Orton Wistow Primary School – Curriculum Plan

Subject: Computing	Year : 2	Term : Autumn

Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Computer Science-Bee-Bots **Tinkering** – Learning and making sense of something by using, playing and experimenting with it. **Programming** – the process of writing computer programs **Debugging** – Debugging is the process of finding and fixing errors in an algorithm **Decomposition** – the process of breaking down a task into smaller, more-manageable parts. **Collaborating** - work with others on an activity or project	**Barefoot – Introduction to Decomposition Unplugged: Tut, Clap or Jive**								
	• Children know that some problems need to be broken down to solve accurately (decomposition)			• Children will understand that working collaboratively can help when decomposition is required to solve a problem.			• Children will be able to work with a partner, creating an algorithm for them to follow.		
	Barefoot – Bee-Bots Tinkering: Exploring Using Bee-Bots								
	• Children will know some of the basic Bee-Bot functions (recap from Year 1) (forward, backwards, turn left, turn right, go, clear, pause)			• Children will understand that tinkering with new technology is a good way of discovering what is possible and how something works.			• Children will have confidence to explore, experiment and tinker with something new.		
	Barefoot – Bee-Bot Basics: An Introduction to Programming with Bee-Bots								
	• Children will know that some technology can be programmed to complete a task/act in a certain way/create a specific output			• Children will understand that the Bee-Bot will only do what they program it to do and they may have to debug if here is a problem			• Children will be able to look at a problem, discuss possible solutions and test them by programming the Bee-Bots using the control buttons. •		
	Barefoot – Bee-Bots 1,2,3 Activity: An Introduction to Programming with Bee-Bots / Open ended task								
	• Children will know what each of the buttons on a Bee-Bots control panel do. (forward, backwards, turn left, turn right, go, clear, pause) • Children will know to follow the process: Design, code, test, debug (and repeat)			• Children will understand that the Bee-Bot will follow the sequence of buttons pressed in order and that if something goes wrong, it is because the algorithm is wrong.			• Children will persevere when they encounter bugs and work through how to fix them.		

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Information Technology – Presenting Ideas									
Concept Map (Mind Map) – A tool for organising and representing knowledge. They form a web of ideas which are all interconnected. **Node –** A way to represent a concept or idea using text and/or images. **Animated –** A process by which we see still pictures appear to move. **Quiz –** A test of knowledge, especially as a competition between individuals or teams as a form of entertainment. **Non-Fiction –**Informative or factual writing. **Presentation –** A speech or talk in which a new product, idea, or piece of work is shown and explained to an audience. **Narrative –** A speech or talk in which a new product, idea, or piece of work is shown and explained to an audience. **Audience –** The people giving attention to something.	• Children know that digital content can be represented in many forms such as a website, powerpoint, concept map. • Children know that information can be extracted from sources to use in their own work. • Children know that photos and clipart can be added into their work by copying and pasting or using the insert function.			• Children understand why certain forms of digital content are more suitable than others (E.g. powerpoint,mind-map,publisher) • Children understand that they need to choose the information they share carefully so it is right for the audience. • Children understand that photos and pictures can make a digital presentation of information more appealing and help the audience understand the content.			• Children will be able to examine different forms of media and state similarities and differences • Children can improve their work based on feedback from others • Children can collect, organise and present data and information in digital content.		

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Computer Science 2code (2.1 coding)									
Action - Types of commands, which are run on an object. They could be used to move an object or change a property. **Algorithm -** A precise step by step set of instructions used to solve a problem or achieve an objective. **Bug -** A problem in a computer program that stops it working the way it was designed. **Character -** A type of object in 2Code that can be programmed to change actions or properties. **Code block -** A group of commands that are joined together and are run when a specific condition is met or when an event occurs. **Code Design –** Design what your program will look like and what it will do. **Command -** A single instruction in a computer program. **Debug/Debugging -** Looking for any problems in the code, fixing and testing them. **Input -** Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device. **Object -** An element in a computer program that can be changed using actions or properties. **Properties –** All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties. **Repeat -** This command can be used to make a block of commands run a set number of times or forever.	• Children will know that an algorithm is a step-by-step set of instructions used to solve a problem or achieve an objective. • Children will know when to use the repeat function – knowing when a piece of code will be required several times to achieve the desired outcome. • Children will know that objects used within the codes are limited to doing certain things (changed by using actions or properties)			• Children will understand that a clear algorithm can help you to create code that does what it is supposed to do. • Children will understand that there are some tools that help the coder save time such as the repeat and timer tools. • Children will understand that as they get better at coding their algorithms will become more complicated and they will need to debug more often. • Children will understand that planning their code on paper first is often the best starting point, getting their plan on paper so they can build the code without having to think about the sequence of events that need to happen.			• Children will be able to design and code algorithms of increasing complexity. • Children will be able to look back through and algorithm, identify possible problems, debug and then test again. • Children will be able to look at a piece of code and describe what will happen when it runs.		

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	Remembering	Telling	Testing	Practising	Coaching	Observing	Reflecting	Facilitating	Evaluating
Scale - The size of an object in 2Code. Timer - Use this command to run a block of commands after a timed delay or at regular intervals. **When clicked -** An event command. It makes code run when you click on something (or press your finger on a touchscreen). **When Key -** An event command. It makes code run when you press the specified key on the keyboard.									
Information Technology (2.8 presenting ideas)									
Concept Map (Mind Map) – A tool for organising and representing knowledge. They form a web of ideas which are all interconnected. **Node** – A way to represent a concept or idea using text and/or images. **Animated** – A process by which we see still pictures appear to move. **Quiz** – A test of knowledge, especially as a competition between individuals or teams as a form of entertainment. **Presentation** – A speech or talk in which a new product, idea, or piece of work is shown and explained to an audience. **Narrative** – A speech or talk in which a new product, idea, or piece of work is shown and explained to an audience. **Audience** – The people giving attention to something.	• Children will know to plan their presentation first, considering what information to include. • Children will know that digital content can be presented in a variety of ways, such as; mind-ma, quiz, e-book, fact-file. • Children will know of different software that can be used to present ideas (2create a story, 2connect, 2quiz, 2publish)			• Children will understand the importance of considering the audience when presenting ideas, making the material appropriate for their age and interest. • Children will understand the impact of adding pictures, tables and photos to their presentations, making it more accessible and enjoyable for the audience.			• Children will be able to create a fact file on a non-fiction topic. • Children will be able to talk about their work and improve it based on feedback received. • Children will be able to select and use the correct piece of software to achieve a specific objective/task		