

# Computing – key stages 1 and 2

## **Key stage 1**

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- 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.

## **Key stage 2**

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 1:

<p><u>Computer Skills</u></p> <p>Children will learn basic computer skills including turning on and off a computer, opening applications and how to effectively use a mouse.</p>
<p><u>Word Processing</u></p> <p>Children will learn how to type and save a document as well as editing and formatting.</p>
<p><u>Painting</u></p> <p>Children will use a paint software to change colours and brushes. They will learn how to add a shape, text and to edit their work.</p>
<p><u>Programming Toys</u></p> <p>Children will learn how a program a clear set of instructions. They will learn what an algorithm is and how they can be used to make a Beebot move. Children will learn how to debug an algorithm.</p>
<p><u>Programming Scratch Jr</u></p> <p>Children will learn how to program an object on the screen. They will learn how to make the object move, grow, shrink and make sounds. They will learn how to make a sequence of movements.</p>
<p><u>Using and applying.</u></p> <p>Children will show a range of basic skills on the computer. They will demonstrate that they can create a picture and type and edit information on a document.</p>
<p><u>Esafety</u></p> <p>All children will take part in the national Safer Internet Day. The children will be introduced to Hectors world an animated series which highlights how to remain safe on the internet.</p>

Year 2:

<p><u>Computer Art</u></p> <p>Children will learn how to create computer art. They will learn how to use different functions to create different types of art. Children will learn to edit colours and shapes.</p>
<p><u>Preparing for Turtle Logo</u></p> <p>Children will learn how to give and follow an algorithm to make an object turn right and left to different degrees. They will learn how to give, follow and complete an algorithm using the correct language.</p>
<p><u>Programming Turtle Logo and Scratch</u></p> <p>Children will learn how to use an algorithm to move a turtle, repeat a command and add sound. They will learn how to use the program scratch to create an algorithm using the green flag as well as changing the backgrounds and sprites.</p>
<p><u>Presentation Skills</u></p> <p>Children will learn to use folders and organize and create a presentation. They will learn how to format the presentation and reorder the slides.</p>
<p><u>Using the Internet</u></p> <p>Children will learn how to search the internet and follow a link to another page. They will learn how to safely create a blog and add positive comments.</p>
<p><u>Using and Applying</u></p> <p>The children will show that they can use and apply all their computer skills that they have learnt.</p>
<p><u>Esafety</u></p> <p>All children will take part in the national Safer Internet Day.</p>

Year 3:

<u>Word Processing</u> Children will learn how to take a screen shot and add a text box. They will be able to change the case and align the text using bullet points.
<u>Programing Turtle Logo and Scratch</u> Children will learn to move a sprite backwards and put the pen up and down. They will be able to create and draw a polygon using the scratch programme.
<u>Drawing and Desktop Publishing</u> Children will learn to draw shapes and lines and the change them. They will learn how to use text, images and layout effectively.
<u>Internet Research and Communications</u> Children will learn how to effectively search and explain the results. They will show how to save and share websites.
<u>Presentation Skills</u> Children will learn to create a branching story. They will create and organize slides by using themes, transitions and animation.
<u>Using and Applying</u> The children will show that they can use and apply all their computer skills that they have learnt.
<u>Esafety</u> All children will take part in the national Safer Internet Day.

Year 4

<u>Word Processing</u> The children will learn how to format images and layout. They will learn how to use spellcheck and insert a table and hyperlinks to a document.
<u>Scratch</u> Children will learn to write, design and debug a program. They will learn to use and select sequences and work different variables.
<u>Programming Turtle Logo</u> Children will learn to create and debug algorithms for different shapes and colours.
<u>Animation</u> Children will look at different forms of animation. They will create a short computer animation using different programs.
<u>Photo story</u> Children will learn to create a comic strip layout using photos. They will learn to edit and enhance a project.
<u>Using and Applying</u> The children will show that they can use and apply all their computer skills that they have learnt.
<u>Esafety</u> All children will take part in the national Safer Internet Day.