

Overview of units

Unit	Learning outcomes	Computing programme of study	Software	Hardware
1.1 We are treasure hunters Solving problems using programmable toys	Pupils learn: - that a programmable robot can be controlled by inputting a sequence of instructions - to develop and record sequences of instructions as an algorithm - to program a robot to follow their algorithm - to debug programs - to predict how their programs will work.	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute them by following precise and unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs.	Main: Blue-Bot app Alternatives: - Programming interface for alternative toys - Scratch Bee-Bot emulator	Main: Blue-Bot (programmable toy) Alternatives: Other programmable toys such as: - Bee-Bot - Cubetto - Roamer Too - STEM Robot Mouse
1.2 We are TV chefs Filming the steps of a recipe	Pupils learn to: - break down a process into simple, clear steps (an algorithm) - use different features of a video camera - use a video camera to capture moving images - edit a video to include an audio commentary - develop collaboration skills - discuss their work and think about how it could be improved.	- Understand what algorithms are. - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common uses of information technology beyond school.	Main: Camera and iMovie apps on the iPad Alternatives: Video editing software such as: - WeVideo - Microsoft Photos	Main: iPads, ideally with tripods and clamps Alternatives: - Laptop/desktop computers and cameras with movie mode - Android tablets
1.3 We are digital artists Creating work inspired by great artists	Pupils learn: - how to select and set brushes and colours - to create artwork in a range of styles on iPads - to use the undo function if they make mistakes, and to encourage experimentation - to use multiple layers in their art - to transform layers - to paint on top of photographs.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common uses of information technology beyond school.	Main: - Brushes Redux - Autodesk SketchBook Alternatives: - Microsoft Paint - Microsoft Paint 3D - PaintZ for Chromebook	Main: - iPads - Styluses (optional) Alternatives: - Laptop/desktop computers - Android tablets - Chromebooks

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1.4 We are publishers Creating a multimedia eBook about our achievements	Pupils learn to: - plan a small multimedia eBook - choose and import images - record audio commentary - add and format titles and other text - think carefully about protecting their privacy - respect other people's copyright - revise and improve their work.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the Internet or other online technologies. - Recognise common uses of information technology beyond school.	Main: - Book Creator - Google Photos Alternatives: - Google Slides - Microsoft PowerPoint	Main: iPads Alternatives: - Laptop/desktop computers - Chromebooks
1.5 We are rhythmic Creating sound patterns in ScratchJr and GarageBand	Pupils learn to: - record audio on an iPad - program sprites to playback recorded audio in ScratchJr - program ScratchJr to create repeating rhythms using recorded audio - explore different effects that can be applied to audio - create a repeating percussion pattern using a virtual drum machine - experiment with a range of virtual instruments.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common uses of information technology beyond school. - Understand what algorithms are.	Main: - ScratchJr app - GarageBand Alternatives: - Scratch - Audacity - LMMS (Linux Multimedia Studio) - Soundtrap	Main: iPads (ideally with tripods and clamps) Alternatives: - Laptop/desktop computers - Chromebooks
1.6 We are detectives Using data to solve clues	Pupils learn: - how data can be structured as records with fields for information - how data can be organised into groups and subgroups - how data can be structured as a tree - how data can be organised into a table - how data in a table can be filtered and searched.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the Internet or other online technologies. - Recognise common uses of information technology beyond school.	Main: - Popplet - Google Forms - Google Sheets Alternatives: - FreeMind - Bubbl.us - MindMeister - Microsoft Forms - Microsoft Excel	Main: iPads Alternatives: - Laptop/desktop computers - Chromebooks - Android tablets