



Saltire Primary School
- OUR LEARNING JOURNEY -



Computing

Curriculum Intent



Computing at Saltaire Primary School

- OUR LEARNING JOURNEY -



Concentrate	Co-operate
Knowledgeable and Curious Our children are taught explicitly and in the context of a wider topic so that they can both know and understand key facts and concepts and apply these to their understanding of the wider world.	Understand and Articulate Children study independently and collaboratively to discuss, think, share and create computing projects. They learn that to be a successful in computing, they must learn to be good communicators, treating others respectfully and using technology responsible. Children apply their oracy skills to present and discuss.
Create	Challenge
Inspired and Imaginative Children are provided with many opportunities to apply their understanding and ideas in different creative ways. This applies to each strand of our computing curriculum and across the wider curriculum, including art, design and technology, science and maths	Ambitious and Deepening Teachers ensure that children try hard because they are engaged and motivated. Exciting contexts for learning along with high expectations and criteria help children aim to do their best. Computing is promoted as essential for learning the wider curriculum.

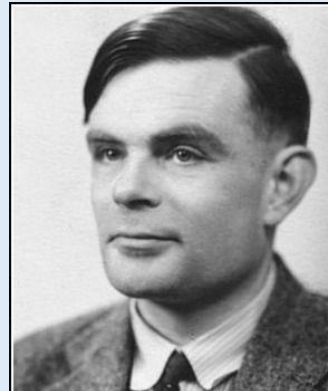
Big Ideas	Teaching Sequence	Deepening Understanding	Long Term Memory
 Computing is an integral part of our STEM Curriculum Team. As such, our curriculum is designed so that children study the key concepts of programming and coding and become confident and skilled in using digital media, information and data across the curriculum. In this way, they learn to understand wealth of opportunities their computing education will offer them in their lives.	 We work with Curriculum Innovation Bradford so that learning is progressive and key ideas are interleaved. Children build knowledge and skills progressively, applying them in each year group leading to our ambitions for every child before they leave Year Six.	 We teach for depth which means that teachers plan and deliver high quality lessons which are ambitious and challenging. We teach the whole class so there is no ceiling placed on expectations or achievement. Tasks are scaffolded or open-ended to support and challenge. Children make links across subjects and in their lives which supports their computational thinking and understanding.	 We teach in specific blocks so that children have time to embed their understanding. Each area is revisited and interleaved so that children build on their prior learning whilst learning new content. Frequent, low stakes quizzes promote the retention of knowledge. Over their learning journey, every child will have had opportunities to apply their knowledge to a wide range of contexts.

Intent Statement

We have high aspirations to provide a high quality computing education which equips children to use computational thinking and creativity to understand and change the world. The curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. Learners will have the opportunity to gain an understanding of computational systems of all kinds, whether or not they include computers. We want the use of technology to support learning across the entire curriculum and to ensure that our curriculum is accessible to every child. Not only do we want them to be digitally literate and competent end-users of technology but through our computer science lessons we want them to develop creativity, resilience, problem-solving and critical thinking skills.

We are currently developing as a Google school through the use of Chromebooks throughout Key Stage Two and the use of Google Classroom so that children routinely apply their computational skills in many lessons. We work with Curriculum Innovation, Bradford schemes of learning along with bespoke consultancy to support our subject development and ambitions.

Children will learn about the history of computing and the significant developments leading to today's technology. They will learn about significant people who have advanced computing and STEM. We will ensure that children experience exciting projects which they will remember. By the time they leave Saltaire Primary School, children will have gained key knowledge and skills in the main areas of the computing curriculum: **eSafety, Computer Science Media, Information Literacy and Data Handling**. The objectives within each strand support the development of learning across the key stages, ensuring a secure and ambitious grounding for future learning and beyond. Children will take with them a confidence and love of the subject along with the skills and aspirations for their future journey.



Sometimes it is the people no one
imagines anything of who do the
things that no-one can imagine

— Alan Turing —

Curriculum sequence of progression
Children are taught:

(e)Safeguarding	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Intent: Children will be taught to:		<i>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.</i>		<i>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i>			
		Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused ES2 Behave in a kind and considerate way to others in the real and virtual world. ES3 Understand that the internet is fun but just like there are rules in the real world to keep you safe there are rules for keeping them safe	Revisit ES1 (Yr1) Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused. ES4 Know login details and passwords should only be shared with trusted adults. ES5 Understand that they can be connected to many people in their life (real life and online). ES6 Be polite and respectful when communicating & playing games online. ES7 Talk to a trusted adult before sharing information about	Revisit ES1 (Yr1) Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused ES9 Identify the dangers of clicking links they receive when using technology. ES10 Identify personal information about themselves and others. ES11 Explain the possible consequences of sharing personal information online. ES12 Know that bullying through the use of technology is	Revisit ES1 (Yr1) Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused. ES14 Identify age limits and PEGI ratings for games and understand the importance of only accessing age appropriate content. ES15 Explain the possible consequences of submitting personal information online. ES16 Ensure information submitted online is only accessed by the people they trust.	Revisit ES1 (Yr1) Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused. ES19 Understand the terms plagiarism and copyright and be aware of the implications of copying and sharing content without permission. ES20 Use blocking / unsubscribing / reporting mechanisms appropriately. ES21 Control who they interact with online and the information they share.	Revisit ES1 (Yr1) Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused. ES24 Explain the importance of a positive 'digital footprint'. ES25 Appropriately configure and secure all devices used to access personal data. ES26 Evaluate whether games, websites and social media are appropriate for specific ages.

			themselves online. ES8 Know that some of the people they interact with online may not be who they say they are.	called online bullying and how to report it. ES13 Understand that not all information you access online is accurate or reliable.	ES17 Identify the similarities and differences of virtual and real world communication to develop an understanding of positive online communication. ES18 Use strong passwords for all online accounts and devices.	ES22 Describe the causes and consequences of online bullying and discuss behaviours and strategies to prevent and stop online bullying .	
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Computer Science	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Intent: Children will be taught to:		Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Recognise common uses of information technology beyond school.		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.			
		CS1 Understand what an algorithm is. CS2 Understand that digital devices work using algorithms. CS3 Control devices through a series of clear and accurate algorithms to achieve a predefined outcome CS4 Recognise common uses of technology beyond school. For example programming Sky box or using a washing machine or microwave.	CS5 Understand that real and virtual devices can be controlled by sequences of commands (algorithm). CS6 Plan a set of commands to achieve a specific outcome. CS7 Predict the outcome of an algorithm using logical reasoning. CS8 Control devices through a series of commands (algorithm). CS9 Write, test and debug simple programs. CS10 Understand the benefits of using technology beyond school.	CS11 Create, refine and debug a series of commands (algorithm) for virtual programmable devices. . CS12 Understand and identify simple input and outputs. CS13 Create simple algorithms combining inputs and outputs. CS14 Use repetition in programs to write code using the least number of lines and improving efficiency.	CS15 Understand and explore different game genres and what makes a good game. . CS16 Understand that games, apps and web content are made of code. CS17 Debug existing code to improve it. CS18 Design and code a simple game. CS19 Use selection in their coding. CS20 Transfer existing coding skills between applications.	CS21 Solve problems by decomposing them into smaller parts. CS22 Convert lines of code into everyday language (pseudocode) and vice versa. CS24 Use selection in programming to create a game aimed at an audience. CS25 To become familiar with inputs and outputs and create algorithms using them to control or simulate physical systems. CS26 Understand what networks (including the internet) are and how they are used to transfer information.	CS27 To design, write and debug a program to solve a problem. CS28 Include more complex selection linked to variables to programs. Create a program where an event is triggered by a sensor. CS29 To understand that the internet is made up of networks of computers around the world that can provide multiple services.

Media	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Intent: Children will be taught to: (font size, colour and style).		Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school. Record their own sounds and music on a computer using suitable software and microphone. Begin to word process short narrative and non-narrative texts. Develop basic editing skills including different presentational features		Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.			
		M1 Communicate simple ideas through the use of text, images and sounds. M2 Understand sound and music can be created using a range of simple technology. M3 Record sound using simple technologies and play back the recordings. M4 Create an image/animation in a simple graphics application. Capture images using a range of technologies and share with others.	M6 Make simple changes to improve the look and clarity of their work. M7 Organise and communicate ideas for a specific purpose using appropriate layout and media. M8 Record, locate and review sounds and add them to their digital creations. M9 Add music and or a sound to affect the mood and atmosphere of their work.. M10 Capture and create images in different graphic applications. M11 Understand and create simple animations.	M12 Combine and refine text, sound and graphics to communicate information for a given audience. M13 Recognise the key features of different types of information/genres and use appropriate layouts. M14 Understand how audio can enhance multimedia projects including radio and films by creating/choosing appropriate audio to fit a given context. M15 Capture, create and enhance new and existing digital images to communicate ideas. M16 Plan and create a simple animation.	M18 Capture appropriate, quality still and moving images. communicate information for a given audience. M19 Develop an understanding of differing film shots and their effective use. M20 Create a 2D plan view using basic shapes. M21 Plan, create and edit an animation, film or slideshow. M22 Compose, combine and refine music or sounds. M23 Identify features of good digital creation design. M24 Collect, create and insert	M25 Create and amend a range of 2D graphic representations using appropriate applications. M26 Create simple 3D graphics using a CAD application. M27 Plan, create and edit an animation, film, slideshow or presentation, then reflect on its efficacy. M28 Source, edit and refine music and sound for a given audience or project. M29 Develop criteria for evaluating theirs and others work.	M30 Independently combine various forms of media purposefully as part of a project. M31 Use a CAD application (3D design tool) to create a representation of an object M32 Edit and manipulate multi-track music and sound and refine for a given audience or project. M33 Evaluate and adapt individual features to enhance the overall presentation..

				M17 Understand that evaluation and improvement is a vital part of a design process and technology allows changes to be made quickly and efficiently.	appropriate (fit for purpose) graphics and sound files to create a multimedia presentation.		
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Information Literacy	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Intent: Children will be taught to:		Use technology purposefully to source and manipulate digital content. Begin to explore how text can be entered from the keyboard into a suitable search engine i.e. Primary Safe Search to find specific given websites such as CBeebies		Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.			
		IL1 Access information comes from a variety of different sources and understand technology allows quick access to these resources. IL2 Explore a variety of digital information as part of a given topic. IL3 Find / access information using technology.	IL4 Identify information through a range of appropriate forms of media. IL5 Recognise the layout of a web page and interact with it appropriately. IL6 Search for information using child friendly search engines.	IL7 Use search technologies effectively by identifying specific keywords. IL8 Find and choose appropriate information and use it in other digital forms. IL9 Locate specific information online and recognise that web pages can be organised in different ways.	IL10 Carry out and modify searches developing keywords to improve search accuracy. IL11 Check the relevancy and accuracy of search results. IL12 Locate online content using some of the available advanced features in search engines.	IL13 Interpret and validate information from a range of online sources. IL14 Recognise that the Internet may contain material that is irrelevant, bias, implausible and inappropriate.. IL15 Search for and save differing types of media using search engine functions. IL16 Use more advanced features of search engines.	IL17 Check plausibility of information from a variety of chosen sources on the same topic. IL18 Make informed judgments as to the validity of information on a website and be aware of bias. IL19 Understand how search engines work and rank results.

Data Handling	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Intent: Children will be taught to:		Use technology purposefully to create, organise, store, manipulate and retrieve digital content		Collect, analyse, evaluate and present data and information using a variety of applications on a range of digital devices			
		DH1 Sort, organise and classify objects based on their properties. DH2 Represent and interpret	DH3 Represent information as a simple block graph or pictogram. DH4 Organise and interpret data as a simple graph. DH5 Sort and answer questions using yes/no answers.	DH6 Collect and organise information to find answers to questions. DH7 Create different graphs that show data for different purposes across the curriculum. DH8 Store and access data using a database.	DH9 Represent data in a database using appropriate data types. DH10 Turn questions into search criteria and use database tools to find answers. DH11 Use a spreadsheet to enter data and perform simple calculations. DH12 Convert data in a spreadsheet into different graph types for different purposes. DH13 Change elements of a spreadsheet and understand the effects on other calculations.	DH14 Create charts using appropriate data to interpret and answer a specific question. DH15 Create a database to store and search relevant information. DH16 Interrogate a database using suitable questions. DH17 Use technology to search and sift through large amounts of different types of information. DH18 Use a range of calculations and functions in a spreadsheet. DH19 Use a spreadsheet to model given problems.	DH20 Identify and collect appropriate data to answer their questions. DH21 Use data in an appropriate application to test a theory/hypothesis. DH22 Refine, search, filter, sort and graph data for purpose in a database or spreadsheet. DH23 Use a spreadsheet to create real life models of information to offer a solution to a real life problem. DH24 Collect and represent data using infographics.