



## Computing Offer 2022

### Statement of Intent

At Sedgeberrow CE First School, we aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever changing digital world. We want all our pupils to be competent in the key areas of computing and able to apply their knowledge and understanding safely in real-life and ever changing situations. Knowledge and understanding of Computing is of increasing importance for our children's future both at home and for employment. Our Computing Curriculum focuses on a progression of knowledge and its application in digital literacy, computing, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology. In computing, we will teach the principles of information and computation, how digital systems work and how to put this knowledge to use through programming information. In addition, we aim to ensure our children are equipped to use information technology to create programs, systems and a range of content. Our Computing Curriculum also ensures that our pupils become digitally literate – able to explore, 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.

### Implementation

At Sedgeberrow CE First School, we follow a government initiative called The National Centre for Computing Education (NCCE). The **National Centre for Computing Education** is funded by the Department for Education and marks a significant investment in improving the provision of computing education in England. The aim of the NCCE is to transform the way computing is taught in schools across the country – and enable more young people to benefit from studying this important subject. Through this, their skills and career opportunities will be enhanced into the future.

Below is the curriculum journey our computing will follow from Year 1 to Year 6. We have included Year 6 to extend the children who are gifted and talented within the



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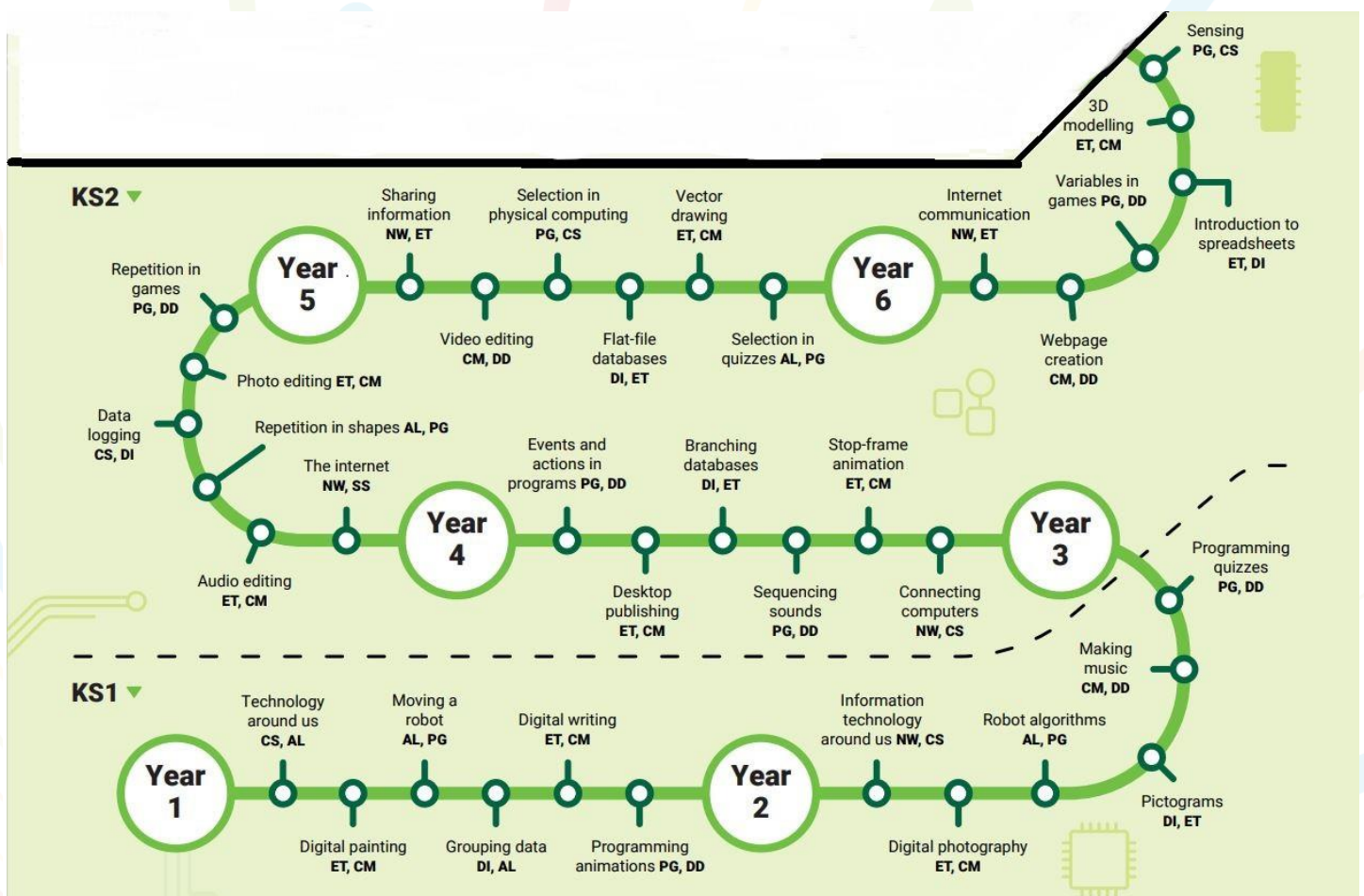


subject. The framework uses innovative progression to allow to children to build on their prior learning year on year.

The progression has clear outcomes for each year group in all 5 areas of the subject

Each year group will have a unit of work linked to each of the following areas:

- Computing systems and networks
- Data and information
- Creating media
- Programming (A and B).



Please see below a summary of the intended curriculum for Years 1 to 6:

|               | Computing systems and networks   | Creating media   | Programming A   | Data and information  | Creating media  | Programming B   |
|---------------|--|--|---|---|---|---|
| <b>Year 1</b> | <b>Technology around us</b><br>Recognising technology in school and using it responsibly.                                      | <b>Digital painting</b><br>Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally. | <b>Moving a robot</b><br>Writing short algorithms and programs for floor robots, and predicting program outcomes. | <b>Grouping data</b><br>Exploring object labels, then using them to sort and group objects by properties.             | <b>Digital writing</b><br>Using a computer to create and format text, before comparing to writing non-digitally.          | <b>Programming animations</b><br>Designing and programming the movement of a character on screen to tell stories.                         |
| <b>Year 2</b> | <b>Information technology around us</b><br>Identifying IT and how its responsible use improves our world in school and beyond. | <b>Digital photography</b><br>Capturing and changing digital photographs for different purposes.                                     | <b>Robot algorithms</b><br>Creating and debugging programs, and using logical reasoning to make predictions.      | <b>Pictograms</b><br>Collecting data in tally charts and using attributes to organise and present data on a computer. | <b>Making music</b><br>Using a computer as a tool to explore rhythms and melodies, before creating a musical composition. | <b>Programming quizzes</b><br>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz. |

|               | Computing systems and networks  | Creating media  | Programming A   | Data and information   | Creating media  | Programming B   |
|---------------|---|---|---|--|---|---|
| <b>Year 3</b> | <b>Connecting computers</b><br>Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks. | <b>Stop-frame animation</b><br>Capturing and editing digital still images to produce a stop-frame animation that tells a story. | <b>Sequencing sounds</b><br>Creating sequences in a block-based programming language to make music.                           | <b>Branching databases</b><br>Building and using branching databases to group objects using yes/no questions.                        | <b>Desktop publishing</b><br>Creating documents by modifying text, images, and page layouts for a specified purpose.                        | <b>Events and actions in programs</b><br>Writing algorithms and programs that use a range of events to trigger sequences of actions.        |
| <b>Year 4</b> | <b>The internet</b><br>Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.                  | <b>Audio editing</b><br>Capturing and editing audio to produce a podcast, ensuring that copyright is considered.                | <b>Repetition in shapes</b><br>Using a text-based programming language to explore count-controlled loops when drawing shapes. | <b>Data logging</b><br>Recognising how and why data is collected over time, before using data loggers to carry out an investigation. | <b>Photo editing</b><br>Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled. | <b>Repetition in games</b><br>Using a block-based programming language to explore count-controlled and infinite loops when creating a game. |





|        | Computing systems and networks   | Creating media   | Programming A  | Data and information   | Creating media   | Programming B   |
|--------|--|--|--|--|--|---|
| Year 5 | <b>Sharing information</b><br>Identifying and exploring how information is shared between digital systems.               | <b>Video editing</b><br>Planning, capturing, and editing video to produce a short film.                                    | <b>Selection in physical computing</b><br>Exploring conditions and selection using a programmable microcontroller. | <b>Flat-file databases</b><br>Using a database to order data and create charts to answer questions.              | <b>Vector drawing</b><br>Creating images in a drawing program by using layers and groups of objects. | <b>Selection in quizzes</b><br>Exploring selection in programming to design and code an interactive quiz. |
| Year 6 | <b>Internet communication</b><br>Recognising how the WWW can be used to communicate and be searched to find information. | <b>Webpage creation</b><br>Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation. | <b>Variables in games</b><br>Exploring variables when designing and coding a game.                                 | <b>Introduction to spreadsheets</b><br>Answering questions by using spreadsheets to organise and calculate data. | <b>3D modelling</b><br>Planning, developing, and evaluating 3D computer models of physical objects.  | <b>Sensing</b><br>Designing and coding a project that captures inputs from a physical device.             |

Whilst we recognise that high-quality teaching remains the number one priority, we also recognise the importance of preserving the breadth of the curriculum while protecting its core, so our children receive a rich experience that will help them develop their own identity and grow into informed, active citizens, with a sense of understanding about computing.

Below is a little bit more information about the four main sets of resources and expertise we use to help deliver the very best curriculum.

**Barefoot** empowers primary school teachers to deliver the computing curriculum brilliantly, with free workshops, helpful online guides and engaging lesson plans and resources. Barefoot makes computing easy to teach and fun to learn, with or without a computer.

**Code Club** supports a global community of volunteers, educators, and partners to run free coding clubs for 9 to 13 year olds. Its free, step-by-step coding projects offer young people lots of opportunities to be creative and share their creations with each other.

**STEM Clubs** are out-of-timetable sessions that enrich and broaden the curriculum, giving young people the chance to explore subjects like science, technology, engineering, maths and computing in less formal settings. These are delivered locally and also through the online National STEM Club.



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[STEM Ambassadors](#) deliver life-changing impact for young people - aspirations raised, careers illuminated and learning supported. Subjects including computing are brought to life by over 30,000 relatable STEM professionals across the UK free of charge - face-to-face or virtually - in classrooms and communities.

### Impact

We encourage our children 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 wellbeing. We encourage regular discussions between staff and pupils to best embed and understand this. The way pupils display, share, celebrate and publish their work will best show the impact of our curriculum. We also look for evidence through reviewing pupil's knowledge and skills, assessment and observations. Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes. Using Teach Computing through the DfE also has a range of summative assessments for use in KS2.

By the end of the curriculum, the...

- Children develop essential skills including folder structures, formatting, Email, printing and the use of cloud computing.
- Children will be better able to work across all subjects through skills learned in computing for example, Internet searching skills.
- Children develop understanding that will make better and safer use of Smartphones and technology in general.
- Children will understand the basics of computers and computing systems and how they work.
- Children able to extend their vocabulary through using computing related terminology.
- Children will have an improved knowledge of career options that relate to Computing.
- Children will learn how Computing can be useful in any career option.



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