Year Group	Reception	Year 1	Year 2	Year 3	Year 4
Topic	**Transport; Pirates/Under the Sea**	**Explore the World**	**Explore the World**	**We'll Meet Again (WW2)**	**We'll Meet Again (WW2)**
Skills:					
Computer Science	Know how to operate simple equipment e.g. turns on CD player and uses remote control (30-50 months) Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images (30-50 months) Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones (30-50 months) **Completes a simple program on a computer (40-60 months)** **Uses ICT hardware to interact with age-appropriate computer software (40-60 months)**	**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.**	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.	**Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.** **Use sequence, selection and repetition in programs; work with variables and various forms of input and output.** **Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.** **Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.**	**Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.** **Use sequence, selection and repetition in programs; work with variables and various forms of input and output.** **Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.** **Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.**
Information Technology	Knows that information can be retrieved from computers (30-50 months) Select and use technology for particular purposes. (ELG)	**Use technology purposefully to create, organise, store, manipulate and retrieve digital content.**	**Use technology purposefully to create, organise, store, manipulate and retrieve digital content.**	**Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** **Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.**	**Use 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.**

COMPUTING Key Skills and Knowledge Progression (Year B – Summer Term)

Thomas Johnson Lower School : Dream - Discover - Flourish

Digital Literacy	Recognise that a range of technology is used in places such as homes and schools. (ELG)	**Recognise common uses of information technology beyond school.** Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Knowledge	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
NC aims for Key Stages 1 (Years 1 and 2) and 2 (Years 3-4) C1: can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation C2: can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems C3: can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems C4: are responsible, competent, confident and creative users of information and communication technology.	**2Create a Story:** **2 Create a Story -** Children create stories written in Literacy (steam train, rocket) **Simple City** - Garage. Watch videos, create a bus using drag & drop. **Paint project** - bus, car, boat etc. --- **Keyboard skills** ***Purple Mash*** – Write a postcard about your time by the sea. **Google docs -** write about your memories from Reception. ***Simple city*** – On the farm (link to school trip). ***Purple Mash*** – farm puzzles.	**Unit 1.7** **Coding** *2Code* Algorithms: Children write a program that controls how a character will move and interact. Use logical reasoning. --- **Unit 1.8** **Spreadsheets** *2Calculate* Use technology purposefully to create, organise, store, manipulate & retrieve digital content - navigate and use a spreadsheet **Unit 1.9** **Technology outside school** Recognise common uses of information technology beyond school	**Unit 2.6** **Creating Pictures** *2PaintAPicture* Create, organise, store, manipulate and retrieve digital contentCreate art based upon a range of styles: Impressionist; Pointillist; Surrealist; in the style of Mondrian & Morris --- **Unit 2.7** **Making music** *2Sequence* Make music digitally. Create own tune using sounds uploaded and created. **Unit 2.8** **Presenting Ideas** Create, organise, store, manipulate & retrieve digital content Make a quiz about a story or class topic; a fact file on a non-fiction topic & a presentation to the class.	**Unit 4.5** **Logo** *2Logo (text-based coding)* Design, write and debug programs Use sequence, selection and repetition in programs (create letters, shapes and 'flowers') Use logical reasoning and detect and correct errors **Unit 4.6** **Animation** *2Animate* Select, use and combine a variety of software Create a simple animation using stop motion ideas. --- **Unit 4.7** **Effective Search** *2Quiz; 2Connect (Mind Map)* Use search technologies effectively. Understand computer networks, including the Internet. Analyse contents of a web page for clues about the credibility of the information **Unit 4.8** **Hardware Investigators** *2Quiz; 2Connect (Mind Map) Writing Templates* Understand computer networks, including the Internet. Create a leaflet to show the function of computer parts.	**Unit 4.5** **Logo** *2Logo (text-based coding)* Design, write and debug programs Use sequence, selection and repetition in programs (create letters, shapes and 'flowers') Use logical reasoning and detect and correct errors **Unit 4.6** **Animation** *2Animate* Select, use and combine a variety of software Create a simple animation using stop motion ideas. --- **Unit 4.7** **Effective Search** *2Quiz; 2Connect (Mind Map)* Use search technologies effectively. Understand computer networks, including the Internet. Analyse contents of a web page for clues about the credibility of the information **Unit 4.8** **Hardware Investigators** *2Quiz; 2Connect (Mind Map) Writing Templates* Understand computer networks, including the Internet. Create a leaflet to show the function of computer parts.