

Reception and Key Stage 1- e-Safety

<u>National curriculum statements 2014</u>	<u>Reception (Early learning goals)</u>	<u>Year 1</u>	<u>Year 2</u>
	<ul style="list-style-type: none"> Select and use technology [safely] for particular purposes. 	<ul style="list-style-type: none"> Use technology safely and respectfully, keeping personal information private. Know where to go for help and support when they have concerns about content or contact on the internet or other online material. 	
<u>End of year expectations</u>	<ul style="list-style-type: none"> I can ask an adult when I want to use the Internet. I can tell an adult when something worrying or unexpected happens while I am using the Internet. I can be kind to my friends. I can talk about the amount of time I spend using a computer / tablet / game device. I am careful with technology devices I can recognise the difference between real and online experiences. 	<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 the school e-safety rules. I know that an email is a message that can be sent over the internet. 	<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's 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. I can agree and follow the school e-safety rules. I can send an email to my classmates. I know that internet sites contain adverts
<u>Suggested activities for children to develop processes</u>	<ul style="list-style-type: none"> Ongoing Activities available from CEOP ThinkUKnow Activities based on Lee & Kim http://thinkuknow.co.uk/Teachers/Resources/ Activity 1B: 'Keeping safe on the Internet storybook' Activity 2B: 'Keeping safe game' Activity 6B 'Song and Dance' Read Smartie the Penguin and use the 	<ul style="list-style-type: none"> CEOP Thinkuknow resources, based on Hector's World - Lesson 1 & 2 Use the FauxPaw videos to teach children about keeping safe online. Use websites to aid research – ICT Games Cbeebies games V & A Museum of Childhood Log in to Purple Mash or other age 	<ul style="list-style-type: none"> CEOP Thinkuknow resources, based on Hector's World - Lesson 3, 4, 5 Watch videos from CEOP based on Hector's World Discuss the school's Internet acceptable use policy. Use websites to aid research – www.bbc.co.uk/schools/famouspeople ICT Games

	<p>talk prompts to consider good and bad choices.</p> <ul style="list-style-type: none"> • Change to a different activity when they have spent a reasonable amount of time using technology using something such as an egg timer to remind them • Follow links to appropriate games on the Internet which they can sit with a friend to play. • Say kind things about the work of other people. • Share things they have made and play with things made by other, taking care of them and saying thank you. 	<p>appropriate websites. Talk about the different kinds of websites it is good to use.</p> <ul style="list-style-type: none"> • Read Digiduck's Big Decision to talk about good and bad choices and the effect these can have on others. • Role-play how to talk kindly and politely to friends online and in the real world, and how to comment kindly on people's work. 	<p>V & A Museum of Childhood</p> <ul style="list-style-type: none"> • Role-play deciding that you have spent too much time online. Suggest ways that you can remind yourself to change to other kinds of activities. • Children contribute to a class discussion forum (eschools). • Send suitable and purposeful emails, developing awareness of appropriate language to use. • Lesson plans from What is the Internet and how does it work? – How does a web search work?
<p><u>Apps for tablets</u></p>		<ul style="list-style-type: none"> • Professor Garfield fact or opinion. • Professor Garfield online safety 	<ul style="list-style-type: none"> • Professor Garfield fact or opinion. • Professor Garfield online safety

Reception and Key Stage 1 -Handling data

<u>National curriculum statements 2014</u>	<u>Reception (Early learning goals)</u>	<u>Year 1</u>	<u>Year 2</u>
<u>End of year expectations</u>	<ul style="list-style-type: none"> Select and use technology for different purposes. I can tell you about different kinds of information such as pictures, video, text and sound. 	<ul style="list-style-type: none"> Store and retrieve data and know some ways in which information is represented digitally. 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. 	<ul style="list-style-type: none"> I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder. I can make and save a chart or graph using the data I collect. I can talk about the data that is shown in my chart or graph. I am starting to understand a branching database. I can tell you what kind of information I could use to help me investigate a question.
<u>Suggested activities for children to develop processes</u>	<ul style="list-style-type: none"> Create a class pictogram using 2Count Look at information presented in different ways e.g. photos, sound, books, websites Use camera, tablets, sound recorder, visualiser, microscope to capture information and share for discussion 	<ul style="list-style-type: none"> Use 2Count Explore a pictogram using TES iBoard Leisure Activity resource. Create a pictogram using Pictograph and embed on a website or blog. Research animals and environments using Glossopedia Use camera, tablets, sound recorder, visualiser, microscope to capture information and share for discussion 	<ul style="list-style-type: none"> Use camera, tablets, sound recorder, visualiser, microscope to capture information and share for discussion. Create graphs for specific purposes using 2Graph Use 2Investigate and Furbles to interrogate a set of data and order in different ways, asking questions about the way things are ordered. Explore the Naace Sorting Games to see how information can be sorted in different ways and talk about which ways were effective. Create your own.

			<ul style="list-style-type: none"> • Do a Maths lesson with MB, GB and TB. Show children how much different drives can store. Perhaps with bricks or sand to show relative sizes. •
<u>Apps for tablets</u>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Teaching Graphs (£) 	<ul style="list-style-type: none"> • Teaching Graphs (£) • Easychart

Reception and Key Stage 1- Technology in our Lives

<u>National curriculum statements 2014</u>	<u>Reception (Early learning goals)</u>	<u>Year 1</u>	<u>Year 2</u>
	<ul style="list-style-type: none"> Recognise that a range of technology is used in places such as homes and schools Select and use technology for particular purposes. 	<ul style="list-style-type: none"> Recognise common uses of information technology beyond school Use technology purposefully to retrieve digital content from the school public drive and the Internet. 	
<u>End of year expectations</u>	<ul style="list-style-type: none"> I can tell you about technology that is used at home and in school. I can operate simple equipment. I can use a safe part of the Internet to play and learn. I can log on to the school computers and Purple Mash. 	<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. I can locate all the letter and number keys on the keyboard and select them to use for a purpose. I can use a mouse confidently with one hand. 	<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. I can talk about the differences between the Internet and things in the physical world. I can type 10 wpm using a standard keyboard. I can use the basic features of a word processor; change the font, font size, colour, add images, use text boxes, word art, cut, copy and paste, save work.
<u>Suggested activities for children to develop processes</u>	<ul style="list-style-type: none"> Play with pretend technology in role play area such the School Office, Home, Vets etc. Use the EYFS ICT continuous provision document to search for ideas to develop children's choices with technology. Use a camera or recording device 	<ul style="list-style-type: none"> Label uses of technology around the classroom and around the school. Bring pictures of uses of technology at home, or save them in an on-line learning space (eschools). Consider different uses of technology. Talk about what a computer does. Talk about what 	<ul style="list-style-type: none"> Choose to use technology to support learning at school and at home. Investigate uses of technology linked to a topic such as the technology to monitor weather. Use Infant Encyclopaedia to independently find information to support learning and talk about how this can also be used at home. Choose from weblinks provided by an adult to find

	<p>to capture special moments.</p> <ul style="list-style-type: none"> • Use photocopier, microwave, telephone or other devices with an adult. • Look 'inside' some common technology such as a computer, TV, mobile phone etc. • Log in to school server and other websites directed by the teacher. 	<p>other devices can be used for.</p> <ul style="list-style-type: none"> • Explore Infant Encyclopaedia finding the different icons and talk about their purpose. • Follow web-links provided by an adult to find information about topics. [Talk about the reliability of information] • Add text to photographs, graphics, drawings and sound using a computer. • Use simple authoring tools to create their own content and begin to add basic effects to sections of text, changing the font size and colour. 	<p>information.</p> <ul style="list-style-type: none"> • Look at Family Learning or Early Learning HQ websites to talk about the content on webpages including advertising and social network links. • Investigate the Tomato Spider and consider the accuracy of the information. • Have a look at a site offering free clipart eg who does this belong to? How do you know? Are we allowed to use it? Scroll to the bottom of the page to have a look at terms and conditions. • Word process work, changing the font, font size, colour and adding images and using text boxes, word art, and cut, copy and paste ensuring they can save and load their work.
	<ul style="list-style-type: none"> • Use Skype, blogs or the school website to share learning experiences with others: Skype is a tool used at home and in school to communicate with others. Sign up for Skype Education. You can begin by communicating with another class in your school and then explore Skype visits to other schools or places of interest linked to current topics. Link to e-Safety learning. • Continue to use class blogs or the class page of the school website (from eschools) for children to be part of sharing their learning with others. This can be whole class or group experiences where the children make decisions about what could be shared online. Talk with the children about who they show the blog or website to at home. Link to e-Safety learning. 		
<p><u>Apps for tablets</u></p>	<ul style="list-style-type: none"> • Safari • Maps • Goggle Earth 	<ul style="list-style-type: none"> • Safari • Rover • Dictionary.com • Maps • Goggle Earth • iBrainstorm • Book Creator (£) • Fifty Three Paper (£) 	<ul style="list-style-type: none"> • Safari • Rover • Dictionary.com • Maps • Goggle Earth • iBrainstorm • Popplet (£) • Show me • Book Creator (£) • Fifty Three Paper (£)

Reception and Key Stage 1-Multimedia

<u>National curriculum statements 2014</u>	<u>Reception (Early learning goals)</u>	<u>Year 1</u>	<u>Year 2</u>
	<ul style="list-style-type: none"> Recognise that a range of technology is used in places such as homes and schools. Select and use technology for particular purposes. 	<ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 	
<u>End of year expectations</u>	<ul style="list-style-type: none"> I can move objects on a screen. I can create shapes and text on a screen. I can use technology to show my learning. 	<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. I can take a picture for a variety of purposes. I can begin to record sounds using a range of tools. 	<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. I can use a computer to make and record basic rhythms. I can record a video for a variety of purposes. I can independently record sounds for a variety of purposes.
<u>Suggested activities for children to develop processes</u>	<ul style="list-style-type: none"> Follow image weblinks to explore age appropriate websites. Use creative pens on class SMART Board to make marks and explore. Use a paint program e.g. 2Paint to draw your favourite animal. Role-play being a photographer using a digital camera Take digital photos of day to day activities and talk about 	<ul style="list-style-type: none"> Use 2explore and 2beat Use 2Paint or Art Set app to create pictures. Use 2Publish or Explain Everything app to retell a story using images, text and a wordbank. Create a simple drawn animation using ABC Animate or 2Animate Explore Music Sparkles app to 	<ul style="list-style-type: none"> Use pencil madness to create images Use 2Paint or Art Set app to create pictures and talk about what tools they have chosen. Create documents and presentations using text and images using 2Publish, 2Create a Story, Pic Collage app Create an animation using ZU3D ed app/software or Monkeyjam software, retelling a class story.

	<p>them.</p> <ul style="list-style-type: none"> • Use hand held video camera or tablet device to capture discoveries. • Listen to an online story from Storynory and Use 2Create a Story to make a shared class tale. 	<p>explore appropriate music.</p> <ul style="list-style-type: none"> • Use a recording device like Talking Tins to make an interactive display. 	<ul style="list-style-type: none"> • Create a wordcloud of a fairy story or topic using ABCya • explore appropriate music using Fun2Think or Music Sparkles app. • Interview a person in the school using a sound recorder and listen back to the recording.
		<ul style="list-style-type: none"> • Use hand held video camera or tablet device to capture learning experiences. Play these back to talk about the learning or rehearse talk for writing. • Use Sock Puppets app to record voices and play back to an audience. • Use BBC Dancemat Typing to practice keyboard skills. 	
<p><u>Apps for tablets</u></p>	<ul style="list-style-type: none"> • Singing Fingers • Art set / Doodlebuddy • Music Sparkles 	<ul style="list-style-type: none"> • Pic Collage • Singing fingers • Art set / Doodlebuddy • Do Ink Greenscreen (£) • Music Sparkles • Sock Puppets • Audiobo • Explain Everything (£) 	<ul style="list-style-type: none"> • Pic Collage • Singing fingers • Art set / Doodlebuddy • Do Ink Greenscreen (£) • Music Sparkles • Sock Puppets • Puppet Pals • Morfo (£) • Artify (£) • QuickVoice • Audiobo • Explain Everything (£) • ZU3D ed

Reception and Key Stage 1 - Programming

<u>National curriculum statements 2014</u>	<u>Reception (Early learning goals)</u>	<u>Year 1</u>	<u>Year 2</u>
	<ul style="list-style-type: none"> Recognise that a range of technology is used in places such as homes and schools Select and use technology for particular purposes. 	<ul style="list-style-type: none"> 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 Recognise common uses of information technology beyond school. 	
<u>End of year expectations</u>	<ul style="list-style-type: none"> I can make a floor robot move. I can use simple software to make something happen. I can make choices about the buttons and icons I press, touch or click on. 	<ul style="list-style-type: none"> I can give instructions to my friend and follow their instructions. 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. 	<ul style="list-style-type: none"> I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions to move in a shape 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. I can watch a program execute and spot where it goes wrong so that I can debug it.
<u>Suggested activities for children to develop processes</u>	<ul style="list-style-type: none"> Sandwich bot - Students begin to understand how algorithms work by creating sandwiches and the teacher is a sandwich bot. Blind Navigation - Blindfold a student and ask pupils to create 	<ul style="list-style-type: none"> Bee bots - Set an obstacle courses for Bee-Bots for children to achieve specific outcomes. (Link to different curriculum areas.) Children talk about the algorithm they will need to follow as they plan a sequence of actions to 	<ul style="list-style-type: none"> Bee bots (including iPad app) 2go - (Purple Mash) Turn on the extra features (in settings) to allow programming of sequences for more able - to plan specific routes using the town and racing track backgrounds.

	<p>instructions to move around the room.</p> <ul style="list-style-type: none"> • Lego Models (or other construction toys) Teach students to follow a series of instructions. • Bee bots - Use Newham's Bear Hunt activity to develop purposeful use of Bee-Bot or other floor robot. • 2go - (Purple Mash) - to move the bee from flower to flower or to fly from planet to planet using the appropriate backgrounds. Set the key pad to direction. • 2Code – Chimp (Fun with Fish) (Purple Mash) • www.poissonrouge.com - Explore activities. How do you make things happen? • Children play with remote control cars and other 'push button' toys. • Use the simple level of JIT within www.j2e.com/j2code for children to explore movement for the wolf in 3 little pigs or between flowers. 	<p>achieve an outcome, before programming the Bee-bot. They debug any mistakes and look at programs planned by others to predict outcomes.</p> <ul style="list-style-type: none"> • 2go - (Purple Mash) In pairs, one describes how to draw a shape or letter from a card or whiteboard, partner follows instructions and compares. Getting from A to B - use the backgrounds to plot a route • 2Code – Chimp (Purple Mash) • Use the simple level of JIT within www.j2e.com/j2code for children to plan movement for the wolf in 3 little pigs, Cinderella or for a desert adventure. Challenge the children to draw shapes on the blank background. • Play TES iboard Controlling Round a Route • Use Pivot stick animator for children to explore making a stick figure animation. They can plan a sequence of actions. Set a challenge and talk about the algorithm and steps necessary to achieve it. • Play TES iboard cheese sniffer game. You have five moves each turn. Play as a class to encourage talk about the 'most efficient' set of moves to get to the next cheese. 	<p>Talk about the algorithm required and plan the program to execute it. Set the key pad to turning 90°. Set children challenges to create programs for oblongs and squares or to create a letter. Talk about each other's programs and predict outcomes.</p> <ul style="list-style-type: none"> • 2Code – Chimp and Gibbon for higher ability (Purple Mash) • Lego We Do - build models following instructions and then program to move (software with easy instructions) • Use the advanced level of JIT within www.j2e.com/j2code for children to meet challenges using different backgrounds. Challenge the children to draw squares and rectangles on the blank background. Can they write their name? • Use Pivot stick animator they can plan a sequence of actions. Set a challenge and talk about the algorithm and steps necessary to achieve it. • Play TES iboard cheese sniffer game. You have five moves each turn. Play in a pair against another to encourage talk about the 'most efficient' set of moves to get to the next cheese.
<p><u>Apps for tablets</u></p>	<ul style="list-style-type: none"> • Daisy the Dinosaur 	<ul style="list-style-type: none"> • Scratch Junior • Daisy the Dinosaur 	<ul style="list-style-type: none"> • Bee bot app • Scratch Junior

		<ul style="list-style-type: none">• Kodable	<ul style="list-style-type: none">• A.L.E.X• Cargo-bot• Kodable
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KS2 E-safety

	Year 3	Year 4
NC Statements	<ul style="list-style-type: none"> Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour, identify a range of ways to report concerns and inappropriate behaviour. 	
I can statements	<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. 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. 	<ul style="list-style-type: none"> I choose a secure password 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 post online can be seen by others. I choose websites 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 before downloading files and games from the Internet. I comment positively and respectfully online.
Suggested activities	<p>Agree class rules for the responsible use of technology. Create posters, presentations, videos or leaflets of the rules</p> <p>Create a class top 10 of games to play on a computer. Talk about what makes them good choices to play.</p> <p>Discuss effects of spending too long playing games on devices. Role-play sensible/inappropriate time on the computer.</p>	
	<p>http://thinkuknow.co.uk/5_7/leeandkim/ http://thinkuknow.co.uk/Teachers/Resources/ Activity 1A: 'Keeping Safe on the Internet Cartoon' Activity 2A: 'Keeping Safe game' Activity 3: 'Make an Internet Safety Poster'</p>	<p>KnowIT All Activity 3 (The SMART Adventure); drama activity highlighting an e-Safety issue http://www.childnet.com/kia/primary/furtherresources/ "Where's Klaus" video from CEOPS (teachers will need to register at the ThinkUKnow website in order to download this</p>

<p>Children's search engines; http://www.squirrelnet.com/search/Google_SafeSearch.asp www.askforkids.com</p> <p>Inaccurate information online; Captain Kara and Winston's SMART Adventure (KnowITall), chapter 2, "What is Reliable?" http://www.childnet-int.org/KIA/primary/smartadventure/chapter2.aspx</p> <p>Unsolicited emails and attachments; Captain Kara and Winston's SMART Adventure (KnowITall), chapter 1, "What should you keep Accept?"</p> <p>Personal information; Inaccurate information online; Captain Kara and Winston's SMART Adventure (KnowITall), chapter 3, "What should you keep Safe?"</p>	<p>video).</p> <p>ThinkUKnow Cybercafe http://www.thinkuknow.co.uk/Teachers/Resources/</p> <p>Lesson Plan 1 - Using Technology to Communicate</p> <p>Lessons Plan 2 - 'Introducing ThinkUKnow's Cybercafe website'</p> <p>Lesson Plan 3 - 'Communication & Information'</p> <p>Children's search engines; http://www.squirrelnet.com/search/Google_SafeSearch.asp www.askforkids.com</p> <p>KnowITall Activity 2 (The SMART Adventure); complete the website treasure hunt http://www.childnet.com/kia/primary/furtherresources/</p> <p>Spoof website www.allaboutexplorers.com (use to consolidate the concept that information isn't always reliable)</p> <p>ThinkUKnow Cybercafe Lessons 1 & 4 'Using Technology to communicate' 'Using E-mail safely' http://www.thinkuknow.co.uk/Teachers/Resources/</p> <p>'It's learning' School Learning Platform</p>
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KS2 Handling Data

	Year 3	Year 4
NC Statements	<ul style="list-style-type: none"> Select, use and combine a variety of software (including Internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. 	
I can statements	<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. I can use a data logger to monitor changes and can talk about the information it collects. 	<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.
Suggested activities	<ul style="list-style-type: none"> SketchUp Software-Teach students to design 3D graphics. Discuss which type of graph works best for different types of data, e.g. bar charts, pie charts and line graphs. Create and analyse different types of graphs (2Graph on Purplemash). Discuss how databases are used to store data in a range of situations. Explore how databases can be structured by initial questions, and create a database that can be searched by a classmate (2Graph on Purplemash). Use a data logger to monitor the sound levels in a classroom, agreeing appropriate levels of sound for different activities. Other activities in Data Harvest Primary Curriculum activities 	<ul style="list-style-type: none"> Use a data logger for an investigation such as which is the most effective pair of sunglasses. Other activities in Data Harvest Primary Curriculum activities. Use the remote logging facility in a data logger to investigate traffic noise or conditions for growth of plants. Investigate noise levels around the school at different times of day. Collect data from a variety of sources to investigate a given enquiry e.g. which area of the school is loudest? How do most people travel to school? Choose from e.g. dataloggers, digital thermometers, apps to record data and present collected data using appropriate tool such as Spreadsheet(in excel), EasyChart HD app, 2Graph Purplemash.

KS2 Programming and coding

	Year 3	Year 4
NC Statements	<ul style="list-style-type: none"> 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 	
I can statements	<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. I can detect a problem in an algorithm which could result in unsuccessful programming. 	<ul style="list-style-type: none"> 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 can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. 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. I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology.
Suggested activities	<p>2Code (Purplemash) - Gibbon and Gorilla for more able.</p> <p>Logo - view sequences to achieve different purposes. Plan algorithms, create and debug programming sequence to achieve a specified outcome.</p>	<p>2Code (Purplemash) - Gorilla</p> <p>Logo- view sequences to achieve different purposes. Plan algorithms, create and debug programming sequence to achieve a specified outcome.</p>

[Dinosaur fossil animation - Scratch \(Barefoot\)](#) In this activity pupils program an animation illustrating the steps in fossils being formed. In doing so they learn that programming is the process of implementing algorithms as code and about sequencing commands in Scratch. Pupils work with a partner to help develop their collaboration skills and so they can support and learn from each other whilst completing this activity.

[2D shape drawing \(Barefoot\)](#) Year 3: draw 2D shapes; recognise angles as a property of a shape or a description of a turn. In this activity pupils learn about repetition (loops) by creating programs to draw patterns made of simple shapes. They design [algorithms](#) to draw regular 2D shapes. They write code in Scratch to draw these shapes using a repeat block. They develop outlines of simple shapes into more complex patterns by using nested loops. In doing so they learn how to use repetition to perform the same command, or group of commands a number of times.

[Hopscotch \(iPad app\)](#)

[Sketch Up Software](#)- Teach students to design 3D graphics

[Probots](#) fabulous robots at a more advanced level than bee-bots,

[Classroom sound monitor: controlling physical systems with Scratch](#) (Barefoot, Science curriculum) In this activity pupils create a sound monitor for their classroom. The sound monitors they create are examples of [control](#) programs, since they take information from an [input sensor](#), in this case a microphone, and use this information to alter the [output](#) of the program, for example a warning message being displayed if pupils are too noisy, or an arrow moving up a volume scale.

[Hopscotch \(iPad app\)](#)

[2D shape drawing \(Barefoot\)](#). Year 4: compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Year 5: know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles; draw given angles, and measure them in degrees ($^{\circ}$); identify: angles at a point and one whole turn (total 360°) In this activity pupils learn about repetition (loops) by creating programs to draw patterns made of simple shapes. They design [algorithms](#) to draw regular 2D shapes. They write code in Scratch to draw these shapes using a repeat block. They develop outlines of simple shapes into more complex patterns by using nested loops. In doing so they learn how to use repetition to perform the same command, or group of commands a number of times.

	<p>but the same family! use repeats as well as more specific commands to complete missions</p> <p>Light bot app</p> <p>2DIY (Purplemash) - Program your own games.</p> <p>J2 code- Similar to Purplemash. There are lots of lesson plans and coding activities to do on there.</p> <p>Scratch</p>	<p>2DIY (Purplemash)- Program your own games.</p> <p>J2 code- Similar to Purplemash. There are lots of lesson plans and coding activities to do on there.</p> <p>Scratch</p>
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KS2 Technology in our lives

	Year 3	Year 4
NC Statements	<ul style="list-style-type: none"> 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 	
I can statements	<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. I can use search tools to find and use an appropriate website. I think about whether I can use images that I find online in my own work. I can make a power point slideshow- add slides, write on them, copy and paste pictures. I can make graphs using Excel. In Word I can: change my writings font, size and colour. I can add a picture that is saved in a shared file. Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and increasingly develop their independence and confidence in using these devices. Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. Aim to reach the accepted competency rate for children of 20WPM by the end of Year 4. 	<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. In Word I can change my writings font, size and colour. I can add a picture that is saved in a shared file. I can also add a table. To the table I can merge some of the cells and add rows and columns. I can make a flow chart. I can use bullet points. I can write wpm. I can make a power point slideshow- add slides, write on them, copy and paste pictures and add animations for the entry of the slides. I can type in data and make different graphs in Excel. Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and increasingly develop their independence and confidence in using these devices.

		<ul style="list-style-type: none"> Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. Aim to reach the accepted competency rate for children of 20WPM by the end of Year 4.
Suggested activities	Use a blog responsibly to communicate with others.	
	<p>Look at the insides of an old computer and discover the parts that will allow you to connect to the Internet.</p> <p>Talk through the first part of What is the Internet flash file to establish that the WWW is the part of the Internet that contains websites.</p> <p>Create a non-fiction electronic book based on a topic, using hyperlinks to different pages. Talk about this as being how a website is created.</p> <p>Use different Search Engines to look for information on your topic. Which provides the most useful results for you?</p>	<p>Use Junior Computer Science activity to introduce hyperlinks.</p> <p>Create hyperlinks in documents to useful information on the World Wide Web.</p> <p>Watch Chapter 2 of Captain Kara and the SmartCrew. How can you check the reliability of information?</p> <p>Think about the different ways advertisements are used to influence you. Be an Ad detective.</p> <p>Investigate terms and conditions on different websites connected to current topics or interests of the class.</p>

	<p>Visit the Tree Octopus website. Evaluate the information presented. How can you check the reliability of the website?</p> <p>View work created by others on the public drive and on the Internet. For example, talk about poems written by other children at Poetry zone. Consider who they belong to and ways in which you show respect for others people's ideas.</p>	<p>Understand computer networks: Network hunt (barefoot) In this activity pupils go on a hunt around their school to discover, and map the location of, devices connected to their school's network. Pupils then learn about the role of each device by either conducting web-based research or using the matching activity included http://barefootcas.org.uk/programme-of-study/understand-computer-networks-including-internet/ks2-network-hunt-activity/</p> <p>Skype- make a online video school to link schools? Links around the world.</p>
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KS2 Multimedia

	Year 3	Year 4
NC Statements	<ul style="list-style-type: none"> 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, system and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. 	
I can statements	<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. I can use an appropriate tool to share my work online. 	<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. I can give constructive feedback to my friends to help them improve their work and refine my own work.
Suggested activities	<ul style="list-style-type: none"> Use Puppet Pals app (on ipads) to create animations bringing together images and sound for effect and an intended audience. Use Morfo app (on the ipads) to animate images or objects and consider the effectiveness of the result. Use the creative tools in J2e or PurpleMash (2sequence, 2diy- make your own games) to create and share with an audience. Create art in the style of a famous artist e.g. using Artisancam Use an online storybook maker or app e.g. Storybird or Zooburst apps to choose images that tell a story and add appropriate text, considering the effect on an audience. Share with classmates and improve work through their feedback. 	
	<ul style="list-style-type: none"> Use the videos and animations in the Literacy Shed to discuss how sound and music create atmosphere Film a TV style interview using a handheld camera and greenscreen technology where appropriate (e.g. using Greenscreen Movie FX app) 	<ul style="list-style-type: none"> Film and create a video (e.g. history roleplay) using appropriate tools e.g. greenscreening, considering music, sound effects and credits. Use Windows Live Moviemaker or iMovie app or Vintagio app to open the video for editing and explore how clips can be snipped, moved and deleted.

	<ul style="list-style-type: none">• Create a Word linked book, inserting images and exploring the effect of changing font and style and adding animations. Evaluate the finished presentation and consider how it could be improved.• Explore the effects of sound, rhythm and mood using the BBC Musical Mysteries site .• Use 2Simple Music Toolkit or music apps to create musical phrases for a class story• Use BBC Dancemat Typing and 2Type on Purplemash to consolidate typing and keyboard skills.	<ul style="list-style-type: none">• Create a short film or stop-motion animation using iMotion HD app individually or in pairs, and add appropriate music• Take a photo and use the effects tools in Artify app to apply the effect of a famous artist considering the effectiveness of the result.• Create a PowerPoint presentation or book around specific theme e.g. favourite authors; Ancient Greece, combining images, sound, animations and transitions and consider how effective it is in engaging an audience.• Create a poster (using 2Publish or word) of the top ten most useful keyboard shortcuts e.g. Ctrl+V, combing text and images.• Use my create app to make own animations.
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