

## Computing Curriculum Vision, Aims and Overview

At Harefield School, our Computing curriculum aims to...

We believe that computing is inherently interesting and seek to motivate pupils through the subject matter. Where possible, we draw on real world experiences to provide an engaging viewpoint on computing concepts. Every pupil should have the opportunity to implement their skills and knowledge and ultimately feel a sense of achievement. We provide opportunities for pupils to be creative and solve problems by building their own programmes and applications for example.

### Key Aims of Computing at Harefield School:

- To develop computational thinking and problem-solving skills.
- To enhance proficiency in various programming languages and software.
- To promote understanding of the impact of technology on society.
- To cultivate digital literacy and online safety awareness.
- To encourage creativity and innovation through project-based learning.

	Year 7	Year 8	Year 9
<b>Autumn 1</b>	Unit 1: Impact of technology 1.1 Account security 1.2 Respectful communication 1.3 Cyberbullying 1.4 Recognise and report 1.5 Use presentation tools 1.6 Create a presentation	Unit 7: Design vector graphics 7.1 Get into shapes 7.2 Paths united 7.3 Icon challenges 7.4 What will you make 7.5 Under the hood	Unit 13: Animations 13.1 Move, rotate, scale, colour 13.2 Animation, names, parenting 13.3 Complex models and colours 13.4 Organic modelling 13.5 Lights, camera, render
<b>Autumn 2</b>	Unit 2: Gaining support for a cause: 2.1 Features of a word processor 2.2 Licensing appropriate images 2.3 Credibility of sources 2.4 Researching 2.5 Promoting your cause 2.6 Project completion	Unit 8: Computing systems 8.1 Get in gear 8.2 Under the hood 8.3 Orchestra conductor 8.4 It's only logical 8.5 Thinking machines 8.6 Sharing	Unit 14: Data science 14.1 Delving into data science 14.2 Global data 14.3 Statistical state of mind 14.4 Data for action 14.5 Clean it up 14.6 Make a change

<p><b>Spring 1</b></p>	<p>Unit 3: Networks from semaphores to the internet:</p> <p>3.1 Computer networks and protocols 3.2 Network hardware 3.3 Wired and wireless networks 3.4 The internet 3.5 Internet services 3.6 The world wide web</p>	<p>Unit 9: Development for the web</p> <p>9.1 Website building blocks 9.2 Words are not enough 9.3 Taking shortcuts 9.4 Searching the web 9.5 Tightening the web 9.6 The spread of the web</p>	<p>Unit 15: Cybersecurity</p> <p>15.1 You and your data 15.2 Social engineering 15.3 Script kiddies 15.4 Rise of the bots 15.5 There's no place like 127.0.0.1 15.6 Under attack</p>
<p><b>Spring 2</b></p>	<p>Unit 4: Spreadsheets</p> <p>4.1 Getting to know spreadsheet 4.2 Quick calculations 4.3 Collecting data 4.4 Become a data master 4.5 Level up your data skills 4.6 Conditional formatting</p>	<p>Unit 10: Representations: from clay to silicon</p> <p>10.1 Across time and space  10.2 Lights and drums 10.3 Binary digits 10.4 Numbers in binary 10.5 Large quantities 10.5 Turing's mug</p>	<p>Unit 16: Representations: going audiovisual</p> <p>16.1 Binary music 16.2 A splash of colour 16.3 Collage 16.4 Good vibrations 16.5 Sonic playground</p>
<p><b>Summer 1</b></p>	<p>Unit 5: Programming essentials in Scratch part 1</p> <p>5.1 Sequencing 5.2 Variables 5.3 Selection 5.4 Operators 5.5 Count controlled iteration 5.6 Problem solving</p>	<p>Unit 11: Mobile app development</p> <p>11.1 App for that 11.2 Tappy tap app 11.3 School lab studios 11.4 User input 11.5 App development 11.6 Project completion</p>	<p>Unit 17: Python programming with sequences of data</p> <p>17.1 Warm up 17.2 Playlist 17.3 In a while, crocodile 17.4 The famous for 17.5 Make a thing 17.6 Wrap up</p>
<p><b>Summer 2</b></p>	<p>Unit 6: Programming essentials in Scratch part 1</p> <p>6.1 You've got the moves 6.2 Flay cat, fly 6.3 Loop the loop 6.4 Treasure those lists 6.5 Translate this (part 1) 6.5 Translate this (part 2)</p>	<p>Unit 12: Intro to Python programming</p> <p>12.1 First steps 12.2 Crunching numbers 12.3 At a crossroads 12.4 More branches 12.5 Round and round 12.6 Putting it all together</p>	<p>Unit 18: Physical computing programming</p> <p>18.1 Hello physical world 18.2 Bare bones 18.3 Making connections (part 1) 18.4 Making connections (part 2) 18.5 Mixing it up</p>