Computing overview – 2014 curriculum

Nursery	**Nursery children should:** • Seek to acquire basic skills in turning on and operating some ICT equipment. • Operate mechanical toys, e.g. turn the knob on a wind-up toy or pulls back on a friction car. **Nursery children may:** • Know how to operate simple equipment. • Show an interest in technological toys with knobs or pulleys, or real objects. • Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. • Know that information can be retrieved from computers.		
Reception	**Reception children should:** • Know how to operate simple equipment. • Show an interest in technological toys with knobs or pulleys, or real objects. • Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. • Know that information can be retrieved from computers. **Reception children may:** • Complete a simple program on a computer. • Interact with age-appropriate computer software		
	Autumn Term	**Spring Term**	**Summer Term**
YEAR 1	**We are treasure hunters – robots** **PROGRAMMING** *Program beebots to move along a decided route.* **We are TV chefs – camera operators** **COMPUTATIONAL THINKING** *Investigate how cameras work and learn how to shoot film.*	**We are painters** **CREATIVITY** *Use colour magic to illustrate a story book.* **We are collectors** **NETWORKS** *Learn how to copy and paste images from a stored database.*	**We are celebrating** **PRODUCTIVITY** *Create an e-post card using design software.* **We are story tellers** **COMMUNICATION** *Use Clicker 5 to retell a story and hear the audio back.*
YEAR 2	**We are treasure hunters – algorithms** **PROGRAMMING** *Program online sprite to move through a maze and created own maze challenges.* **We are TV chefs – producing** **COMPUTATIONAL THINKING** *Design TV sequence and use cameras to film and import film*.	**We are painters** **CREATIVITY** *Use Tux Magic to illustrate a story book.* **We are collectors** **NETWORKS** *Learn to search for images using the internet and then copy, paste and format pictures.*	**We are celebrating** **PRODUCTIVITY** *Create an e-card using search engines and Microsoft office.* **We are story tellers** **COMMUNICATION** *Record own audio and import to create an E-story.*
YEAR 3	**We are astronauts** **PROGRAMMING** *Plan an algorithm to program a sprite to move from one point to another.* **We are games testers** **COMPUTATIONAL THINKING**	**We are photographers** **CREATIVITY** *To take high quality photographs, import and edit them.* **We are researcher** **NETWORKS**	**We are detectives** **COMMUNICATION** *Investigate how email works and learn how to receive and send one responsibly, accurately and safely.* **We are zoologists** **PRODUCTIVITY**

	Investigate compute games and write algorithms to describe how they work.	*Use search engines quickly and efficiently to research information.*	*Compile tables and charts to categorize things.*
YEAR 4	**We are programmers** **PROGRAMMING** *Create own algorithm to program sprite in own animation.* **We are bug fixers** **COMPUTATIONAL THINKING** *Fix bugs in algorithms others have programmed into a computer*.	**We are presenters** **CREATIVITY** *Record high quality film footage, import and edit it.* **We are network engineers** **NETWORKS** *Investigate how different local and online networks work and contribute work to be stored within them.*	**We are communicators** **COMMUNICATION** *Investigate how email and attachments work and learn how to receive and send one responsibly, accurately and safely.* **We are opinion pollsters** **PRODUCTIVITY** *Collect and present data using different software and online tools.*
YEAR 5	**We are software developers** **PROGRAMMING** *Develop an algorithm to program an interactive game of your design.* **We are toy makers** **COMPUTATIONAL THINKING** *Create virtual prototypes and program sprites to demonstrate toys movements and sounds.*	**We are musicians** **CREATIVITY** *Investigate how music is created digitally and compose own pieces.* **We are HTML editors** **NETWORKS** *Create a webpage using HTML*	**We are co-authors** **COMMUNICATION** *Investigate 3rd party websites and how to contribute responsibly, accurately and safely to them.* **We are meteorologists** **PRODUCTIVITY** *Use photographs and data to help measure and predict the weather.*
YEAR 6	**We are game developers** **PROGRAMMING** *Develop an algorithm to program an interactive game of your design. Act to debug games after testing.* **We are cryptographers** **COMPUTATIONAL THINKING** *Send and receive encrypted information by learning about passwords, semaphore and ceaser cipher.*	**We are artists** **CREATIVITY** *Program a sprite to draw tessellating patterns out of complex shapes.* **We are web developers** **NETWORKS** *Investigate 3rd party websites and how to contribute responsibly, accurately and safely to them.*	**We are bloggers** **COMMUNICATION** *Investigate blogs and how HTML is used to store them. Learn how to contribute responsibly, accurately and safely to them.* **We are architects** **PRODUCTIVITY** *Create complex sketches using design software.*