

| Rec | Programming | Handling Data | Multimedia | Technology in our lives | e-Safety |
|--------|--|---|--|--|---|
| Year 1 | <p>I am beginning to understand what an algorithm is.</p> <p>I can create and begin to debug simple programs</p> <p>I can predict what will happen for a short sequence of instructions</p> <ul style="list-style-type: none"> • I can give instructions to my friend and follow their instructions to move around. • I can describe what happens when I press buttons on a robot. • I can press the buttons in the correct order to make my robot do what I want. • I can describe what actions I will need to do to make something happen and begin to use the word algorithm. • I can begin to predict what will happen for a short sequence of instructions. • I can begin to use software/apps to create movement and patterns on a screen. • I can use the word debug when I correct mistakes when I program. <p>Beebots</p> <p>Lily Hop (Tes subscription needed)</p> <p>Pivot Stick (2Animate could be used as an alternative)</p> | <p>I can begin to use technology purposefully to collect, sort and present information</p> <ul style="list-style-type: none"> • I can talk about the different ways in which information can be shown. • I can use technology to collect information, including photos, video and sound. • I can sort different kinds of information and present it to others. • I can add information to a pictograph and talk to you about what I have found out. <p>Use 2Simple 2Count Textease Venn diagrams EasyChart HD App https://primaryschoolict.com/pi cctograph</p> | <p>I can begin to use technology to purposefully create, store and retrieve digital content.</p> <ul style="list-style-type: none"> • I can be creative with different technology tools. • I can use technology to create and present my ideas. • I can use the keyboard or a word bank on my device to enter text. • I can save information in a special place and retrieve it again. <p>2Create a Story (2Publish, Book Creator App) 2DIY 2Go in 2simple infant video toolkit or Purple Mash Greenscreen by Do Ink app or PC using ZU3D or Backdrop TV. Use 2Simple 2Publish Textease</p> | <p>I recognise common uses of information technology beyond school</p> <ul style="list-style-type: none"> • I can recognise the ways we use technology in our classroom. • I can recognise ways that technology is used in my home and community. • I can use links to websites to find information. • I can begin to identify some of the benefits of using technology. <p>Infant Encyclopaedia (link did not work) www.http://primaryblogger.co.uk/ Swiggle.org.uk</p> | <p>I use technology safety and respectfully.</p> <p>I know to keep my personal information private</p> <p>I know where to go if I need help or if something makes me feel uncomfortable</p> <ul style="list-style-type: none"> • I can keep my password private. • I can tell you what personal information is. • I can tell an adult when I see something unexpected or worrying online. • I can talk about why it's important to be kind and polite. • I can recognise an age appropriate website. • I can agree and follow sensible e-Safety rules. |

| | | | | | |
|--------|---|--|---|--|--|
| | <p>(http://www.pivotanimator.net or if blocked in school try http://www.snapfiles.com/get/stickfigure.html)</p> <p>I can animate 2</p> <p>You will also need a YouTube converter.</p> | | | | |
| Year 2 | <p>I understand what algorithms are</p> <p>I know how they are implemented as programs on digital devices</p> <p>I know that programs execute by following precise and unambiguous instructions</p> <p>I can create and debug simple programs</p> <p>I can use logical reasoning to predict the behaviour of simple programs</p> <p>Floor robot (ideally Probot or Roamer or other robot that requires the input of a quantity for a move) but Bee-Bot can be used</p> <p>(Textease screen turtle)</p> <p>JIT www.j2e.com/j2code</p> | <p>I can use technology purposefully to collect, sort and present information</p> <ul style="list-style-type: none"> • I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. • I can tell you the order I need to do things to make something happen and talk about this as an algorithm. • I can program a robot or software to do a particular task. • I can look at my friend's program and tell you what will happen. • I can use programming software to make objects move. <p>I can watch a program execute and spot where it goes wrong so that I can debug it.</p> <p>Lego Fix the Factory Online or App</p> <p>Textease Branch / Flexitree or other branching database</p> <p>Furbles</p> <p>2Graph</p> <p>Apps: Easy Chart or Teaching Graph</p> | <p>I can use technology to purposefully create, store, manipulate and retrieve digital content</p> <ul style="list-style-type: none"> • I can use technology to organise and present my ideas in different ways. • I can use the keyboard on my device to add, delete and space text for others to read. • I can tell you about an online tool that will help me to share my ideas with other people. • I can save and open files on the device I use. <p>Textease or an App such as Pic Collage</p> <p>2Publish, 2Create a Story</p> <p>Apps: Pic collage and Show me or Explain Everything</p> | <p>I recognise common uses of information technology beyond school</p> <ul style="list-style-type: none"> • I can tell you why I use technology in the classroom. • I can tell you why I use technology in my home and community. • I am starting to understand that other people have created the information I use. • I can identify benefits of using technology including finding information, creating and communicating. <p>I can talk about the differences between the Internet and things in the physical world.</p> <p>Quadblogging</p> | <p>I use technology safely and respectfully.</p> <p>I understand why I should keep my personal information private.</p> <p>I know where to go for help and support if I have any concerns about content or contact on the internet or other online technologies</p> <ul style="list-style-type: none"> • I can explain why I need to keep my password and personal information private. • I can describe the things that happen online that I must tell an adult about. • I can talk about why I should go online for a short amount of time. • I can talk about why it is important to be kind and polite online and in real life. • I know that not everyone is who they say they are on the Internet. |

| | | | | | |
|---------------|--|--|--|--|---|
| | | | | | Searchbox, CBBC find, Swiggle, Safe Search Kids |
| KS2 | Programming | Handling Data | Multimedia | Technology in our lives | e-Safety |
| NC | <p>I can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems</p> <p>I can solve problems by decomposing them into smaller parts</p> <p>I can use sequence, selection, and repetition in programs</p> <p>I can work with variables and various forms of input and output</p> <p>I can use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms and programs</p> | <p>I can 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 accomplishes given goals, including collecting, analysing, evaluation and presenting data and information</p> | <p>I can 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 accomplishes given goals, including collecting, analysing, evaluation and presenting data and information</p> | <p>I understand computer networks including the internet</p> <p>I know how the provide multiple services such as the world wide web</p> <p>I understand the opportunities they offer for communication and collaboration</p> <p>I use search technologies effectively</p> <p>I appreciate how the results are selected and ranked</p> <p>I can be discerning in evaluation digital content</p> | <p>I can use technology safely, respectfully and responsibly</p> <p>I recognise acceptable and unacceptable behaviour</p> <p>I can identify a range of ways to report concerns about content and contact.</p> |
| Year 3 | <ul style="list-style-type: none"> • I can break an open-ended problem up into smaller parts. • I can put programming commands into a sequence to achieve a specific outcome. • I keep testing my program and can recognise when I need to debug it. • I can use repeat commands. • I can describe the algorithm I will need for a simple task. | <ul style="list-style-type: none"> • I can talk about the different ways data can be organised. • I can search a ready-made database to answer questions. • I can collect data help me answer a question. • I can add to a database. • I can make a branching database. | <ul style="list-style-type: none"> • I can create different effects with different technology tools. • I can combine a mixture of text, graphics and sound to share my ideas and learning. • I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. • I can evaluate my work and improve its effectiveness. | <ul style="list-style-type: none"> • I can save and retrieve work on the Internet, the school network or my own device. • I can talk about the parts of a computer. • I can tell you ways to communicate with others online. • I can describe the World Wide Web as the part of the Internet that contains websites. | <ul style="list-style-type: none"> • I can talk about what makes a secure password and why they are important. • I can protect my personal information when I do different things online. • I can use the safety features of websites as well as reporting concerns to an adult. |

| | | | | | |
|--------|---|--|--|---|---|
| | <p>I can detect a problem in an algorithm which could result in unsuccessful programming.</p> <p>Scratch version 1.4 Scratch online (Visual in www.j2e.com/j2code or can be used on tablets to accomplish most of the activities, Pyonkee App can also be used on iPads) http://www.kodugamelab.com</p> <p>Textease Studio (Turtle) or LOGO in www.j2e.com/j2code, FMS Logo (free download) or iLogo app / Hopscotch app to do activity on iPads</p> | <p>I can use a data logger to monitor changes and can talk about the information collected.</p> <p>2Graph (2Simple Infant Video Toolkit or Purple Mash</p> <p>Datalogger (e.g. Easysense Q, Vu, TTS Logbox, Log-It Explorer) Flexitree or Textease Branch CT 2Investigate (or Purple Mash}</p> | <p>I can use an appropriate tool to share my work online.</p> <p>Paint programs - Fresco, MS Paint, Sketch book ink Pop Art Studio website http://popartstudio.nl</p> <p>Music-making tool (e.g. BGFL Virtual Keyboard) or app (e.g. Beatwave)</p> <p>Greenscreen app (Greenscreen by Do Ink) or PC equivalent (ZU3D or Backdrop TV)</p> <p>Freeplaymusic.com website</p> <p>Windows Live Moviemaker or iMovie app</p> | <ul style="list-style-type: none"> I can use search tools to find and use an appropriate website. <p>I think about whether I can use images that I find online in my own work.</p> | <ul style="list-style-type: none"> I can recognise websites and games appropriate for my age. I can make good choices about how long I spend online. I ask an adult before downloading files and games from the Internet. I can post positive comments online. <p>www.safesearchkids.com, www.kidsclick.org, www.primaryschoolict.com www.google.co.uk www.bing.com</p> |
| Year 4 | <ul style="list-style-type: none"> I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. I can use an efficient procedure to simplify a program. I can use a sensor to detect a change which can select an action within my program. I know that I need to keep testing my program while I am putting it together. I can use a variety of tools to create a program. I can recognise an error in a program and debug it. I recognise that an algorithm will help me to sequence more complex programs. <p>I recognise that using algorithms will also help solve problems in other learning such as Maths,</p> | <ul style="list-style-type: none"> I can organise data in different ways. I can collect data and identify where it could be inaccurate. I can plan, create and search a database to answer questions. I can choose the best way to present data to my friends. I can use a data logger to record and share my readings with my friends. <p>Graphing program e.g. Infant Video toolkit/ Purple Mash (2 Graph) / (iPad app- graph/ iChart maker</p> <p>Datalogger e.g. Easysense Q, Vu, LogIt Explorer, TTS</p> | <ul style="list-style-type: none"> I can use photos, video and sound to create an atmosphere when presenting to different audiences. I am confident to explore new media to extend what I can achieve. I can change the appearance of text to increase its effectiveness. I can create, modify and present documents for a particular purpose. I can use a keyboard confidently and make use of a spellchecker to write and review my work. I can use an appropriate tool to share my work and collaborate online. <p>I can give constructive feedback to my friends to help them improve their work and refine my own work.</p> | <ul style="list-style-type: none"> I can tell you whether a resource I am using is on the Internet, the school network or my own device. I can identify key words to use when searching safely on the World Wide Web. I think about the reliability of information I read on the World Wide Web. I can tell you how to check who owns photos, text and clipart. I can create a hyperlink to a resource on the World Wide Web. I can recognise that websites use different methods to advertise products <p>Search engines</p> | <ul style="list-style-type: none"> I choose a secure password and screen name when I am using a website. I can talk about the ways I can protect myself and my friends from harm online. I use the safety features of websites as well as reporting concerns to an adult. I know that anything I share online can be seen by others. I choose websites, apps and games that are appropriate for my age. I can help my friends make good choices about the time they spend online. I can talk about why I need to ask a trusted adult |

| | | | | | |
|----------------------|--|--|--|---|---|
| | <p>Science and Design and Technology.</p> <p>Hopscotch app – For schools without iPads see note on use of Scratch or http://www.j2e.com/j2code Visual.</p> <p>Scratch 1.4 (free download) or download Scratch 2.0 offline editor OR Visual in www.j2e.com/j2code can be used on tablets to accomplish most of the activities Pyonkee App can also be used on iPads) Kodu (download from http://www.kodugamelab.com</p> | | <p>Comic Life app – for schools without iPads, comic templates can be created in Textease or PowerPoint.</p> <p>Microsoft Word, SMART Notebook, Textease or Pages app</p> <p>Windows Moviemaker Live download or iMovie app</p> | | <p>before downloading files and games from the Internet.</p> <p>I comment positively and respectfully online and through text messages.</p> |
| <p>Year 5</p> | <ul style="list-style-type: none"> • I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. • I can refine a procedure using repeat commands to improve a program. • I can use a variable to increase programming possibilities. • I can change an input to a program to achieve a different output. • I can use 'if' and 'then' commands to select an action. • I can talk about how a computer model can provide information about a physical system. • I can use logical reasoning to detect and debug mistakes in a program. • I use logical thinking, imagination and creativity | <ul style="list-style-type: none"> • I can use a spreadsheet and database to collect and record data. • I can choose an appropriate tool to help me collect data.. • I can present data in an appropriate way. • I can search a database using different operators to refine my search. • I can talk about mistakes in data and suggest how it could be checked. <p>Digital camera or iPads Audacity or sound recording app</p> | <ul style="list-style-type: none"> • I can use text, photo, sound and video editing tools to refine my work. • I can use the skills I have already developed to create content using unfamiliar technology. • I can select, use and combine the appropriate technology tools to create effects that will have an impact on others. • I can select an appropriate online or offline tool to create and share ideas. • I can review and improve my own work and support others to improve their work. <p>Greenscreen app (Greenscreen by Do Ink) or PC equivalent (ZU3D or Backdrop TV) Dancemat Typing http://www.bbc.co.uk/schools/typ</p> | <ul style="list-style-type: none"> • I can describe different parts of the Internet. • I can use different online communication tools for different purposes. • I can use a search engine to find appropriate information and check its reliability. • I can recognise and evaluate different types of information I find on the World Wide Web. • I can describe the different parts of a webpage. • I can find out who the information on a webpage belongs to • I know which resources on the Internet I can download and use. <p>I can describe the ways in which websites advertise their products to me.</p> | <ul style="list-style-type: none"> • I can choose a secure password and screen name. • I protect my password and other personal information. • I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. • I know that anything I post online can be seen, used and may affect others. • I can talk about the dangers of spending too long online or playing a game. • I can explain the importance of communicating kindly and respectfully. |

| | | | | | |
|---------------|--|--|---|---|--|
| | <p>to extend a program.</p> <p>Scratch (Pyonkee on iPad) Lego WeDo Textease Turtle CT or FMS Logo http://fmslogo.sourceforge.net/ or Logo in www.j2e.com/j2code (for tablet users)</p> | | <p>ing or 2Simple 2Type (in Purple Mash)</p> | <p>Information Theory resource from Computer Science Unplugged http://csunplugged.org/information-theory</p> <p>Faux Paw video resources What is the Internet http://www.primaryresources.co.uk/online/internet.swf Dog Island http://www.thedogisland.com/ / Petrol Direct spoof websites http://www.petroldirect.com</p> <p>Information Detectives resource Photopeach http://photopeach.com or Thinglink www.thinglink.com</p> | <ul style="list-style-type: none"> • I can discuss the importance of choosing an age-appropriate website, app or game. • I can explain why I need to protect my computer or device from harm. |
| <p>Year 6</p> | <ul style="list-style-type: none"> • I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. • I can explain and program each of the steps in my algorithm. • I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm. • I can recognise when I need to use a variable to achieve a required output. • I can use a variable and operators to stop a program. • I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen. <p>I can use logical reasoning to detect and correct errors in algorithms and programs.</p> | <ul style="list-style-type: none"> • I can plan the process needed to investigate the world around me. • I can select the most effective tool to collect data for my investigation. • I can check the data I collect for accuracy and plausibility. • I can interpret the data I collect. • I can present the data I collect in an appropriate way. • I use the skills I have developed to interrogate a database. <p>Datalogger or Lego Mindstorm 2Investigate software</p> | <ul style="list-style-type: none"> • I can talk about audience, atmosphere and structure when planning a particular outcome. • I can confidently identify the potential of unfamiliar technology to increase my creativity. • I can combine a range of media, recognising the contribution of each to achieve a particular outcome. • I can tell you why I select a particular online tool for a specific purpose. • I can be digitally discerning when evaluating the effectiveness of my own work and the work of others. <p>Green screen software Backdrop TV / ZU3D or app eg VideoFX Live and other presentation software</p> | <ul style="list-style-type: none"> • I can tell you the Internet services I need to use for different purposes. • I can describe how information is transported on the Internet. • I can select an appropriate tool to communicate and collaborate online. • I can talk about the way search results are selected and ranked. • I can check the reliability of a website. • I can tell you about copyright and acknowledge the sources of information that I find online. • I know that websites can use my data to make money and target their advertising <p>Online sharing tool such as Padlet or Poplet app</p> | <ul style="list-style-type: none"> • I protect my password and other personal information. • I can explain the consequences of sharing too much about myself online. • I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. • I can explain the consequences of spending too much time online or on a game. • I can explain the consequences to myself and others of not communicating kindly and respectfully. |

| | | | | | |
|--|--|--|--|--|--|
| | Scratch FMS Logo Support sheets and List of Logo commands in 'How to' sheets on website Tablets use LOGO in www.j2e.com/j2code | | | | I protect my computer or device from harm on the Internet. |
|--|--|--|--|--|--|

All objectives in Bold are taken from the National Curriculum

All other objectives are from the eLIM end of year expectations.

Suggested software is from the elim guides.