Progression of Knowledge, Skills and Vocabulary in Computing

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key skills covered in English and Art	- Know information can be gathered from technology.	- Work with others and with support to contribute to a digital class resource which includes **text, graphic** and **sound.** - Use a range of simple tools in a **paint package / image manipulation software** to create / modify a picture.	- Generate their own work, (with help where appropriate) **combining text, graphics and sound**. - **Save** and **retrieve** and **edit** their work. - Use a range of tools in a **paint package** / **image manipulation software** to create / modify a picture to communicate an idea. - Create a simple animation to tell a story.	- Record and present information integrating a range of appropriate **media combining text and graphics** in printable form and sound and video for on-screen presentations which include **hyperlinks.** - Begin to show an awareness of the intended audience. - **Manipulate digital images** using a range of tools in **appropriate software** to convey a specific mood or idea.		Use advanced tools in **word processing / DTP** software such as **tabs, appropriate text formatting, line spacing** etc appropriately to create quality presentations appropriate for a known audience. - **Multimedia** work shows restrained use of effects that help to convey meaning rather than impress. - Make a **short film / animation** from images (still and / or moving) that they have **sourced, captured or created.** - Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document).	
E safety and electronic communication		- Contribute ideas to a class **email** to another class / school etc. - As a class exercise children explore information from a variety of sources (electronic, paper based, observations of the world around them, etc.) - They show an awareness of different forms of information.	- Work collaboratively by **email** to share and request information from another class or story character. - Children use a **search engine** to find specific relevant information to use in a presentation for a topic. - They **save and retrieve** their work.	- Begin to understand the need to abide by school **e-safety rules.** - Children ask their own questions then use ICT sources to find answers, making use of **search engines, an index, menu, hyperlinks as appropriate.** - Children show an emerging understanding of **internet safety**.	- Share ICT work they have done electronically by email or uploading to authorised sites. - Make use of **copy and paste.** - Show an understanding that not all information on the internet is accurate. - Develop a growing awareness of how to stay safe when using the internet (in school and at home)	- Where possible seek and respond to feedback. beginning to understand the purpose of **copyright regulations** and the need to repurpose information for a particular purpose.	- Abide by school rules for **e-safety**. - Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic. - Use appropriate methods to **validate information** and check for **bias and accuracy.**

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Control	- Play with **electronic toys.**	- Control **simple everyday devices** to make them produce different outcomes.	- Control a device, on and off screen, making predictions about the effect their **programming** will have.	- Children are able to type a short **sequence of instructions** and to plan ahead when **programming devices** on and off screen.	- Use **control software** to control devices (using **output commands**) or to simulate this on screen.	- **Predict, test and refine** their programming.	- Independently create **sequences of commands** to control devices in response to sensing (i.e. use inputs as well as outputs). - **Design, build, test, evaluate** and **modify** the system; ensuring that it is fit for purpose.
Modelling and simulations	- Complete a simple game on a tablet or computer.	- Make simple choices to control a simple simulation program.	- Children are able to play an adventure game and use a simple simulation, making choices and observing the results. - Their conversation shows they understand that computers are good at replicating real life events and allowing them to explore contexts that are otherwise not possible.	- Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom. - Make simple use of a spreadsheet to store data and produce graphs.	- Set up and use a spreadsheet model to explore patterns and relationships. - Make predictions. - Know how to enter simple formulae to assist this process.	- Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. - Ask "what if …" questions and change variable in their model.	- Understand the need for accuracy when creating formulae and check regularly for mistakes, by questioning results. - Relate their use of spreadsheets to model situations to the wider world
Understanding technologies	- Recognise a range of technology in homes and schools. - Select and use technology for different purposes.	- Show an awareness of the range of devices and tools they encounter in everyday life. - Show an awareness that what they create on a computer or **tablet device** can be shown to others via another device (e.g. **printer, projector, Apple TV)**	- Show an awareness of a range of inputs to a computer **(IWB, mouse touch screen, microphone, keyboard,** etc) - Begin to show an awareness that computers can be linked to share resources.	- Show an understanding that their **password** is the key to accessing a personalised set of resources and files (e.g. My Documents). - Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details)	- Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made.	- Show an understanding of the **school network** and how it links computers to resources in school and beyond. - Compare this with other networks they may encounter at home or in the wider world (e.g. banks)	- Show an understanding of how **filtering and monitoring tools** affect their use of the school network and Internet and compare this with their experience of access outside school.

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Data Logging	- Count as a means of recording information.	- Use a simple **pictogram** to develop **graphic awareness**.	- Enter information into a simple **branching database.**	- Begin to use a **data logger** to sense physical data (sound, light, temperature).	- Use a **data logger** confidently, connected to the computer or remotely, to capture continuous or intermittent data readings. - Interpret the results and use these in their investigations.	- Realise the advantages of using ICT to collect data that might otherwise be problematic.	- Children are able to identify their own opportunities for **data logging** and carry out their own experiments. - They check and question results and are able to spot **trends in data** and identify when problems may have occurred.
Using the internet	- Children can use **tabs** to load games with support.	- Children know how to enter an **internet address.**	- Use websites and demonstrate an awareness of how to manage their journey around them (e.g. using the **back/forward button, hyperlinks**)	- Show an awareness that not all the resources/tools they use are resident on the device they are using.	- Begin to show an understanding of **URLs.** - Show an awareness of the need for accuracy in spelling and **syntax** to search effectively.	- Perform a search using different **search engines** and check the results against each other, explaining why they might be different.	- Use **collaborative tools** and **e-mail** showing a sensitivity for this type of **remote collaboration and communication.**