

Computing

The programme of study that we follow are:

Key Stage 1: National Curriculum 2014

Subject leader: Paige Simper

“Everyone should know how to program a computer,
because it teaches you how to think.”

Steve Jobs

At Blossomfield Infant School we ensure that children are surrounded by technology in different forms in a rich and stimulating environment. We provide children with a broad range of opportunities to use ICT across the curriculum and on a range of devices. We aim to ensure that all children become confident, competent and respectful users of ICT in school and at home.

The computing curriculum is divided into the following areas:

- Computer Science
- Digital Literacy
- Information Technology

Online Safety

At Blossomfield Infant School children are encouraged and enabled to become respectful users of the internet through well planned lessons and by participating in a range of exciting activities. Online safety is taught not only in online safety sessions and computing lessons, but it is embedded across the curriculum in order to enable children to become safe users of the internet. At Blossomfield, we ensure that children have a voice, and an online safety team is made up of representatives from each class. We work in collaboration with parents and aim to deliver a consistent approach to online safety at school and at home.

OVERVIEW IN COMPUTING FROM NURSERY TO YEAR 2

	NURSERY	RECEPTION	YEAR 1	YEAR 2
TERM				
autumn 1	- Technology in role play scenarios - Real and toy technology available - Explore technological resources - Using the interactive Whiteboard - Using computers to complete simple programmes - Using iPads Online Safety: Children use technology safely and respectfully.	- Using the interactive Whiteboard - Using computers to complete simple programmes - Using iPads - Develop vocabulary - Using 'talking tins' to record - Use technology in role play Online Safety: Children use technology safely and respectfully.	- Using the internet - To have an understanding of the internet and the World Wide Web. - To understand that images and text may be subject to copyright. Online Safety: Children know what to do if they are worried about anything they find online and who can help. Use technology safely and respectfully, keeping personal information private.	Exploring scratch - creating and debugging algorithms - Create and test a simple program, including debugging and re-writing where necessary - Using technology purposefully to create, organise, store, manipulate and retrieve content - Predict and explain what a simple program will do - Plan and create a WW2 programme
autumn 2	Use technology in role play	Using the interactive Whiteboard	On the way to the Toy shop	

	• Real and toy technology available for children to explore • Using the interactive Whiteboard • Using computers to complete simple programmes • Using iPads Online Safety: Children use technology safely and respectfully.	• Using computers to complete simple programmes • Using iPads • Use technology in role play • Explore technology that is used in the community (People who help us) Online Safety: Children use technology safely and respectfully.	• To follow a set of instructions to execute a simple program. They understand what an algorithm is. • To create and test a simple set of commands for other people to follow, including debugging and re-writing where necessary. • To predict and explain what a simple program will do before they run it. Online Safety: Children use technology safely and respectfully.	Online Safety: Children know what to do if they are worried about anything. Respecting the work of others which is stored on a shared drive. Password privacy.
spring 1	• Use technology in role play • Using iPads/digital cameras to take photos • Using interactive Whiteboard	• Using the interactive Whiteboard • Using computers to complete simple programmes • Using iPads	• Technology in the home • To talk about common uses of technology at home and in the local area and know in simple terms how these	• Digital content • Using search engines • Create and edit presentations Online Safety: Understand the importance of knowing who they are learning with online.

	- Using computers to complete simple programmes - Using iPads Online Safety: Children use technology safely and respectfully.	Use technology in role play Online Safety: Children use technology safely and respectfully.	are programmed and controlled - To know that the internet can be used under supervision of adults to support their learning - To use technology purposefully to create, organise, store, manipulate and retrieve digital content respecting the work of others. Online Safety: Children know what to do if they are worried about anything they find online and who can help.	Use the internet safely. Understand that not everything on the internet is true. Know what to do if they see something that makes them uncomfortable.
	SAFER INTERNET WEEK			
spring 2	- Use technology in role play - Developing mouse control - Pressing buttons to make technology work	- Using the interactive Whiteboard - Using computers to complete simple programmes - Using iPads	- Introduction to Scratch - To follow a set of instructions to execute a simple program. - Understand what an algorithm is	- Create computer art - use technology purposefully to create, organise, store, manipulate and retrieve digital content

	- Using interactive Whiteboard - Using computers to complete simple programmes - Using iPads Online Safety: Children use technology safely and respectfully.	- Use technology in role play - Access E-Books on class computers Online Safety: Children use technology safely and respectfully.	- To create and test a simple set of commands for other people to follow, including debugging and re-writing where necessary - To predict and explain what a simple program will do before they run it. Online Safety: To use technology safely and respectfully.	Online Safety: Children know what to do if they are worried about anything they find online and who can help.
summer 1	- Use technology in role play - Using remote control toys - Using interactive Whiteboard - Using computers to complete simple programmes - Using iPads Online Safety:	- Using the interactive Whiteboard - Using computers to complete simple programmes - Using iPads - Use technology in role play - Develop word processing skills	- Editing and Changing - Use technology purposefully to create, organise, store, manipulate and retrieve digital content - Understand that images and text may be subject to copyright Online Safety: To use technology safely and	- Create simple animations - create stop motion animation Online Safety: Children understand the difference between email and communication systems. Understand the importance of treating people politely online. Password privacy.

	Children use technology safely and respectfully.	Online Safety: Children know what to do if they are worried about anything.	respectfully, keeping personal information private.	Children use technology safely and respectfully, keeping personal information private.
summer 2	- Click and drag with increasing accuracy - Using interactive Whiteboard - Using computers to complete simple programmes - Using iPads Online Safety: Children use technology safely and respectfully.	- Using the interactive Whiteboard - Using computers to complete simple programmes - Using iPads - Use technology in role play - Discuss the use of search engines Online Safety: Children know what to do if they are worried about anything. Use the internet safely.	- Emails and Wikis - Recognise common uses of information technology beyond school. - Send and receive emails as a class under adult supervision - Work collaboratively to contribute to a class wiki Online Safety: identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	

What does 'Adaptive Teaching' look like in Computing?

We adapt our teaching to ensure children reach age-appropriate milestones.

Here are some examples of how we adapt our pedagogy:

- Targeted, tailored support
- Additional practice
- Breaking down components into smaller parts
- Acting on information from AFL
- Teaching carefully selected groups
- Well chosen resources
- Mixed attainment pairs

Break learning into small clear steps

- Model each step on the board before pupils try
- Using 'I do -> We do -> You do'
- Keeping instructions short and visual

Scaffold coding tasks

- Introduce practical 'coding' exercises before moving on to instructional coding activities (BeeBots) and then block based coding (Scratch Jnr)
- Use colour code blocks

Vocabulary support:

- Pre-teach key word
- Provide sentences starters:
'To debug the error, I...'
- Encourage talk partners

Use unplugged activities

- Algorithms:** giving instructions to a partner to draw a shape or directing a friend to a different location in the classroom
- Debugging:** finding mistakes in a sequences of picture cards



Visual opportunities:

- Step-by-step pictures/illustrations to support
- Icons, symbols, and colour coding for code blocks
- Images



- Videos



Auditory opportunities:

- Discussions
- Thinking aloud while modelling algorithms



Kinesthetic opportunities:

- Unplugged computing: sorting, sequencing cards, acting out algorithms
- Using physical robots (e.g. Bee-Bots)