# ST. BERNADETTE'S CATHOLIC PRIMARY SCHOOL

## Computing Curriculum

*Learn to Love, Love to Learn*

Miss Hulse 2020/2021

## Intent

St Bernadette's is a Catholic School and we are committed to the Catholic faith, recognising and valuing every individual as special and unique, created in the image and likeness of God. We are a beacon of hope in our community and we live by the motto Learn to love, love to learn.

It is our intention to enable students to find, explore, analyse, exchange and present information with curiosity and resilience. We aim to equip them with the knowledge and cultural capital they need to succeed in life. Technology is everywhere and it will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, respectfully, responsibly and safely. We want our pupils to be creators not consumers and our knowledge rich curriculum, encompassing computer science, information technology and digital literacy reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology (especially social media) to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology/social media is through knowledge and understanding.

We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our curriculum design has deep links with mathematics, design and technology and English.

We offer a structured sequence of lessons, helping teachers to ensure that they have covered the building blocks of key knowledge and skills in Computing. These building blocks are created to work towards pupils becoming digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

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Computing has a significant part to play in terms of being able to offer all pupils, including those who are disadvantaged or with a SEND, a broad curriculum with content that links to student's lives. It offers a range of opportunities for consolidation, challenge and variety. We inspire our students to live by our school motto to 'Learn to Love, Love to Learn'. We want our pupils to enjoy the subject and become fluent with a range of tools to best express their understanding. Through careful sequencing and progression of the curriculum, students develop independence, confidence and resilience allowing them to choose their own approaches to a variety of challenges set. We aim to make learning relevant to our children by providing them with real life experiences linked to their learning, making them aware of the importance and relevance of computing in the real world. We encourage staff to embed Computing across the whole curriculum to make learning creative and accessible for all abilities.



## Implementation

We have created a comprehensive progression document to best embed and cover every element of the computing curriculum appropriate for our school community. Lesson plans and resources help students to build on prior knowledge at the same time

as introducing new skills and challenges. This deepens and challenges our learners while encouraging them to help others in their community.

In Key Stage 1, the focus is on developing the use of algorithms, word processing skills, programming and how technology can be used safely and purposefully. Using Logo and Beebots, the students will learn to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They will be taught to create and debug simple programs and use logical reasoning to predict the behaviour of simple program. They will be shown how to use a range of technology purposefully to create, organise, store, manipulate and retrieve digital content as well as understand common uses of information technology beyond school. They will be taught to 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.

In Key Stage 2, lessons still focus on algorithms, programming and coding in a much more complex way and for different purposes. Using Scratch and Kodu, Students will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. They will use sequence, selection, and repetition in programs, use logical reasoning to explain how some simple algorithms work and correct errors in algorithms and programs. Students will also develop their knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Students will select and use a range of programs when focusing on animations, formulas, radio stations and 3D modelling. Students will use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

We implement a curriculum that links to real-life situations to ensure that learning is relevant and aspirational for our students. For example, Data Handling is

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featured in upper Key Stage 2 where students apply their Math skills. They use spreadsheets for a variety of real-life tasks, such as budgeting and calculating averages. We are also dedicated to enabling our pupils to become lifelong readers and we believe reading is key for academic success. Therefore, each year group will introduce and read a book linked to their Computing unit. Reading lies at the heart of the curriculum at St Bernadette's Catholic Primary School and we promote this through every subject.

Through the development of the St Bernadette's Computing curriculum, we intend to inspire pupils to develop a love of the digital world, see its place in their future and how technology can be the gateway for them to be a future career. By providing high quality, targeted performance management and support, teacher expertise will continue to be enhanced. High quality teaching allows students to be inquisitive and creative and to understand what they need to do to achieve and to provide them with the experience of understanding how their learning relates to future opportunities.

## Impact

We encourage our students to enjoy and value the curriculum we deliver. We will constantly ask the 'why' behind their learning and not just the 'how'. We want learners to discuss, reflect and appreciate the impact Computing has on their learning, development and well-being. Finding the right balance with technology is key to an effective education and a healthy lifestyle. We feel the way we implement Computing helps students realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. We encourage regular discussions between staff and pupils to best embed and understand this. The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum.

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Teachers will have high expectations and quality evidence will be presented in a variety of forms. Students will use digital and technological vocabulary accurately, alongside a progression in their technical skills. They will be confident using a range of hardware and software and will produce high-quality purposeful products. Students will see the digital world as part of their world, extending beyond school, and understand that they have choices to make. They will be confident, empathetic, tolerant and respectful digital citizens going on to lead happy and healthy digital lives.

A portfolio is kept containing work samples from the Computing curriculum taught for the year group. Monitoring of Computing will be achieved through:

- Team teaching.
- Observations.
- Pupil voice.
- Teacher voice.
- Reflective teacher feedback.
- Learning environment monitoring.

Year 4 Students:

"I like coding because you can explore games and create your own using blocks."

Year 5 Student:

"Last year, we made a quiz game on Scratch using times tables questions. We lost points for wrong answers! I liked using the motion blocks this year to make a balloon splat game. My sprite had to jump!"

Year 6 Student:

"In Computing, we learn how to do new things like shortcuts. I love to use what we learn at home."

Skill Progression Example

| Programming | | | | | | |
|---|---|---|---|---|---|---|
| Reception: | Year 1: | Year 2: | Year 3: | Year 4: | Year 5: | Year 6: |
| To program a simple set of instructions | To program a Bee-Bot using the arrow buttons.<br><br>Photographs & Beebots. | To use the commands fd, lt, rt to move or rotate the turtle.<br><br>Logo & Scratch. | To rotate the turtle angles other than 90 degrees.<br><br>Logo & Scratch. | To write a program including a scoring system.<br><br>Scratch. | To program consequences for specific actions.<br><br>Scratch. | To program a character to be controlled and a character to follow an automatic path to reach a goal.<br><br>Kodu. |

## Vocabulary Progression Example

| Word Processing | | |
|---|---|---|
| Year 1:<br><br>Keyboard, key, shift, space bar, undo, redo, select, format, bold, italics, underline, font, size and colour. | Year 3:<br><br>Launch, application, window, minimise, restore, size, move, screen, split, create, organise, file, folder, close, exit, search, print, password, screenshot, Snipping Tool, keyboard, typing, save, folder, shift, Caps Lock, space bar, edit, backspace, delete, arrow keys, undo, redo, select, format, change case, uppercase, lower case, capitals, menu buttons, align text, left, right, centre, justified, show all characters, bullet point, numbered point, indent, ruler, select, <ctrl> key, control key, shortcut, text box, format, wrap text and square. | Year 4:<br><br>Format, image, insert, Microsoft Word, poster, font, colour, type, size, align, select, folder, edit, document, webpage, copy, paste, toolbar, copyright, review, spelling, spellcheck, grammar, ignore, change, ignore all, add to dictionary, highlight, cursor, word processing, layout, object, area, bullets, numbering, text box, manipulate, features, save, wrap, table, border, cell, shading, rota, navigate, columns, page layout, page size, A5, A4, tool, menu, picture, recipe. Hyperlink, voucher, URL, text, images, apply, combine, tools, improve and create. |