Computing Overview

EYFS			
Nursery	**Autumn** **Computer Science**	**Spring** **Data Handling**	**Summer** **Computer Science**
1st Half Term	Developing Computation Thinking skills through everyday interactions/ provision- Links to COEL • Collaboration • Creating • Tinkering • Persevering • Pattern • Logical Reasoning • Abstraction • Algorithms • Decomposition Explore everyday algorithms- snack routine, painting routine	To sort objects when given a specific criterion e.g., colour, shape	• Further Develop Computational thinking skills • Further develop importance of sequencing • Explore Bee-Bots and other programmable toys
	Media	**Information Literacy**	**Media**
2nd Half Term	• Explore taking pictures using iPads • Explore Paint Programs • Explore recording voice using talking post cards	• I know that the work I create belongs to me	• Explore taking pictures using iPads • Explore Paint Programs • Explore recording voice using talking post cards
Ongoing- • E-Safety • Development of Computational Thinking skills			

Computing Overview

EYFS			
Reception	**Autumn** **Computer Science**	**Spring** **Data Handling**	**Summer** **Computer Science**
1st Half Term	Further develop Computation Thinking skills through everyday interactions/ provision- Links to COEL • Collaboration • Creating • Tinkering • Persevering • Pattern • Logical Reasoning • Abstraction • Algorithms • Decomposition Develop understanding of the importance of sequencing through everyday algorithms Explore BeeBots- physical devices and on iPad	• To be able to confidently sort objects by a specific criterion • To know that a group of objects can be sorted in different ways To explore pictograms	• Further Develop Computational thinking skills • Explore Human Robots • Explore programming the Beebot to reach a specific destination
	Media	**Information Literacy**	**Media**
2nd Half Term	• Taking pictures independently using iPads and cameras • Locating the camera app on iPad • Explore Paint Programs- how to change colour, pen type • Explore recording voice	Identify examples of personal information I know that the work I create belongs to me and can write my name on so that others know that it belongs to me	• Taking pictures independently using iPads and cameras • Locating the camera app on iPad • Locating pictures on iPad • Understand that typing on the keyboard creates words on screen
Ongoing	• E-Safety		

Computing Overview

KS1	Pupils should 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 ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content ♣ recognise common uses of information technology beyond school ♣ 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.		
Year 1 & 2	**Autumn** **Computer Science** **What is an algorithm?**	**Spring** **Data Handling**	**Summer** **Computer Science**
1st Half Term	Year 1- Develop and apply knowledge of sequencing and algorithms to create own algorithms -Human mazes -BeeBots Year 2- Predict outcomes of algorithms and code -Debugging -Create own code/ program using Scratch Jnr	Year 1- Sort a simple data set - Represent data in a Pictogram Year 2- Develop onto sorting data using Yes/No Questions - Represent data in graphs and pictograms	Year 1- Develop and apply knowledge of sequencing and algorithms to create own algorithms -Human mazes -BeeBots - Explore Scratch Jnr. -Develop understanding of the differences between algorithms and code Year 2- Predict outcomes of algorithms and code. Be confident at reading and interpreting code - Further develop debugging skills to promote resilience
	Media	**Information Literacy**	**Media**
2nd Half Term	Shadow Puppet- Year 1 - To record and play back sounds -To take and review images Year 2 -To add audio to work -To edit/ crop images -To be able to take both images and videos	• . How to search for information using a variety of ways • Introduce concept of 'Fake News' • Risks of sharing information online	• Create simple Animations Y1- Explore creating animations by combining a sequence of images
Ongoing	Typing skills E-Safety Documents skills		

Computing Overview

The Academy at St James
Aspire, Achieve, Believe

KS2	Pupils should be taught to: ♣ design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs 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 ♣ use search technologies effectively, ♣ 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 ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		
Year 3&4	**Autumn** **Computer Science**	**Spring** **Data Handling**	**Summer** **Computer Science**
1st Half Term	Year 3- - Identify Inputs and Outputs - Create programs using inputs and outputs - Introduce repetition Year 4- - Decompose existing programs and compare the features of existing programs - Further develop debugging by debugging programs with deliberately placed bugs - Introduce Selection	Year 3- - Represent data using a variety of tables and graphs - Understand the word field and record in relation to databases - Use an existing database to answer questions Year 4- - Use spreadsheets to input data and convert data into graphs - How to represent data in a database - To search existing databases	Year 3- - Embed and further develop the 3 types of repetition: repeat forever, repeat until and repeat a specific number of times. - Create own programs using repetition Year 4- - Develop own programs using selection using prior knowledge of repetition
	Media	**Information Literacy**	**Media**
2nd Half Term	Photographs Y3- Capture, create and enhance new and existing images using editing options Y4- Learn about different camera shots and how to combine camera shots to create shot films - Capture both still and moving images	• Further develop knowledge of search engines and how to narrow our search • Fact or opinion • Fake news • Copyright	Animations Year 3- How to create short Stop Motion Animations Year 4- How to create longer animations which include a title and credits Sound Y3- How to add sounds to projects such as PowerPoints or videos Y4-How to create audio using layers
Ongoing	Document formatting E-Safety		

Computing Overview

KS2	Key stage 2 Pupils should be taught to: ♣ 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 ♣ 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 a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		
Year 5&6	**Autumn** **Computer Science**	**Spring** **Data Handling**	**Summer** **Computer Science**
1st Half Term	Year 5- - Introduce variables - Apply knowledge of selection when using variables in own programs Year 6- Use knowledge of input, output, repetition, selection and variables when creating own games/ learning guides for others	Year 5 -Collect own data and represent using correctly labelled tables and charts - Create and use formulae in Spreadsheets - Sort through large data bases to answer questions Year 6 Spreadsheets – Sort and filter information - Create and test hypothesis using spreadsheets and databases - Collect and present large amounts of data	Year 5- Micro:Bics Year 6- Create programs for physical devices
	Media	**Information Literacy**	**Media**
2nd Half Term	Year 5 - Approaching and retreating film shots - How to add transitions to films and slideshows - Identify features of a good presentation - Evaluate own presentations Year 6 - Combining a range of multimedia when creating own presentations considering the audience - Reviewing the effectiveness of media in presentations	• Ranking search engine results and know what influences the ranking results • To be able to identify if a news story is real or fake news- identify steps needed to check if a story is real • Adverts/ Pop ups	Year 5- Create basic 3D graphics in design software Year 6-Develop 3D Graphic tool knowledge to create more complex pictures which include combing shapes
Ongoing	Formatting documents E-Safety		