Computing Overview and Progression

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	**I Program** This unit of work introduces the children to algorithms and simple programming. It uses the context of programming physical and virtual toys to perform specific actions. It develops understanding that computers are controlled by sequences of instructions and that computers need more precise instructions that humans do.	**I Write** This unit of work introduces the children to basic word processing. They will learn hot to enter and print text as well as save and retrieve work.	**I Algorithm** This unit introduces the concept of algorithms being a set of instructions that can be followed din order to complete a task. Activities are predominately unplugged (away from devices) to support the children's understanding.	**I Data** This unit links with Maths data collection. The children will learn how to collect, organise and represent data using digital graphing tools.	**I Model** This unit provides the opportunity for pupils to explore how computer models work and that they can be used to represent real or imaginary environments, situations or scenarios. They will begin to understand the differences between representations and their original counterparts, as well as their uses and limitations.	**I Safe** Children will use Think U Know's Jessie and Friends to explore the key aspects of e-safety and digital citizenship to prime pupils to engage in smart and safe technology use and online behaviour.
Year 2	**I animate** In this unit the children will explore stop frame animation through story telling. The children will explore creating narratives and combining them with images to make their own short animated scenes.	**I Mail** In this unit pupils will learn about email. They explore how email is transmitted and understand that email can be used to communicate over distances. This will help develop their reading, writing and digital literacy skills as	**I Search** In this unit, the children will learn how to use the internet to find out answers to questions relating to space and the solar system. They will also learn the importance of verifying he accuracy of information given on	**I Blog** In this unit, the children will learn how to blog. They will learn that blogs are an online conversation with an audience that responds. The children will develop their writing and digital literacy skills by	**I Program** This unit introduces the children to a visual programming language: Scratch. Using the context of art and drawing, the children will be engaged in creatively developing simple animations.	**I Safe** This unit of work introduces the children to the concept of being 'safe' online. It uses the context of imaginary characters, set in imaginary worlds, to help the children understand the risks associated with

		they read, compose and reply to email communications.	the internet and how to check multiple sources before answering questions.	learning how to craft posts and responses.		sharing personal information online and how to make informed choices.
Year 3	**I program** This unit of work introduces the children to a visual programming language. Using the context of games development, it will engage the children in creatively developing their own simple animations.	**I Simulate** In this unit children begin to understand that computer simulations can represent real and imaginary situations. They learn hot to explore simulations, investigate options and test their predictions. They will evaluate simulations and consider their usefulness.	**I Network** In this unit, children will learn about networks. They explore real-world examples of networks moving on to leaning how digital devices are connected together from networks; computers networks connected together from the internet.	**I Data** During these lessons, children will learn how information in a database is organised and interrogated. Following a theme of an imaginary travel website, they will use a prepared database to find information about holidays and add records using information found online.	**I Connect** This unit explores the difference between the internet and the world wide web and involves surfing, searching and evaluating sources. It will teach children how to use the web and search engines safely and effectively.	**I Safe** Children will learn about suing search technologies effectively, thinking about how results are generated and ranked. They will discuss how to be safe and respectful online and how to recognise and report concerns online,
Year 4	**I program Unit 1** This unit extends the children's experience of developing algorithms and programs to solve puzzles. The children will design, write and debug programs to accomplish specific goals.	**I animate** This unit introduces the children to designing and creating computer animations. The children will explore creating narratives and combining them with artwork to make their own animated stories.	**I Mail** In this unit children learn to use e-mail to send and receive messages. They learn about communicating over distances and how to use email safely. They will work together on a shared project using email.	**I Program Unit 2** In this unit the children explore physical programming 9robotics) using LEGO and Scratch. They will design and build models using Lego and connect to the physical world using Scratch to turn on lights, sense, control motors and make them come to life.	**I Data** This unit of work introduces the children to the concept of data being represented digitally on computers. They will begin to understand that data is represented using numbers. They will also learn how data is stored and manipulated in databases.	**I Safe** This unit explores key aspects of e-safety including how and why we communicate, sharing information, trusting online information, keeping personal information private and cyberbullying.
Year 5	**I Program Unit 1** This unit of work returns to the visual	**I Program Unit 2** This unit introduces a visual programming	**I Model** This unit provides the opportunity for pupils	**I Crypto** In this unit pupils will learn about	**I Web** This unit explores how the world wide web	**I Safe** These lessons explore the key aspects of e-

	programming language Scratch. Using the context of games development, the children explore computational creation by designing games and exploring the concepts of conditionals and data, iteration and incremental development.	language – Microsoft Kodu. Kodu allows children to create computer games using a PC. The children develop their algorithm and programming skills and use creativity, storytelling, logic and problem solving to design and program 3D games.	to explore how computer models work and build on design explored in KS1. They will understand the difference between 2D and 3D representations and will use digital drawing tools to graphically model 3D designs.	communicating securely over distances with an introduction to cryptography. The children will learn that messages can be encrypted and decrypted using ciphers. They will explore a number of different methods of cryptography and gain an understanding of need for secure communications.	allows people to connect, work together and share information and resources while understanding a conceptual understanding of the web. Children will work with basic HTML code to understand how web sites are constructed. The children will then create and prototype on a web page by 'remixing' it.	safety including how and why we communicate, methods of communication, sharing information using new technologies, trusting online information, keeping personal information private and cyberbullying.
Year 6	**I program Unit 1** This unit uses visual programming language Scratch, Using the context of games development the children explore computational creation by designing games, and explore the concepts of conditional data, iteration and incremental development and systematic testing.	**I Network** This unit explores how computer networks connect people in ways that allow them to work together and share information and resources. This is done through investigating internet search engines and using physical activities to model connections and processes.	**I Data** This unit introduces pupils to spreadsheets. They will find out how information is entered into a spreadsheet and how formulae can be used to calculate totals. They will progress onto producing charts and plan their own spreadsheets.	**I App Unit 1** This unit extends the children's programming skills by introducing them to mobile app development. The children will learn the value and various uses of apps in modern culture and develop their own.	**I App Unit 2** This unit continues to extend the children's app development skills by introducing them to programming apps with text. Using simplified JavaScript language, the children apply their computational thinking skills and begin to understand the importance of syntax in programming.	**I Safe** Children will discuss e-safety and its implications whenever technology is used. They will think about uses of the internet as well as discuss cyberbullying, thinking about how to report and block cyberbullies.

Progression of skills and knowledge across Key Stages