

KEY STAGE CYCLE OVERVIEW FOR Computing

	Cycle A			Cycle B		
Year Group	Autumn	Spring	Summer	Autumn	Spring	Summer
EYFS						
National Curriculum	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.
Topic Strand	Digital Citizenship and Digital Literacy	Computer Science and Digital Literacy	Information Technology and Digital Literacy	Digital Citizenship and Digital Literacy	Computer Science and Digital Literacy	Information Technology and Digital Literacy
Reception	Recognise communication using the World Wide Web Keeping safe and healthy when using computers Talk about the “Butterfly Feeling” Logging in Mouse and keyboard skills Following instructions to complete activities	Directional language Use remote control toys Introduce Beebots Logging in Mouse and keyboard skills Following instructions to complete activities Use software and online apps	Name the parts of a computer correctly Know that information can be stored on the Web Discuss what personal information is and who to share it with Take ownership of work Logging in Mouse and keyboard skills Following instructions to complete activities	Recognise communication using the World Wide Web Keeping safe and healthy when using computers Talk about the “Butterfly Feeling” Logging in Mouse and keyboard skills Following instructions to complete activities	Directional language Use remote control toys Introduce Beebots Logging in Mouse and keyboard skills Following instructions to complete activities Use software and online apps	Name the parts of a computer correctly Know that information can be stored on the Web Discuss what personal information is and who to share it with Take ownership of work Logging in Mouse and keyboard skills Following instructions to complete activities
1/2	My Superbody	Rainforest Explorers	Into the Woods	A Knights Tale	Explorers and Adventurers	Buckets and Spades
National Curriculum	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	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	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	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

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Topic Stand	Digital Citizenship and Digital Literacy	Computer Science – Yr 1 – Algorithm Yr 2 - Program	Information Technology and Consolidation Project	Digital Citizenship and Digital Literacy	Computer Science – Yr 1 – Algorithm Yr 2 - Program	Information Technology and Consolidation Project
Year One	Recognise warning signs while online and know how to get help Accessing the internet in an age appropriate way Know what information should be kept private Know how to behave appropriately online Now the rules for keeping safe online Logging in Typing Keyboard skills Simple data handling Explore the creation of a simple music track	Consolidation of Previous Teaching Development of directional language Debugging beebot activities when things go wrong Problem solving Following instructions Discuss and plan simple algorithm New learning Plan a simple algorithm Create a simple algorithm Predict the outcome of a simple algorithm Debug a simple algorithm Instructional (algorithm) writing	Logging in Typing skills The introduction of the microchip and how it has changed our lives- research Jack Kilby & Robert Noyce Search using digital tech and key words Know why we use passwords Understand that people own work online <i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content (NC 2014)</i> Produce a finished piece of work demonstrating the application of skills taught in Autumn 2 Possible Project ideas: Personal presentation – All About me Profile of Information Technology Pioneer Animated Stories - Purplemash Unit1.6	Recognise warning signs while online and know how to get help Accessing the internet in an age appropriate way Know what information should be kept private Know how to behave appropriately online Now the rules for keeping safe online Logging in Typing Keyboard skills Simple data handling Explore the creation of a simple music track	Consolidation of Previous Teaching Development of directional language Debugging beebot activities when things go wrong Problem solving Following instructions Discuss and plan simple algorithm New learning Plan a simple algorithm Create a simple algorithm Predict the outcome of a simple algorithm Debug a simple algorithm Instructional (algorithm) writing	Logging in Typing skills The introduction of the microchip and how it has changed our lives- research Jack Kilby & Robert Noyce Search using digital tech and key words Know why we use passwords Understand that people own work online <i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content (NC 2014)</i> Produce a finished piece of work demonstrating the application of skills taught in Autumn 2 Possible Project ideas: Personal presentation – All About me Profile of Information Technology Pioneer Animated Stories - Purplemash Unit1.6
Yaar Two	Understand that people might behave and communicate differently online Know that it is OK to say “no” Think carefully before adding information about myself online Can recognise bullying behaviour Explain how we can stay safe online in different situations and get help if we need it - Logging in Typing Keyboard skills Introduction to word processing Introduction to creative multimedia – sound, pictures and film Simple graphs and charts Branching databases	Consolidation of algorithms Development of directional language Debugging beebot activities when things go wrong Problem solving Following instructions Discuss and plan simple algorithms - Introduction to programs and events Plan a simple program Create a simple program Predict the outcome of a simple program Debug a simple program Recording algorithms (instructions)	Logging in Typing Keyboard skills Searching on/using the WWW and understanding if information is real or imaginary Research Tim Berners Lee; how did he develop technology Understand how computers communicate with each other using the internet and local networks - <i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content (NC 2014)</i> Possible Project ideas: Literacy – create a story using purplemash 2Publish/2Create a story to combine sound, image and video Science – create a branching database linked to your topic e.g living things and their habitats using Purple Mash 2Question	Understand that people might behave and communicate differently online Know that it is OK to say “no” Think carefully before adding information about myself online Can recognise bullying behaviour Explain how we can stay safe online in different situations and get help if we need it - Logging in Typing Keyboard skills Introduction to word processing Introduction to creative multimedia – sound, pictures and film Simple graphs and charts Branching databases	Consolidation of algorithms Development of directional language Debugging beebot activities when things go wrong Problem solving Following instructions Discuss and plan simple algorithms - Introduction to programs and events Plan a simple program Create a simple program Predict the outcome of a simple program Debug a simple program Recording algorithms (instructions)	Logging in Typing Keyboard skills Searching on/using the WWW and understanding if information is real or imaginary Research Tim Berners Lee; how did he develop technology Understand how computers communicate with each other using the internet and local networks - <i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content (NC 2014)</i> Possible Project ideas: Literacy – create a story using purplemash 2Publish/2Create a story to combine sound, image and video Science – create a branching database linked to your topic e.g living things and their habitats using Purple Mash 2Question

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3 /4	Extreme Earth Volcanoes, Tsunamis, Earthquakes	Ancient Egyptians	Caribbean	Yabba Dabba Doo Stone Age	Rotten Romans Zambia	Cotton, Coal and Canals
National Curriculum	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	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 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	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	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 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	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
Topic Stran	Digital Citizenship and Digital Literacy	Computer Science – Yr 3 – Sequence Yr 4 – Repeat/Loop	Information Technology and Consolidation Project	Digital Citizenship and Digital Literacy	Computer Science – Yr 3 – Sequence Yr 4 – Repeat/Loop	Information Technology and Consolidation Project

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Year 3/4	Talk about digital footprint and what it means Recognise that online identities can be different to real world identities Understand the concepts of trust, likes and feelings while online Know that people can overshare information that should be kept private Recognise the impact of people being unkind online Develop a healthy balance between online and real life activity - Logging in Typing Keyboard skills Develop word processing skills Introduction to creative multimedia – sound, pictures and film Simple graphs and charts Branching databases	Consolidation of algorithms and program To know the different between an algorithm and a program Plan an algorithm and then create the program Predict the outcome of a simple program Debug a simple program Record algorithms (instructions) - Introduction to sequence Plan a simple sequence Create a program using a sequence Predict the outcome of a sequence and the implications of reordering the sequence Debug a sequence Transfer skills between different software	Logging in Typing skills Research Ada Lovelace & Charles Babbage; how did they develop technology How do search engines help us find information Importance of strong passwords and how to share information safely Know how to save work to a specific location - <i>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 (NC 2014)</i> Possible Project ideas: Literacy - create a multimedia presentation/ebook, with a title page, incorporating images, sounds and text - create an animated story using 2Create a story to combine sound, image and video Science - create a branching database linked to your topic e.g plants	Discuss Digital footprint and online vs real life identity Respect others while online and be aware of how online behaviour and content can impact on others Know that anyone can search online profiles for information Focus on Online bullying and how it may affect others Discus positives and negatives to using technology - Typing Continue to develop word processing skills Introduction to spreadsheets and graphing Representing data Animation	Consolidation of algorithms, program and sequences To know the different between an algorithm and a program Plan an algorithm and then create the sequence Predict the outcome of a sequence Debug a sequence Transfer skills between different software - Introduction to repeat / loop Plan a program using a repeat command Create a program using a repeat command Predict the outcome of repeat and the implications of reordering the repeat Debug coding when the outcome is not as expected Transfer skills between different software	Logging in Typing skills Research Hedy Lemarr & Radia Perlman; how did they develop technology Search engines, safe searching and copyright Find, save and import images and information from the internet How searching works and how to evaluate a website – 5 W’s - <i>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 (NC 2014)</i> Possible Project ideas: Literacy - animation linked to pioneer Science - animation linked to living things and habitats History - animation linked to Tudors
5 / 6	WWII	Monarchy Crime and Punishment	Mayans	Vikings and Saxons Invaders and Settlers	The tale of 3 cities	Greece Lightning

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National Curriculum	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	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 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	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	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 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	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
Topic Strand	Digital Citizenship and Digital Literacy	Computer Science – Yr 5 – Selection / Conditional Yr 6 - Variable	Information Technology and Consolidation Project	Digital Citizenship and Digital Literacy	Computer Science – Yr 5 – Selection / Conditional Yr 6 - Variable	Information Technology and Consolidation Project

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Year 5	Make responsible choices when sharing online and understand how this could be used by others Know when and how to get help Differentiate between types of bullying Promote health and well-being with regards to using technology - Continue to develop word processing skills Introduction to databases and graphing Representing data Review, edit and discuss why changes have been made to work Creating work appropriate to audience Computer Aided Design (CAD) Website evaluation	Consolidation of algorithms, program, sequences and repeat To know the difference between an algorithm and a program Plan a program using a repeat command Create a program using a repeat command Predict the outcome of repeat and the implications of reordering the repeat Debug code when the outcome is not as expected Transfer skills between different software - Introduction to Selection / Conditional Plan a program for a quiz using selection Create a program for a quiz using selection To develop an awareness of abstraction when programming Predict the outcome of the program and the implications of reordering the code Debug code when the outcome is not as expected Transfer skills between different software	Research Grace Hopper, Bill Gates & Steve Wozniak; how did they develop technology Search engines, safe searching and copyright Find, save and import images and information from the internet How searching works and how to evaluate a website – 5 W’s Reinforce the basics of using technology in our everyday lives. What the internal parts of a computer are and how they work - <i>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 (NC 2014)</i> Possible Project ideas: DT - create a new vehicle using CAD design Science - create an eco house using CAD design Literacy/History - Create a diorama scene with 3D figures using CAD	Make responsible choices when sharing online Know when and how to get help Critically evaluate and reject inappropriate representations online Be kind and respect others online Protect digital personality Know how to capture evidence of online bullying Common systems that regulate age-related content Promote health and well-being with regards to using technology - Be independent when choosing appropriate software to create content Creating work appropriate to audience Use video editing software	Consolidation of algorithms, program, sequences, repeat and selection/conditional To know the difference between an algorithm and a program To plan and program using a repeat To plan and program a quiz using selection Predict the outcome of the program and the implications of reordering the code Debug code when the outcome is not as expected To have an awareness of abstraction when programming Transfer skills between different software - Introduction to Variable Plan a program for a quiz using a variable Create a program for a quiz using variable To have an awareness of abstraction when programming Predict the outcome of the program and the implications of reordering the code Debug code when the outcome is not as expected To plan and program a game which includes repeat, selection/conditional and a variable for a younger audience Transfer skills between different software	Research: Alan Turing; how did he develop technology Elon Musk - how he is developing technology How to evaluate a website – 5 W’s Understand copyright and how to cite references Maintaining privacy and updating app permissions What will technology look like in the future - <i>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 (NC 2014)</i> Possible Project ideas: Literacy - create a short film about end of Primary school Science - Time lapse video about decomposition Computer Science - Game creation including writing instructions and marketing materials
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