour</p> <p><b>Unit 5.3 - We are content evaluators</b><br/>Understanding advertising and endorsements online</p> <p><b>Unit 5.4 - We are protecting our online reputation</b><br/>Developing strategies to protect our future selves</p> <p><b>Unit 5.5 - We are respectful of copyright</b><br/>Understanding and applying copyright laws</p> <p><b>Unit 5.6 - We are game changers</b><br/>Understanding how games developers make money</p> | <p><b>Unit 6.1 - We are online safety ambassadors</b><br/>Reviewing and editing our online safety rules</p> <p><b>Unit 6.2 - We will not share inappropriate images</b><br/>Inappropriate use of technology and the internet – nude selfies</p> <p><b>Unit 6.3 - We are safe social networkers</b><br/>Understanding that internet safety skills must always be switched on</p> <p><b>Unit 6.4 - We are respectful of others</b><br/>Respecting the personal information and privacy of others</p> <p><b>Unit 6.5 - We are online safety problem solvers</b><br/>Using our skills to resolve unfamiliar situations</p> <p><b>Unit 6.6 - We are safe gaming experts</b><br/>Creating and delivering advice on safe online gaming</p> |