



THE RADSTONE
Primary School

LONG TERM PLANNING
Computing
EYFS & Key Stage 1



The Purpose of Study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.

Computing has deep links with mathematics, science, and design technology and provides insights into both natural and artificial systems. At the core of computing is computing science, in which pupils are taught the principals of information and computation, how design systems work, and how to put this knowledge to use through programming. Building on all of this, children are equipped to use IT to create programs, systems and a range of content. Computing also ensures that children become digitally literate – able to use and express themselves and develop their ideas through ICT – at a level suitable for the future workplace and as active participants in a digital world.

Aims of study

That all children:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Can analyse problems in computational terms and have repeated practical experience of writing computer programs in order to solve such problems.
- Can evaluate and apply IT, including new or unfamiliar technologies, analytically to solve problems.
- Are responsible, competent, confident and creative users of ICT

Based on the *Rising Stars for Computing Scheme* the following coverage occurs across the year:



	Autumn	Spring	Summer
Year 1	<p>We are Treasure Hunters – mapping skills and use of Beebots.</p> <p>We are TV Chefs – following algorithms to create an end product.</p>	<p>We are Digital Artists – creating work inspired by great artists.</p> <p>We are Publishers – creating an eBook about our achievements.</p>	<p>We are Rhythmic – creating sound patterns using ScratchJr and Garageband</p> <p>We are Detectives – using data to solve clues.</p>
Year 2	<p>We are Astronauts – programming on screen with ScratchJr.</p> <p>We are Game Testers – working out different rules for different online games.</p>	<p>We are Photographers – Taking, selecting and editing images.</p> <p>We are Safe Researchers – researching a topic.</p>	<p>We are Animators – creating a stop motion animation.</p> <p>We are Zoologists – collecting data about bugs.</p>



Coverage

Key Stage 1 Computing

Year 1

We are Treasure Hunters:

- Programmable robots can be controlled by inputting a sequence of instructions.
- Develop and record sequences of instructions as an algorithm.
- Program a robot to follow their algorithm.
- Debug and predict different programs.

We are TV Chefs:

- Break down a process into simple, clear steps.
- Use different features of a video camera.
- Use a video camera to capture moving images.
- Edit a video to include audio commentary.
- Develop collaboration skills.

We are Digital Artists:

- How to select and set brushes and colours.
- Create artwork in a range of styles on iPads.
- Use the undo function if they make mistakes, and to encourage experimentation.
- Use multiple layers in their art.
- Paint on top of photographs.

We are Publishers:

- 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.
- Respecting another person's copyright.

Year 2

We are Astronauts:

- Plan a sequence of instructions to move sprites in ScratchJr.
- Create, test and debug programs for sprites in ScratchJr.
- Work with input and output in ScratchJr.
- Use repetition in their programs.
- Design costumes for sprites.

We are Game Testers:

- Observe and describe carefully what happens in computer games.
- Use logical reasoning to make predication of what a program will do and test these predictions.
- Think critically about computer games and their use.
- Create sequences of instructions for a virtual robot to solve.
- Work out strategies for playing a game well.
- Be aware of how to use games safely and in balance with other activities.

We are Photographers:

- Consider the technical and artists merits of photographs.
- Use the iPad camera app,
- Take digital photographs
- Review, reject or pick the images they take.
- Edit and enhance their photographs.

We are Safe Researchers:

- Develop collaboration skills through working as part of a group.
- Develop research skills through searching for information in the Internet.



We are Rhythmic:

- Record audio on an iPad.
- Program sprites to playback recorded audio in ScratchJr.
- Program ScratchJr to create repeating rhythms using recorded audio.
- Explore different effect that can be applied to audio.
- Create a repeating percussion pattern using virtual drum machines.
- Experiment with a range of virtual instruments.

We are Detectives:

- Understand how data can be structured as records with fields for information.
- Organise data in groups and subgroups.
- Structure data as a tree.
- Structure data as a table.
- Filter and search within a data table.

- Think through privacy implications of their use of search engines.
- Be more discerning in evaluating online information.
- Develop presentation skills through creating and delivering a short multimedia presentation.

We are Animators:

- Understand how animation works,
- Use storyboards to plan an animation,
- Create their own original characters, props and backgrounds for animation.
- Film, review and edit a stop-motion animation.
- Record audio to accompany their animation.
- Provide constructive critical feedback to their peers.

We are Zoologists:

- Sort and classify a group of items by answering questions.
- Collect data using tick charts or tally charts,
- Take, edit and enhance photographs,
- Use Google Sheets or Microsoft Excel to produce basic charts.
- Record information on a digital mat,