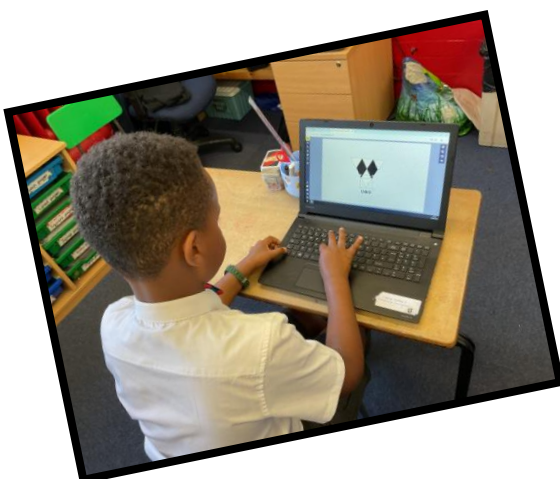


# Computing

Progression of conceptual knowledge, skills & vocabulary



Switched on Computing (3rd Edition).

# **Reception Overview**

## **Autumn 1 – Exploring Technology and Simple Instructions (Bee-Bots)**

Knowledge: Know that computers and robots follow instructions.

Skills: Give simple directions to a Bee-Bot; explore movement and direction.

Vocabulary: *Forward, back, turn, go, stop, robot, instruction*

## **Autumn 2 – Digital Painting**

Knowledge: Know that we can use computers to draw and make pictures.

Skills: Use a paint program to draw using tools like brushes and colours.

Vocabulary: *Paint, brush, colour, click, undo, screen*

## **Spring 1 – Sorting and Matching (Early Data Skills)**

Knowledge: Begin to understand that we can sort and group things using a computer.

Skills: Sort objects or pictures by type, size, or colour on-screen.

Vocabulary: *Sort, group, match, same, different*

## **Spring 2 – Digital Mark Making (Typing and Writing)**

Knowledge: Know that we can type letters and words on a keyboard.

Skills: Begin to type simple words or names; use space and delete.

Vocabulary: *Keyboard, letters, type, space, delete*

## **Summer 1 – Staying Safe Online**

Knowledge: Know that we should tell an adult if something makes us feel upset or confused online.

Skills: Recognise when to ask for help; understand personal information should stay private.

Vocabulary: *Safe, adult, help, kind, private*

## **Summer 2 – Taking Photos**

Knowledge: Know that we can use devices to take pictures.

Skills: Use a camera or tablet to take and look at photos.

Vocabulary: *Camera, photo, picture, take, delete, smile*

# Year 1

## **Autumn 1: We are treasure hunters (1.1)**

Knowledge: Understand that algorithms are a sequence of instructions.

Skills: Use simple instructions to program a floor robot.

Vocabulary: Algorithm, sequence, instruction, Bee-Bot, program, debug

## **Autumn 2: We are TV chefs (1.2)**

Knowledge: Understand how to follow and create algorithms to complete tasks (e.g., recipes).

Skills: Sequence instructions using digital tools to create multimedia recipes.

Vocabulary: Sequence, instruction, algorithm, photo, record, sound, steps

## **Spring 1: We are digital artists (1.3)**

Knowledge: Explore different styles of digital artwork.

Skills: Use a paint program to create images using shape, fill, and brush tools.

Vocabulary: Brush, colour, fill, shape, texture, digital art

## **Spring 2: We are publishers (1.4)**

Knowledge: Understand how text and images can be combined to communicate ideas.

Skills: Use simple publishing tools to create and format a document.

Vocabulary: Text, font, insert, layout, image, title

## **Summer 1: We are rhythmic (1.5)**

Knowledge: Learn how sound and rhythm can be created digitally.

Skills: Use software to create simple musical patterns.

Vocabulary: Beat, rhythm, pattern, sound, tempo, repeat

## **Summer 2: We are detectives (1.6)**

Knowledge: Understand how to collect and interpret information using data.

Skills: Use basic graphs and pictograms to answer questions.

Vocabulary: Data, chart, question, information, pictogram

# Year 2

## **Autumn 1: We are astronauts (2.1)**

Knowledge: Understand how algorithms are used in programming.

Skills: Create simple programs using sequences in Scratch Jr.

Vocabulary: Algorithm, sequence, Scratch Jr, program, sprite

## **Autumn 2: We are game testers (2.2)**

Knowledge: Understand basic debugging and game logic.

Skills: Play and test educational games to identify bugs.

Vocabulary: Debug, test, game, sequence, bug, fix

## **Spring 1: We are photographers (2.3)**

Knowledge: Understand how to take well-framed and purposeful photographs.

Skills: Use cameras/tablets to take, edit, and organise photos.

Vocabulary: Photo, image, frame, edit, focus, gallery

## **Spring 2: We are researchers (2.4)**

Knowledge: Understand how to search for and gather information online.

Skills: Use safe search engines to answer questions.

Vocabulary: Search, keyword, information, website, facts

## **Summer 1: We are animators (2.5)**

Knowledge: Understand the basics of stop-motion animation.

Skills: Create a short animation using a sequence of still images.

Vocabulary: Animate, frame, motion, stop-motion, sequence

## **Summer 2: We are zoologists (2.6)**

Knowledge: Understand how to collect data about animals and their habitats.

Skills: Use digital tools to organise, present, and analyse animal-related data.

Vocabulary: Data, sort, record, chart, habitat, animal

# Year 3

## **Autumn 1: We are programmers (3.1)**

Knowledge: Explore control and repetition in programming.

Skills: Design programs using repetition in Scratch.

Vocabulary: Scratch, repeat, loop, sprite, script

## **Autumn 2: We are bug fixers (3.2)**

Knowledge: Understand how to debug existing code.

Skills: Identify and fix errors in code to improve functionality.

Vocabulary: Bug, debug, fix, error, test

## **Spring 1: We are presenters (3.3)**

Knowledge: Learn how to present ideas using digital tools.

Skills: Create and record multimedia presentations.

Vocabulary: Slide, record, present, transition, audio

## **Spring 2: We are network engineers (3.4)**

Knowledge: Understand how devices connect to form networks.

Skills: Map and describe basic network structures.

Vocabulary: Network, connection, Wi-Fi, server, router

## **Summer 1: We are communicators (3.5)**

Knowledge: Know how to communicate effectively and safely online.

Skills: Send and receive messages using email and collaborative tools.

Vocabulary: Email, message, communicate, reply, subject

## **Summer 2: We are opinion pollsters (3.6)**

Knowledge: Understand how to collect and interpret data.

Skills: Create surveys and display results in charts.

Vocabulary: Survey, data, graph, poll, analyse

# Year 4

## **Autumn 1: We are software developers (4.1)**

Knowledge: Use selection to control program flow.

Skills: Write code using IF statements in Scratch.

Vocabulary: IF, ELSE, condition, Boolean, selection

## **Autumn 2: We are toy designers (4.2)**

Knowledge: Use digital tools to design interactive toys.

Skills: Create and animate toy prototypes on screen.

Vocabulary: Animation, design, interact, toy, digital

## **Spring 1: We are musicians (4.3)**

Knowledge: Understand how to compose digital music.

Skills: Use software to mix and edit audio tracks.

Vocabulary: Compose, mix, beat, rhythm, track

## **Spring 2: We are HTML editors (4.4)**

Knowledge: Learn the basics of HTML and webpage structure.

Skills: Edit and create simple web pages using HTML.

Vocabulary: HTML, tag, edit, structure, webpage

## **Summer 1: We are co-authors (4.5)**

Knowledge: Understand how to collaborate on documents.

Skills: Use blogs and shared docs to publish content.

Vocabulary: Blog, collaborate, share, comment, post

## **Summer 2: We are meteorologists (4.6)**

Knowledge: Learn how to collect and analyse weather data.

Skills: Use digital tools to record and present forecasts.

Vocabulary: Weather, data, forecast, record, chart

# Year 5

## **Autumn 1: We are game developers (5.1)**

Knowledge: Understand and use variables in programs.

Skills: Create games using variables to track outcomes.

Vocabulary: Variable, score, value, game, outcome

## **Autumn 2: We are cryptographers (5.2)**

Knowledge: Learn about encryption and code-breaking.

Skills: Use and create simple ciphers and secret messages.

Vocabulary: Cipher, encode, decode, message, encryption

## **Spring 1: We are artists (5.3)**

Knowledge: Create digital art using vector drawing tools.

Skills: Design geometric images using vector software.

Vocabulary: Vector, shape, layer, align, duplicate

## **Spring 2: We are web developers (5.4)**

Knowledge: Learn how websites are made and structured.

Skills: Design and create a simple website.

Vocabulary: Webpage, HTML, link, structure, design

## **Summer 1: We are bloggers (5.5)**

Knowledge: Understand how to publish digital content.

Skills: Write and share blog posts responsibly.

Vocabulary: Blog, post, publish, audience, comment

## **Summer 2: We are architects (5.6)**

Knowledge: Understand 3D modelling concepts.

Skills: Use software to design and manipulate 3D models.

Vocabulary: 3D, shape, scale, rotate, design

# Year 6

## **Autumn 1: We are app planners (6.1)**

Knowledge: Understand the process of planning a digital product.

Skills: Create wireframes and plan an app interface.

Vocabulary: App, wireframe, design, interface, user

## **Autumn 2: We are project managers (6.2)**

Knowledge: Organise and manage a computing project.

Skills: Assign tasks, plan workflows and set timelines.

Vocabulary: Plan, manage, workflow, timeline, task

## **Spring 1: We are market researchers (6.3)**

Knowledge: Use surveys and data to research user needs.

Skills: Design questionnaires and analyse responses.

Vocabulary: Survey, analyse, data, feedback, research

## **Spring 2: We are interface designers (6.4)**

Knowledge: Design clear and user-friendly interfaces.

Skills: Create mock-ups for digital interfaces.

Vocabulary: Interface, design, user, mock up, layout

## **Summer 1: We are app developers (6.5)**

Knowledge: Develop simple interactive apps.

Skills: Code and test applications based on designs.

Vocabulary: App, code, test, develop, interactive

## **Summer 2: We are marketers (6.6)**

Knowledge: Understand how digital content influences reputation.

Skills: Create promotional materials for apps.

Vocabulary: Reputation, influence, promote, media, content