



## IT/Computer Science Curriculum

[code.it](http://code.it) - good for other detailed ideas

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>YR</b>  <b>E-safety</b> to be carried out once per term/when applicable  Terms 2,4,6 will need 2 e-safety lessons  See separate curriculum map.	<u>Technology around us</u>  -Technology hunt  -Begin logging in and - create documents -navigating finding docs and websites (cbeebies)  -Simple city/mini mash as daily provision	<u>Digital Skills</u>  -Log on to computer  -Microsoft word -typing and mouse practise.  -ipad gestures (zoom etc)  -Simple City/mini mash as daily provision	<u>Communication</u>  -Video conference Father Christmas/ someone who helps in the community - ask questions.  -What questions should we ask our guest?  -What ways do children already use to communicate? Telephone, talk, letters  -skype/facetime  -Discuss uses of technology +technology hunt  -Simple Ctiy/mini mash as daily provision	<u>Physical Simulations/coding</u>  -Bee Bots/bluebots, using tactile reader.  -Remote control cars/bluebot  -camera/ipad  -Simple City/mini mash as daily provision	<u>Purple Mash</u>  -Log on + explore -2 music -2 paint -2 animate -2write	<u>Consolidation of year</u>  -Technology around us -Digital Skills -Physical Simulations/Coding -Purple Mash
<u>Continuous Provision</u> -Move the topics around if needed to best suite EYFS curriculum -Explore Input and outputs in role play areas + outdoors (cause and effect) -Take opportunities to discuss the technology around us -See EYFS/KS1 games in IT subject folder (staff area): <a href="http://Make and Do folders/ICTgames.co.uk">Make and Do folders/ICTgames.co.uk</a>						

## Year R:

Use the above as guidelines to follow. You may want to have computing afternoons where a number of these activities can be happening as 'choices' for the children to choose or as a carousel. Kent Games (Me Maker, Pet Passport etc,,,) and using toys with buttons etc (microwave, cd player, Hoover etc....)

### National/School Curriculum

YR 1	<u>Technology around us</u>	<u>We are celebrating - Rising Stars</u>	<u>We are treasure hunters - Rising Stars</u>	<u>We are collectors</u>	<u>Coding</u>	<u>Animation</u>
<p>E-safety to be carried out once per term/when applicable</p> <p>Terms 2,4,6 will need 2 e-safety lessons</p> <p>See separate curriculum map.</p>	<p>-Technology hunt (school and home)</p> <p>-match objects to their uses</p> <p>-'DK find out' website, basic searching</p> <p><u>We are painters - Rising Stars</u></p> <p>-change font type, size and colour.</p> <p>-Use paint program - create own picture</p> <p>-Save work</p> <p>-Using digital devices: tablets and computers</p> <p>-creating own pictures book (purple mash, 2 create)</p>	<p>-Publisher/word</p> <p>-Use typing programme to help me use a keyboard - 2type</p> <p>-change font type, size and colour.</p> <p>-Use bold italics, underline</p> <p>-Choose suitable background for the font colour</p> <p>-Take and add photos to Create a Christmas card</p>	<p>-What is code/algorithms? <a href="https://www.bbc.com/bitesize/subjects/zyhbwmn">https://www.bbc.com/bitesize/subjects/zyhbwmn</a></p> <p>-Using Beebots/bluebots</p> <p>-tactile reader</p> <p>-Algorithm on paper</p> <p>-Beebot and on screen.</p> <p>-Algorithm, programme, code</p> <p>-Human Robot <a href="#">How to program a robot</a></p> <p>Unplugged activities: <a href="http://www.code.org">www.code.org</a></p>	<p>-kiddle images- search copy and paste/supply own pictures to copy and paste</p> <p>-copyright discussion</p> <p>-PowerPoint - inserting images</p> <p>-Creating collections: link to topic or areas of interest.</p>	<p>-coding on screen</p> <p>-Introduce, What is a bug? <a href="#">What is a bug</a></p> <p>-2 code: follow the sequences of lesson for year 1 on here; adapt/differentiate as necessary (First three activities of chimp level)</p> <p>-Algorithm, programme, code</p> <p>What is code/algorithms? <a href="https://www.bbc.com/bitesize/subjects/zyhbwmn">https://www.bbc.com/bitesize/subjects/zyhbwmn</a></p>	<p>- Stop start animation. I can animate, stick man animation</p> <p>-How does animation work? <a href="https://www.bbc.com/bitesize/subjects/zyhbwmn">https://www.bbc.com/bitesize/subjects/zyhbwmn</a></p> <p>-4/5 frame animation in 2 animation (purple mash).</p> <p>Additional Purple Mash to present work (simple story/typing)</p>

<p><b>YR 2</b></p> <p><b>E-safety</b> to be carried out once per term/when applicable</p> <p>Terms 2,4,6 will need 2 e-safety lessons</p> <p>See separate curriculum map.</p>	<p><u>Digital Skills</u></p> <ul style="list-style-type: none"> <li>-create work folders</li> <li>-save and open work</li> </ul> <p>How is data stored on a computer</p> <p><u>Animation</u></p> <ul style="list-style-type: none"> <li>-flip book animations</li> <li>-Use 2 animate to create an autumnal scene leaves falling etc</li> <li>-Move onto ZU3D</li> </ul>	<p><u>PowerPoint</u></p> <ul style="list-style-type: none"> <li>-cross curricular</li> <li>-Creating and inserting sound</li> <li>-Creating and inserting images</li> <li>-Creating multimedia presentation</li> <li>-Inserting text boxes</li> </ul>	<p><u>Digital Skills/Rising stars: We are photographers</u></p> <ul style="list-style-type: none"> <li>-Local area walk - take photos</li> <li>-delete, locate images on devices</li> <li>-upload images to computer (simple transfer on ipads)</li> <li>-locate files on computer</li> <li>-Add, change, edit photos in word/paint.net</li> <li>-Add in shapes and text box to write about what they saw</li> <li>-Use adobe Spark for a photo story/ photo story 3/purple mash</li> </ul> <p><u>Cross curricular link (to be done when suitable)</u></p> <ul style="list-style-type: none"> <li>-maths - Purple mash - 2 count, 2 graph</li> </ul>	<p><u>We are astronauts - Rising Stars</u></p> <ul style="list-style-type: none"> <li>-Bluebots/Beebots</li> <li>-scratch Junior</li> <li>-Make sprites and backgrounds in scratch</li> <li>-Understanding of algorithms as a sequence of instructions.</li> <li>-use language of debugging and brief introduction</li> </ul>	<p><u>We are game testers - Rising Stars (SATS term)</u></p> <ul style="list-style-type: none"> <li>-Describe what happens in computer games.</li> <li>- Explain the logical reasoning</li> <li>-Testing predictions.</li> <li>-What is a simulation, why would we need them?</li> </ul>	<p><u>We are zoologists/Databases - Rising Stars</u></p> <ul style="list-style-type: none"> <li>-Classify a group of items - answering questions</li> <li>-Collect data</li> <li>-Simple charting software - pictograms and basic charts.</li> <li>-google maps work</li> <li>-Cross Curricular maths work</li> </ul>
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<p><b>YR 3</b></p> <p><b>E-safety</b> to be carried out once per term/when applicable</p> <p>Terms 2,4,6 will need 2 e-safety lessons</p> <p>See separate curriculum map.</p>	<p><u><a href="#">Rising Stars Game Designers</a></u></p> <ul style="list-style-type: none"> <li>-What games do you play?</li> <li>-Why do you play them?</li> <li>-design own games.</li> <li>-design background</li> <li>-programme characters to move</li> <li>- Purple Mash 2DIY 3D Maze</li> </ul> <p><u><a href="#">Developing skills in Word/Publisher</a></u></p> <ul style="list-style-type: none"> <li>-inserting tables, wrapping text</li> <li>-inserting pictures</li> <li>-manipulating text, tables, images (cross curricular)</li> </ul>	<p><u><a href="#">We are presenters - Rising Stars +Movie making</a></u></p> <ul style="list-style-type: none"> <li>-Using digital devices</li> <li>-green screen</li> <li>-Link to topic</li> <li>-Take and edit photos/video</li> <li>-Edit video file through windows movie maker or IMovie.</li> </ul>	<p><u><a href="#">We are presenter - Rising Stars + Movie making continued</a></u></p> <p><u><a href="#">Additional E-safety project</a></u></p> <ul style="list-style-type: none"> <li>-mobile phone/device safety</li> <li><a href="https://www.childnet.com/resources/being-smart-with-your-smartphone">https://www.childnet.com/resources/being-smart-with-your-smartphone</a></li> <li><u><a href="#">Digital Footprint</a></u></li> <li><u><a href="#">Cybersmart Forever</a></u></li> </ul> <p>How much time are you spending on your devices?</p> <p><u><a href="#">Balancing time online</a></u></p>	<p><u><a href="#">We are programmers - Rising Stars</a></u></p> <ul style="list-style-type: none"> <li>-Create an algorithm</li> <li>-beebots/blue bots with given targets (challenges)</li> <li>-Create own mazes for bee bots</li> <li>-Write a program in scratch: (Fishtank, tell a joke lesson, Beat Box)</li> </ul>	<p><u><a href="#">We are bug fixers- Rising Stars</a></u></p> <ul style="list-style-type: none"> <li>-Give set of instruction for bee bots, correct the bug. (blue bots ipad +tactile reader)</li> <li>-correct mistakes debugging (challenges)</li> <li>-Build a game</li> <li>-Recognising bugs (3 lessons)</li> <li>-Using software</li> </ul> <p><u><a href="#">Cross curricular link</a></u></p> <ul style="list-style-type: none"> <li>-use data logger</li> <li>-Teaching children how to use data loggers and creating graphs using the data loggers.</li> </ul>	<p><u><a href="#">Communications We are communicators- Rising Stars</a></u></p> <ul style="list-style-type: none"> <li>-Sending emails</li> <li><a href="#">How email works video</a></li> <li><a href="#">Different ways to communicate</a></li> <li>-E-safety/risks of emails</li> <li>- 2 email (purple mash)</li> </ul> <p><u><a href="#">Developing skills in Word/Publisher cont.</a></u></p> <ul style="list-style-type: none"> <li>-inserting tables, wrapping text</li> <li>-inserting pictures (Cross Curricular, assessment piece)</li> </ul>



<p><b>YR 4</b></p> <p><b>E-safety</b> to be carried out once per term/when applicable</p> <p>Terms 2,4,6 will need 2 e-safety lessons</p> <p>See separate curriculum map.</p>	<p><u>PowerPoint</u></p> <ul style="list-style-type: none"> <li>-Children's Choice</li> <li>-Take and edit a photo/video</li> <li>-Edit an audio file through audacity, Add over video.</li> <li>-edit video (imovie)</li> <li>-Input into PowerPoint to play.</li> </ul>	<p><u>Cross Curricular Spreadsheets</u></p> <ul style="list-style-type: none"> <li>-Input information - survey of class.</li> <li>-Create a graph</li> <li>-Analyse and question results</li> </ul> <p><u>Emails</u></p> <ul style="list-style-type: none"> <li>-Purple mash sending email to teacher/each other</li> <li>-Purple Mash simulations</li> <li>-Netiquette</li> <li>-formalities informalities of an email</li> </ul>	<p><u>Controlling physical systems</u></p> <ul style="list-style-type: none"> <li>-What are physical systems/sensors? <a href="#">BBC Controlling Physical Systems</a></li> <li>-Lego We do 1.0/2.0</li> <li>-follow instructions/algorithm</li> <li>-write programme for creation</li> <li>-manipulate code</li> <li>-find/correct any bugs in simulation.</li> </ul> <p><u>Paint - Creating (movable in year)</u></p> <ul style="list-style-type: none"> <li>-Purple mash - 2 paint a picture</li> <li>-use to make an image linked to your current art topic/technique</li> <li>-save/open/edit</li> </ul>	<p><u>Coding</u> <u>We are Toy designers - Rising Stars</u></p> <ul style="list-style-type: none"> <li>-Inputs and outputs</li> <li>-Designing of a toy</li> <li>-Programing</li> <li>-scratch</li> </ul>	<p><u>Digital Skills</u></p> <ul style="list-style-type: none"> <li>-Purple mash 2 type</li> </ul> <p><u>Web page designers</u></p> <ul style="list-style-type: none"> <li>-Explore what HTML is and what this looks like. What does a webpage look like and its features.</li> <li>-mozilla firefox, goggles and edit</li> <li>-Think about and develop own class page on school website.</li> <li>-Create webpage in PowerPoint for own class webpage</li> </ul>	<p><u>Databases</u></p> <ul style="list-style-type: none"> <li>-Purple mash, 2 investigate (lesson plans/guides available on purple mash)</li> <li>-Look at databases</li> <li>-Create simple database (4 fields max)</li> <li>-Look at Internet as a database <a href="#">Welcome to the Web</a></li> </ul>

YR 5	<u>Communication</u>	<u>Spreadsheets</u>	<u>Coding</u>	<u>PowerPoint and animation</u>	<u>Digital Literacy</u> <u>Effective searching</u>	<u>Physical</u> <u>3D/2D Modelling - CAD</u>
<p>E-safety to be carried out once per term/when applicable</p> <p>Terms 2,4,6 will need 2 e-safety lessons</p> <p>See separate curriculum map.</p>	<p>-How do we communicate?</p> <p>-look at blogs, why do we use them?</p> <p>-shared document/padlet/ 2write (collaborative sharing)</p> <p>-skype, video conference with another school.</p> <p>-taking in turns</p> <p>-netiquette</p> <p>-Email</p> <p>-Purple mash - blogs Purple mash - 2 write Purple Mash - emails Rising Stars - We are bloggers</p>	<p>-Create a spreadsheet</p> <p>- Costing the class Christmas party (sums, shared prices)</p> <p>-Create a graph from my spreadsheet</p> <p>-How does office manager use these (Can Cathy come to talk about how a spread sheet is used?)</p> <p><a href="http://code-it.co.uk/dlplanning/spreadsheet/spreadsheet">http://code-it.co.uk/dlplanning/spreadsheet/spreadsheet</a></p>	<p>-what is binary code?</p> <p>-unplugged activity on BBC white/black pictures, pixelated: How images are digitalized (pixels)</p> <p><a href="http://www.bbc.com/news/technology-2014-08">How can images be digitalised</a></p> <p><a href="https://studio.code.org/s/course2/stage/1/puzzle/1">https://studio.code.org/s/course2/stage/1/puzzle/1</a></p> <p>-create own image using binary (black and white)</p> <p>-view page source (on a webpage - uncovers page code)</p> <p>-code studio resources <a href="https://studio.code.org">https://studio.code.org</a></p> <p>-minecraft/starwars Try and use the Java language script</p>	<p>-give it purpose - link to topic</p> <p>-Present my ideas using multimedia - including animation.</p> <p>-video edit and drop in</p> <p>-Create and insert hyperlinks (links to other webpages/slides)</p> <p>-Jump to slide (book marking, chapters)</p> <p>-drop/link in an animation/made sound file</p> <p>-Zu 3D/animate it</p>	<p>-Why/what are search engines?</p> <p><a href="#">How search engines work</a> <a href="#">How search works</a></p> <p>-how to refine/filter number of searches</p> <p>-use of speech marks tudor vs tudor kings</p> <p>-Phil Bagg planning: <a href="http://code-it.co.uk/wp-content/uploads/2015/05/howsearchworks_planning.pdf">http://code-it.co.uk/wp-content/uploads/2015/05/howsearchworks_planning.pdf</a></p> <p>-Where is information coming from?</p> <p>Web extension meanings: .co, uk, nz, fr com gov org. www https etc</p> <p>Is it reliable? Fake news: BBC Flying penguins</p>	<p>-Purple Mash 2 design and make - basic 3D model</p> <p>-Why do we need 3d models? Computer visualises it for us. (plan your room.com/Wickes/Homebase)</p> <p>-look at 2d room planner and putting in to 3D</p> <p>-uses of 3d modelling: 3D printing.</p> <p>-Work in 3D</p> <p>-Use a simple CAD tool: -sketch up <a href="http://code-it.co.uk/dlplanning/google/sketchup">http://code-it.co.uk/dlplanning/google/sketchup</a></p> <p>-experiment with tools</p> <p>-challenge/purpose:</p> <p>-link cross curricular A- sustainable/eco housing? B- Stonehenge</p> <p>We are architects - Rising Stars: Look and use Rising star CD to help if needed (CPD)</p>

<p><b>YR 6</b></p> <p><b>E-safety</b> to be carried out once per term/when applicable</p> <p>Terms 2,4,6 will need 2 e-safety lessons</p> <p>See separate curriculum map.</p>	<p><u>Green Screen</u> Cross curricular</p> <p>-video reports -edit video reports -review reports</p> <p>-relate to topic</p> <p><a href="#">Dr.Who</a> <a href="#">Harry Potter Broomstick</a></p> <p><a href="http://code-it.co.uk/greenscreen">http://code-it.co.uk/greenscreen</a></p>	<p><u>Networks</u> <u>We are Network Developers (Yr 3)</u></p> <p>-key differences between world wide web + internet</p> <p>-what is a network</p> <p>-what's connected to a network? what's its purpose?</p> <p>-Get Martin/Technician in - what does he do? Can he show servers and explain how networks/cablin are used in school</p> <p>-bbc bitesize</p> <p>-stations/tracks/trains analogy</p>	<p><u>Databases</u></p> <p>-why do we have databases? Purposes</p> <p>-look at examples/features/fields etc?</p> <p>-Look at examples on Purple mash</p> <p>-Create own database using 2 investigate (planning on purple mash available)</p> <p>-identifying mistakes on a database (implausible data)</p> <p>-creating graph from database</p> <p><a href="http://code-it.co.uk/databases-2/">http://code-it.co.uk/databases-2/</a></p>	<p><u>Coding</u></p> <p>-Scratch 2.0 on PC</p> <p>-Use scratch to retell a story.</p> <p>-background/stage changes</p> <p>-Create maze/game with timer/operations etc (instruction given) (see resources for examples + support)</p> <p>- use ideas and apply to own game.</p> <p>-given a broken down game, children to put back together using logical reasoning</p>	<p><u>Physical Simulations</u> <b>Last week of term (SATs)</b></p> <p>-identify physical simulations, Physical computing</p> <p>-programming and controlling</p> <p>Block coding using: -microbit +ipads -lego we do -buid then move groups round to programme them</p> <p>-crumbles? - Phil Bagg -spheros/Ollie? -codebug? - future years</p> <p>Applying what has been learnt in block to physically control something. Write code out for something you use every day )logical thinking)</p>	<p><u>The Goat Life - Assessment</u></p> <p>-Make a short Powerpoint.</p> <p>-drop in videos/animations about their life at Goat Lees/own topic.</p> <p>-ZU 3D -i movie -power point -speakeasy's -scratch etc</p> <p><u>Secondary E-safety</u></p> <p><a href="#">-play, like, share/Live streaming risks (Think you know)</a></p>