ST BERNADETTE'S RC PRIMARY SCHOOL

Progression in Computing



Progression of Skills

St Bernadette's RC Primary School

Computing Subject Progression

St Bernadette's Computing
Our Intent, Implementation and Impact

Intent

At St Bernadette's RC Primary School, our Computing curriculum aims to equip children with the knowledge, skills and confidence to thrive in an increasingly digital world. Through engaging and progressive learning experiences, children develop computational thinking, creativity and problem-solving skills while learning to use technology safely, responsibly and respectfully. Computing enhances learning across the curriculum and provides the building blocks needed for future education, careers and everyday life.

Implementation

Computing is taught through a structured and progressive curriculum, supported by the Kapow Primary scheme, ensuring clear progression in knowledge and skills from EYFS to Year 6. Children access regular timetabled computing lessons and opportunities to apply their learning across other curriculum areas. Staff are supported through high-quality planning, resources and professional development, while children's work is recorded through digital and practical outcomes that demonstrate their learning journey.

Impact

By the time children leave St Bernadette's, they will be confident, responsible and capable users of technology who understand both how and why technology is used. Progress is assessed through observations, discussions, digital outcomes and evidence of skills development over time. Children can articulate their learning, demonstrate increasing independence and show an understanding of how computing supports their personal wellbeing, future career opportunities and participation in the modern world.

St Bernadette's RC Primary School

Computing Subject Progression

Progression of Skills & Knowledge

COMPUTER SCIENCE

Milestone 1 – End of EYFS

Skills

- Explore and use simple technology and programmable toys.
- Follow and give simple instructions.
- Begin to understand that technology follows commands.
- Recognise patterns, sequences and routines in everyday activities.

Knowledge

- Technology can be programmed to carry out instructions.
- Instructions need to be clear and given in the correct order.
- Digital devices respond to commands from users.

Milestone 2 – End of Year 2

Skills

- Use a range of digital devices, including keyboards, cameras and tablets.
- Identify input and output devices.
- Follow, create and sequence simple algorithms.
- Use decomposition and logical reasoning to solve problems.
- Program and debug simple robots and computer programs.
- Use loops to repeat instructions.
- Create digital content such as photos and videos.

Knowledge

Covered in Year 1
Covered in Year 2
Reinforced/Developed across both years

- Computers are made up of different components that work together.

Milestone 3 – End of Year 4

Skills

- Understand how computers, networks and the internet work.
- Use decomposition, abstraction and logical reasoning to solve problems.
- Design, create, test and debug programs.
- Use sequences, loops, variables and selection (if statements).
- Modify and improve existing code.
- Create digital content and present data using technology.

Knowledge

Covered in Year 3
Covered in Year 4
Reinforced/Developed across both years

- Computers are made up of components that work together.
- Networks connect devices and enable communication and data sharing.

Milestone 4 – End of Year 6

Skills

- Understand how computer systems, memory and networks operate.
- Use binary and understand how data is represented digitally.
- Apply decomposition, abstraction and logical reasoning to solve complex problems.
- Design, create, test and debug increasingly sophisticated programs.
- Use variables, selection, repetition and nested loops effectively.
- Program physical devices and use text-based languages such as Python.
- Evaluate, adapt and improve existing code.
- Use technology, including AI tools, safely and responsibly.

Knowledge

Covered in Year 5
Covered in Year 6
Reinforced/Developed across both years

St Bernadette's RC Primary School

Computing Subject Progression

		• Input devices send information to a computer; output devices present information. • An algorithm is a set of clear, ordered instructions. • Algorithms become programs when written as code. • Programs follow instructions exactly. • Errors are called bugs and are fixed through debugging. • Decomposition helps break problems into smaller parts. • Loops repeat instructions in a program. • Programming is used to create games, apps, websites and other digital technologies. • Technology can be used safely to create, store, organise and retrieve information. • Personal information should be kept private, and help should be sought if something online causes concern.	• The internet is a global network that transfers data in packets. • Algorithms are turned into programs through coding. • Loops, variables and conditionals make programs more effective. • Decomposition and abstraction help solve complex problems. • Bugs are errors in programs and debugging fixes them. • Data can be collected, represented and analysed using technology.	• Computers use RAM, ROM and processors to manage and execute tasks. • Data is represented digitally using binary and can be stored, transferred and compressed. • Networks, search engines and the internet enable communication and access to information. • Algorithms are implemented through code to create programs and digital systems. • Variables, conditionals and loops control program behaviour. • Physical devices and sensors can be controlled through programming. • AI systems are trained on data to recognise patterns and generate outputs. • Data can be transmitted, encrypted and protected to improve security. • Errors in programs are identified and corrected through systematic debugging.

St Bernadette's RC Primary School

Computing Subject Progression



INFORMATION TECHNOLOGY

Milestone 1 – End of EYFS

Skills

- Use devices such as tablets, cameras and interactive whiteboards with support.
- Create simple digital content such as drawings, photographs and recordings.
- Use technology to explore, play, create and communicate.
- Begin to save and retrieve work with adult guidance.

Knowledge

- Different devices have different purposes.
- Technology can be used to create pictures, photographs, videos and sound recordings.
- Digital work can be saved and shared.

Milestone 2 – End of Year 2

Skills

- Use a range of software to create and edit digital content.
- Use keyboards, mice and touchscreens effectively.
- Create and edit images, photographs, text and simple animations.
- Search for information and images online safely.
- Collect, record and interpret simple data.
- Recognise how technology is used in school and everyday life.

Knowledge

Covered in Year 1
Covered in Year 2
Reinforced/Developed across both years

- Digital content can be created, saved, edited and shared using technology.
- Images, photographs and text can be modified using different software tools.
- The internet connects people and devices.
- Online searches should be carried out safely and responsibly.

Milestone 3 – End of Year 4

Skills

- Use a range of software to create and edit digital content.
- Use keyboards, mice and touchscreens effectively.
- Create and edit images, photographs, text and simple animations.
- Search for information and images online safely.
- Collect, record and interpret simple data.
- Recognise how technology is used in school and everyday life.

Knowledge

Covered in Year 3
Covered in Year 4
Reinforced/Developed across both years

- Digital content can be created, saved, edited and shared using technology.
- Images, photographs and text can be modified using different software tools.
- The internet connects people and devices.

Milestone 4 – End of Year 6

Skills

- Use a range of software to create and edit digital content, including music, animations, videos, websites and 3D designs.
- Use search engines effectively and evaluate online information.
- Collect, analyse and present data using digital tools and spreadsheets.
- Develop, test and refine digital projects independently.
- Use emerging technologies, including AI tools, creatively and responsibly.

Knowledge

Covered in Year 5
Covered in Year 6
Reinforced/Developed across both years

- Different software can be used to create, edit and improve digital content.
- Effective online searches use keywords and critical evaluation of results.
- Data can be collected, analysed and used to solve



		• Data can be collected, organised and presented using charts, pictograms and spreadsheets. • Animations are created from a sequence of images. • Technology is used for communication, creativity and problem-solving in everyday life.	• Online searches should be carried out safely and responsibly. • Data can be collected, organised and presented using charts, pictograms and spreadsheets. • Animations are created from a sequence of images. • Technology is used for communication, creativity and problem-solving in everyday life.	problems and inform decisions. • Search engines organise and rank information. • Copyright protects creative work and digital content. • Technologies such as AI, QR codes, RFID and the Internet of Things are used in everyday life. • AI can generate text and images but should be used responsibly and ethically. • Digital media can be planned, edited and refined to improve quality and impact

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Computing Subject Progression



Digital Literacy

Milestone 1 – End of EYFS

Skills

- Talk about how technology is used at home and school.
- Understand that online
- Use technology safely with adult support.
- Recognise trusted adults who can help if something online causes concern.
- Begin to understand that information should be kept private.

Knowledge

- Technology helps us learn, communicate and play.
- Some information should be kept private.
- Adults can help us stay safe when using technology.
- Technology should be used kindly, safely and respectfully.

Milestone 2 – End of Year 2

Skills

- Log in, log out and manage passwords safely.
- Recognise what information is safe to share online.
- Interact respectfully and safely with others online.
- Understand that online actions can affect others.
- Identify when something online feels unsafe and know how to seek help.
- Begin to understand and manage their digital footprint.

Knowledge

Covered in Year 1
Covered in Year 2
Reinforced/Developed across both years

- The internet connects people and devices around the world.
- Passwords help keep accounts and information secure.
- Personal information should not be shared online.
- People online are not always who they say they are.
- Not everything seen or read online is true.

Milestone 3 – End of Year 4

Skills

- Evaluate whether online information is reliable and trustworthy.
- Use email and online communication safely and respectfully.
- Recognise risks such as fake emails, cyberbullying and misleading content.
- Manage privacy settings and personal information online.
- Reflect on the impact technology and social media can have on wellbeing.
- Demonstrate respectful behaviour when working and communicating online.

Knowledge

Covered in Year 3
Covered in Year 4
Reinforced/Developed across both years

- Online content may include facts, opinions and misinformation.
- Search results and online sources vary in reliability.
- Privacy settings help protect personal information.
- Social media has age restrictions and safety rules.

Milestone 4 – End of Year 6

Skills

- Evaluate the reliability and validity of online information.
- Recognise and respond to online risks, including cyberbullying, scams and unsafe content.
- Use online communication and communities safely and responsibly.
- Manage passwords, privacy settings and personal information effectively.
- Build and maintain a positive digital footprint and online reputation.
- Understand the impact of technology, AI and online activity on individuals and society.

Knowledge

Covered in Year 5
Covered in Year 6
Reinforced/Developed across both years

- Anyone can create online content, so information should be checked for accuracy and reliability.
- Different forms of online communication have benefits and risks.



		• Permission should be sought before sharing information about others. Trusted adults can help if something online causes concern.	• Cyberbullying and inappropriate online behaviour can have negative consequences. • Technology can influence mood, behaviour and time management. • Emails should be respectful and may include attachments.	• Strong passwords and security settings help protect personal information. • Apps and websites may request access to personal data and permissions can be managed. • Digital footprints are created through online activity and can affect reputation. • Cyberbullying, scams and other online risks can be identified and reported. • AI and emerging technologies have benefits, risks and ethical considerations. • Software updates help protect devices and data from security threats.