South Avenue Primary School

Computing End Points

Computing Curriculum Intent	At South Avenue, our curriculum is designed with the intent that each child becomes an ambitious, encouraging and resilient young person with a passion for learning and achieving. Through the teaching and learning of Computing, we encourage children to be inquisitive throughout their time at school and beyond. At our school we appreciate that technology is everywhere and will play a pivotal role in our children's lives. We want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our children to become innovators, not merely consumers, and we aim to include a broad curriculum (which includes: computer science; information technology; and digital literacy). We intend to build a computing curriculum that prepares pupils to live safely in an increasingly digital British society where pupils can evaluate and apply their computing knowledge, including new or unfamiliar technologies, analytically to solve problems. Finally, we aim to ensure our computing curriculum is cross- curricular, as much as possible, to allow for flexibility in the coverage but also so that children can see that computing can be used in other subjects (and that the skills they are learning are highly transferrable). This will result in our children understanding and appreciating that computing plays a large role in the 'real' (working) world and that they are well prepared for this when they are older.

Computing Systems and Networks

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Identify technology and a computer. Use a mouse in different ways. Use a keyboard to type and edit text on a computer. Understand rules for using technology responsibly.	Recognise the uses and features of information technology in and outside of school. Explain how information technology helps us. Explain how to use information technology safely. Recognise that choices are made when using information technology.	Explain how digital devices function and recognise how they change the way we work. Identify input and output devices. Explain how a computer network can be used to share information and recognise the physical components of a network. Understand how digital devices can be connected.	Describe how networks physically connect to other networks and understand how networked devices make up the internet. Outline how websites can be shared via the World Wide Web (WWW) and understand how content can be added and accessed. Recognise how the content of WWW is created by people and evaluate the consequences of unreliable content.	Explain that computers can be connected together for form systems and recognise the role of computer systems in our lives. Experiment with search engine and explain how search results are ranked. Recognise why the order of results is important.	Explain the importance of internet addresses. Recognise how data is transferred across the internet and explain how sharing information can help people to work together. Evaluate different ways of online communication.

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Creating Media		**Digital Painting:** Describe what different freehand tools do. Use the shape tool and the line tools. Make careful choices when painting a digital picture. Explain why I chose the tools I use. Use a computer on my own and to paint a picture. Compare painting a picture on a	**Digital Photography:** Use a digital device to take a photograph. Describe what makes a good photography and decide how photographs can be improved. To use tools to change an image and recognise that photos can be changed. **Digital Music:** Identify patterns in music and experiment with sound using a computer. To use a computer to create a musical pattern. Create music for a purpose. Review and refine our computer work.	**Stop-frame animation:** Understand that animation is a sequence of drawings or photographs and relate animated movement with a sequence of images. Plan, review and improve an animation and work consistently and carefully. Evaluate the impact of adding other media to an animation. **Desktop Publishing:** Recognise how text and images convey information and understand that text and layout can be edited. Choose appropriate page settings and add	**Audio Production:** Understand that sound can be recorded and explain that audios can be edited. Recognise the different parts of creating a podcast project and apply edition skills independently. Combine audio to enhance project and evaluate the effectiveness. **Photo editing:** Explain that the composition and colours of digital images can be changed. Understand how closing can be used in photo editing. Explain that images can be combined and combine images for a purpose. Evaluate how changes can improve an image.	**Video production:** Explain what makes a video effective and identify digital devices that can record videos. Capture video using a range of techniques and understand that video can be improved through reshooting and editing. Create a storyboard. Consider the impact of the choices made when making and sharing a video. **Introduction to vector graphics:** Identify that drawing tools can be used to produce different outcomes. Create a	**Web page creation:** Review an existing website and consider its structure. Plan the features of a web page. Consider the ownership and use of images. Recognise the need to preview pages and outline the need for a navigation path. Recognise the implications of linking content owned by others. **3D Modelling:** Identify that digital 3D objects can be modified. Recognise that objects can be combined in a 3D model. Plan and create a 3D model.

		computer and on paper. **Digital writing:** Use a computer to write and add and remove text. Identify that the look of text can be changed on a computer. Make careful choices when changing text and explain why I used the tools that I chose.		content to a desktop publishing publication. Consider how different layouts can suit different purposes and understand the benefits of desktop publishing.		vector drawing by combining shapes and use tools to achieve desired effects. Recognise that vector drawings consist of layers. Group objects to make them easier to work with.	

Programming							
		Explain what a given command will do and choose a command for a given purpose. Combine forwards and backwards commands to make a sequence. Combine four direction commands to make sequences. Plan a simple program. Show that a series of commands can be joined together. Find more than one solution to a problem.	To describe a series of instructions as a sequence. Explain what happens when we change the order of instructions. To use logical reasoning to predict the outcome of a program. Explain that programming projects can have code and artwork. To design an algorithm and create and debug a program. Explain that a sequence of commands has a start and outcome. Create a program using a given design. To change a given design. To create a program using own design and decide how	Explore a new programming environment. Recognise that commands have an outcome and explain that a program has a start. Understand that a sequence of commands can have an order. Change the appearance of a project and create a project from a task description. Explain how a sprite moves in an existing project. Create a program to move a sprite in four directions. Adapt a program to a new context. Develop programs by adding features. Identify and fix bugs in a program. Design and create a maze-based challenge.	Identify that accuracy in programming is important and create a program in a text-based language. Define the term 'repeat' and modify and create a count-controlled loop to produce an outcome. Decompose a task into small steps. Use count-controlled loops in a different programming environment and explain that in programming there are infinite loops. Create a design that includes two or more loops which run at the same time. Modify an infinite loop in a given program and design and create a project that includes repetition.	Control a simple circuit connected to a computer. Write a program that includes a count-controlled loop and explain that a loop can stop when a condition is met or that is can be used repeatedly to check whether a condition has been met. Design a physical project that includes selection and create a program that controls a physical computing project. Explain how selection is used in computer programs and how it directs the flow of a program. Design, create and evaluate a program	Define 'variable' and explain why it is used in a program. Choose how to improve a game by using variables. Design, create and evaluate a project. Create a program to run on a controllable device. Explain that selection can control the flow of a program. Update a variable with a user input. Use a conditional statement o compare a variable to a value. Design and develop a program to use inputs and outputs on a controllable device.

						which uses selection.	
		Design the parts of a project and use an algorithm to create a program.	project can be improved.				
Data and Information		Label objects and identify that objects can be counted. Describe objects in different ways and compare groups of objects. Count objects with the same properties. Answer questions about groups of objects.	Recognise that we can count and compare objects using tally charts. Recognise that objects can be represented as pictures and create a pictogram. Select objects by attribute and make comparisons. Recognise that people can be described by attributes. Explain that we can present information on a computer.	Form questions with yes/no answers. Identify attributes needed to collect data about an object. Create a branching database and explain why it is helpful for a database to be well-structured. Plan the structure of a database and create an identification tool.	Explain that data gathered over time can be used to answer questions. To use a digital device to collect data and explain that a data logger collects 'data points' from sensors over time. Understand how a computer can help us analyse data and use data to answer questions.	Use a form to record information and compare paper and computer-based databases. Outline how questions can be answered by grouping and sorting data. Explain that tools can be used to select specific data. Explain that computer programs can be used to compare data visually. Use a real-world database to answer questions.	Create and build a data set in a spreadsheet. Explain that formulas can be used to produce calculated data. Apply formulas to data. Create a spreadsheet to plan an event. Choose suitable ways to present data.