Fleecefield Primary School Computing Year 6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of work	**Computing strand:** Computing systems and networks Communication and collaboration	**Computing strand:** Digital literacy Creating media- 3D modelling	**Computing strand:** Computer science Programming variables in games https://www.bbc.co.uk/teach/class-clips-video/computing-ks2-variables/zsd9r2p	**Computing strand:** Digital literacy Creating media- Webpage creation	**Computing strand:** Digital literacy **Data and information** Flat file databases	**Computing strand-** Computer science **Programming** **Physical computing**
Composite knowledge	Pupils will learn about internet addresses how information is transferred over the internet collaborative work online benefits of different ways of working together online	Pupils will learn 3D modelling how to make changes to models how to rotate and position models how 3d models are broken down into component parts how to plan a 3d model	Pupils will learn what variables are how variables are used in programming how variables improve games how to design a game how to design code	Pupils will learn key content of a website how to layout a website copyright issues webpage creation tools the importance of navigation paths	Pupils will learn paper databases computer databases using databases using search tools comparing data visually databases in real life	Pupils will know about: inputs, outputs and digitalisation the use of sensors sensors in scratch variables in sensing algorithms for sensors debugging algorithms

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	how we communicate using technology different methods of using technology to communicate	how to make a 3d model	how to improve and share a programming project	how to use hyperlinks		
Intentional knowledge they need to understand (Component knowledge)	explain that internet devices have addresses explain that all data transferred over the internet is in packets explain how sharing information online can help people to work together identify different ways of working together online choose methods of communication to suit particular purposes	explain why we might represent 3D objects on a computer identify how graphical objects can be modified construct a digital 3D model of a physical object identify that physical objects can be broken down into a collection of 3D shapes	explain what a variable is explain why variables are used in programming apply variables to change a game design a project design code to develop a project improve and share their project	identify the different elements of a website create a website layout that fits purpose explain why they should use copy-right free content use digital tools to create a webpage edit and evaluate their webpages by checking navigation paths identify implications of using hyperlinks	create a database using cards navigate a flat-file database outline how you can answer questions by grouping and then sorting data explain that tools can be used to select specific data select an appropriate chart to visually compare data	name inputs and outputs identify controls and sensors in real life use sensor blocks in a coding platform design a program that meets a purpose use selection (an 'if…then…' statement) to direct the flow of a program

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	evaluate different methods of online communication	design a digital model by combining 3D objects develop and improve a digital 3D model			use a real-world database to answer questions	evaluate and improve a program
National Curriculum KS2 (skills)	<u>Pupils should be taught how to:</u> 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 Use search technologies effectively, appreciate how results are selected and ranked, and be	<u>Pupils should be taught how to:</u> 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	<u>Pupils should be taught how to:</u> 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	<u>Pupils should be taught how to:</u> Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create	<u>Pupils should be taught how to:</u> 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	<u>Pupils should be taught how to:</u> <u>Pupils should be taught how to:</u> design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and

	discerning in evaluating digital content		input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 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, that accomplish given goals, including	content that accomplish given goals, including evaluating and information. use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour.		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 select, use and combine a variety of software on a range of digital devices to design and create a range of programs, that accomplish given goals
vocabulary	internet address-IP-data transfer-collaborative-technology-private-public	3d modelling-graphic- rotate-manipulate placeholders-	variables, programming, algorithms,	webpage- layout-HTML- hyperlink-copyright-content-navigation paths	database- flat-file - field-sorting-values-refine	input-output-sensors-digitalisation-control-selection-variables
Links to prior knowledge	Computing systems and online	Vector drawing	Programming in previous years	E-safety	Y1- Grouping data Y2- Pictograms	Programming units Selection in quizzes

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	collaborative working				Y3- Branching databases Y4- forms Y5- spreadsheets	Y3- computer systems: inputs and outputs
Key knowledge for assessment	What is an IP? How is information transferred on the internet? How can you work collaboratively on a project? What are the benefits of working collaboratively on a project? Show me something you worked on collaboratively. What are the disadvantages of working collaboratively?	what is 3D modelling? why is 3D modelling useful? what software can you use to create a 3D model how can you make your model with accurate? How can I create a model that requires lots of different shapes? how can you create models with hollow interior? how can you work collaboratively on a project? Why is that advantageous?	what is a variable? why are variables used in programming? how can a variable improve a game? what software did you use to design you game? how would you describe your project (task, design, code?) how did you improve your game?	what is HTML? Why are websites useful? Why is the layout important? Why should we use copyright-free content? What is a hyperlink? What do you need to consider when using hyperlinks on your webpage?	what is a flat file database? what is a field? what is a record? why are databases useful? Can you think of real life examples? show me a database that you have created	give an example of an input device and an output device what is a sensor? what is a control program? show me where to find the sensor block on scratch show where you used a variable in your control program.
Cross-curricular links	PSHE-(how to show respect and kindness), RSHE (healthy	Maths - geometry, 3d shapes, reflection	D&T Maths- variables, algebra	English: creating content for purpose and	Science: sorting living things	Maths: number and place value estimation

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	relationships,English English- choosing appropriate method/language depending on audience and purpose	DT- plan and create models		taking audience into consideration	Geography: demographic data	
Resources				What is digital publishing? - BBC Bitesize	Working with data - BBC Bitesize	