

Our computing curriculum has been developed through and informed by the Kapow scheme of work. As a result, full details of our curriculum offer, and progression documents are subject to copyright restrictions and we are not able to publish our scheme of work on our website. If you would like to know further information about our Computing curriculum provision, please come into school to talk to the Computing co-ordinator or class teacher.

Computing Curriculum overview

CS - Computer Science

IT - Information Technology

DL - Digital literacy (inc. online safety)

EYFS

| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|--|--|---|---|---|---|
| Setting up continuous provision in the classroom: Computing through continuous provision | <p><u>Programming 1</u></p> <p>All about instructions</p> <p>The children learn to receive and give instructions and understand the importance of precise instructions.</p> | <p><u>Computing Systems and Networks</u></p> <p>Using a computer</p> <p>Learning about the main parts of a computer and how to use the keyboard and mouse. Learning how to log in and out.</p> | <p><u>Computing Systems and Networks</u></p> <p>Exploring hardware</p> <p>Tinkering and exploring with different computer hardware and learning to operate a camera.</p> | <p><u>Programming 2</u></p> <p>Programming Bee-Bots</p> <p>Children learn about directions, experiment with programming a Bee-bot/Blue-bot and tinker with hardware.</p> | <p><u>Data Handling</u></p> <p>Introduction to data</p> <p>Children sort and categorise data and are introduced to branching databases and pictograms.</p> |
| +Online Safety | | | | | |
| | <p><i>Anti-bullying Week - cyber bullying lesson/assembly to be delivered during this week.</i></p> | <p><i>Safer Internet Day - assemblies, lessons, activities based on the year's SID theme</i></p> | | | |

YEAR 1

| Autumn 1 | | Autumn 2 | | Spring 1 | | Spring 2 | | Summer 1 | | Summer 2 | | |
|---|----|---|--|--|--|--|--|---|----|---|----|----|
| <p><u>Computing systems and networks</u></p> <p>Improving mouse skills</p> <p>Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art</p> | | <p><u>Programming 1</u></p> <p>Algorithms unplugged</p> <p>Algorithms, decomposition and debugging are made relatable to familiar contexts, following directions, learning why instructions need to be specific.</p> | | <p><u>Skills Showcase</u></p> <p>Rocket to the moon</p> <p>Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.</p> | | <p><u>Programming 2</u></p> <p>Programming Bee-Bots (option 1)</p> <p>Introducing programming through the use of a Bee-Bot and exploring its functions.</p> | | <p><u>Creating Media</u></p> <p>Digital imagery</p> <p>Taking and editing photos, searching for and adding images to a project.</p> | | <p><u>Data Handling</u></p> <p>Introduction to data</p> <p>Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.</p> | | |
| IT | DL | CS | | DL | | CS | | CS | IT | DL | IT | DL |
| <p>+Online Safety - IT/DL</p> <p>Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.</p> | | | | | | | | | | | | |
| <p>Lesson 1: Using the Internet Safely</p> <p><i>To know what the internet is and how to use it safely</i></p> | | <p><i>Anti-bullying Week - cyber bullying lesson/assembly to be delivered during this week.</i></p> | | <p><i>Safer Internet Day - assemblies, lessons, activities based on the year's SID theme</i></p> <p>Lesson 2: Online Emotions</p> <p><i>To understand different feelings when using the internet.</i></p> | | <p>Lesson 3: Always be Kind and Considerate</p> <p><i>To understand how to treat others, both online and in-person.</i></p> | | <p>Lesson 4: Posting and Sharing Online</p> <p><i>To understand the importance of being careful about what we post and share online.</i></p> | | <p>Lesson 5: How much time should we spend on technology?</p> <p><i>To discuss ways to balance time spent online and offline.</i></p> | | |

YEAR 2

| Autumn 1 | | Autumn 2 | Spring 1 | Spring 2 | | Summer 1 | | Summer 2 | |
|--|----|--|---|--|----|--|----|--|----|
| <u>Computing systems and networks 1</u> What is a computer? Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world to design their own computerised invention. | | <u>Programming 1</u> Algorithms and debugging Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops. | <u>Computing systems and networks 2</u> Word processing Developing touch typing skills, learning keyboard shortcuts and simple editing tools. | <u>Programming 2</u> Programming: Scratch Jr Exploring what 'blocks' do' by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument. | | <u>Creating Media</u> Stop Motion Learning how to create simple animations from storyboarding creative ideas. | | <u>Data Handling</u> International Space Station Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive. | |
| CS | IT | CS | DL | CS | DL | IT | DL | CS | DL |
| +Online Safety - (IT/DL) Learning: how to keep information safe and private online; who we should ask before sharing things online and how to give, or deny permission online. | | | | | | | | | |
| Lesson 1: What Happens When I Post Online? <i>To decide which information is safe to share online.</i> | | <i>Anti-bullying Week - cyber bullying lesson/assembly to be delivered during this week.</i> | <i>Safer Internet Day - assemblies, lessons, activities based on the year's SID theme</i> Lesson 2: How do I keep my things safe online? <i>To practise keeping information safe and private online.</i> | | | Lesson 3: It's My Choice <i>To recognise when to deny permission online.</i> | | Lesson 4: Is It True? <i>To recognise that not everything online is true.</i> | |

YEAR 3/4

| Year | Autumn 1 | | | Autumn 2 | | | Spring 1 | | | Spring 2 | | | Summer 1 | | Summer 2 | |
|------|---|----|----|--|----|----|--|----|----|---|----|----|--|----|--|----|
| A | <u>Computing Systems and Networks</u> Emailing (Y3) Sending emails with attachments and understanding what cyberbullying is. | | | <u>Programming</u> Programming: Scratch (Y3) Exploring the programme Scratch, following the predict > test > review cycle. Learning about 'loops' and programming an animation, story and game. | | | <u>Creating media</u> Video trailers (Y3) Developing digital video skills to create trailers, with special effects and transitions. | | | <u>Creating media</u> Website design (Y4) Learning how web pages and sites are created and how to embed media and links. | | | <u>Programming 1</u> Further coding with Scratch (Y4) Revisiting the key features and beginning to use 'variables' in code scripts. | | <u>Programming 2</u> Computational thinking (Y4) Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition. | |
| | CS | IT | DL | CS | IT | DL | CS | IT | DL | CS | IT | DL | CS | IT | CS | IT |
| | +Online Safety (Y3) - IT/DL Learning: the difference between fact, opinion and belief; and how to deal with upsetting online content. Knowing how to protect personal information online. | | | | | | | | | | | | | | | |
| | Lesson 1: Beliefs, opinions and facts on the internet. <i>To understand how the internet can be used to share beliefs, opinions and facts.</i> | | | <i>Anti-bullying Week - cyber bullying lesson to be delivered during this week.</i> | | | <i>Safer Internet Day - assemblies, lessons, activities based on the year's SID theme.</i> Lesson 2: Who should I ask? <i>To explain what should be done before sharing information online.</i> | | | Lesson 3: When being online makes me upset. <i>To identify the effects that the internet can have on people's feelings.</i> | | | Lesson 4: Sharing of information <i>To understand the ways personal information can be shared on the internet.</i> | | Lesson 5: Rules of social media platforms. <i>To understand the rules for social media platforms.</i> | |

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| B | <u>Computing Systems and Networks</u> Networks and the internet (Y3) Learning what a network and how devices communicate and share information. | | | <u>Data Handling</u> Comparison cards databases (Y3) Learning about records, fields and data and sorting and filtering data. | | | <u>Computing Systems and Networks</u> Journey inside a computer (Y3) Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works. | | | <u>Computing Systems and Networks</u> Collaborative learning (Y4) Learning how to work collaboratively and exploring a range of collaborative tools. | | | <u>Data Handling</u> Investigating weather (Y4) Researching and storing data on spreadsheets and designing a weather station. | | | <u>Skills Showcase</u> HTML (Y4) Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remix' a live website. | | |
| | CS | IT | DL | CS | IT | | CS | IT | DL | CS | IT | DL | CS | IT | DL | CS | IT | DL |
| | +Online Safety (Y4) - IT/DL Searching for information and making a judgement about the probable accuracy; recognising adverts and pop-ups; understanding that technology can be distracting. | | | | | | | | | | | | | | | | | |
| | Lesson 1: What happens when I search online? <i>To describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy.</i> | | | <i>Anti-bullying Week - cyber bullying lesson to be delivered during this week.</i> | | | <i>Safer Internet Day - assemblies, lessons, activities based on the year's SID theme</i> Lesson 2: How do companies encourage us to buy online? <i>To describe some of the methods used to encourage people to buy things online.</i> | | | Lesson 3: Fact, opinion or belief? <i>To explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.</i> | | | Lesson 4: What is a bot? <i>To explain that technology can be designed to act like or impersonate living things.</i> | | | Lesson 5: What is my #TechTimetable like? <i>To explain how technology can be a distraction and identify when I might need to limit the amount of time spent using technology.</i> | | |

YEAR 5/6

| Year | Autumn 1 | | | Autumn 2 | | | Spring 1 | | Spring 2 | | | Summer 1 | | | Summer 2 | | |
|------|---|----|----|---|----|----|---|----|---|----|----|---|----|----|--|----|----|
| A | Programming Micro:bit (Y5) Creating algorithms and programs that are used in the real world. Using the 'predict, test and evaluate' cycle to create and debug programs with specific aims. | | | Data Handling Mars Rover 1 (Y5) Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code. | | | Skills Showcase Mars Rover 2 (Y5) Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred. | | Computing Systems and Networks Bletchley Park (Y6) Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations. | | | Creating Media The History of Computers (Y6) Writing, recording and editing radio plays set during WWII, learning about how computers have evolved. | | | Skills Showcase Inventing a product (Y6) Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and creating a website and video. | | |
| | CS | IT | DL | CS | IT | DL | CS | IT | CS | IT | DL | CS | IT | DL | CS | IT | DL |
| | +Online Safety (Y5) - IT/DL Learning about app permissions; the positive and negative aspects of online communication; that online information is not always factual; how to deal with online bullying and managing our health and wellbeing. | | | | | | | | | | | | | | | | |
| | Lesson 1: Online Protection <i>To understand how apps can access personal information and how to alter the permissions.</i> | | | <i>Anti-bullying Week - cyber bullying lesson/assembly to be delivered during this week.</i> Lesson 2: Online Communication <i>To be aware of the positive and negative aspects of online communication.</i> | | | <i>Safer Internet Day - assemblies, lessons, activities based on the year's SID theme</i> | | Lesson 3: Online reputation <i>To understand how online information can be used to form judgements</i> | | | Lesson 4: Online bullying <i>To discover ways to overcome bullying..</i> | | | Lesson 5: Online health <i>To understand how technology can affect health and wellbeing.</i> | | |

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|---|---|----|--|--|--|---|---|----|---|---|----|--|---|--|--|---|--|
| B | <u>Programming</u> Programming music (Y5) Building-on programming and music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance! | | | <u>Creating Media</u> Stop motion animation (Y5) Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image. | | | <u>Computing Systems and Networks</u> Search engines (Y5) Learning about how page rank works and how to identify inaccurate information. | | | <u>Data Handling</u> Big data 1 (Y6) Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID. | | | <u>Data Handling</u> Big data 2 (Y6) Further developing understanding of how networks and the Internet are able to share information. Learning how big data can be used to design smart buildings. | | | <u>Programming</u> Introduction to Python (Y6) Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient. | |
| | CS | IT | DL | CS | | | IT | DL | CS | IT | DL | CS | IT | | | | |
| | +Online Safety (Y6) - IT/DL | | | | | | | | | | | | | | | | |
| | Learning to deal with issues online; about the impact and consequences of sharing information online; how to develop a positive online reputation; combating and dealing with online bullying and protective passwords. | | | | | | | | | | | | | | | | |
| Lesson 1: Life Online <i>To describe online issues that give us negative feelings and know how to get help.</i> | | | Anti-bullying Week - cyber bullying lesson to be delivered during this week. Lesson 2: Sharing Online <i>To explore the impact and consequences of sharing online.</i> | | | Safer Internet Day - assemblies, lessons, activities based on the year's SID theme Lesson 3: Creating a Positive Online Reputation <i>To know how to create a positive online reputation.</i> | | | Lesson 4: Capturing Evidence. <i>To describe how to capture bullying content as evidence.</i> | | | Lesson 5: Password Protection <i>To manage personal passwords effectively.</i> | | | Lesson 6: Think Before you Click <i>To be aware of strategies that help protect people online.</i> | | |