

St. John The Evangelist RCP School
Computing Progression (Intent)



We teach the four strands of Computing.

What is Digital Citizenship?

Children need to examine the consequences of their online activity—both good and bad. When teaching Digital Citizenship it is vital that we thoroughly embed the principles of staying safe online and then move onto web content and how they interact with it. It is important to use real world examples with our children to ensure that their learning is relevant to their life experiences.

What is Digital Literacy?

The essential component of digital literacy when it comes to the field of pedagogy is deep learning; of which there are six core skills:

- **Collaboration** The ability to work collaboratively with others, with strong interpersonal and team-related skills.
- **Creativity** Being able to weigh up opportunities in an entrepreneurial manner and ask the right questions to generate new ideas.
- **Critical thinking** Being able to evaluate information and arguments, identify patterns and connections, and construct meaningful knowledge and apply it in the real world.
- **Citizenship** The ability to consider issues and solve complex problems based on a deep understanding of diverse values and a worldview.
- **Character** Traits such as grit, tenacity, perseverance, and resilience; alongside a desire to make learning an integral part of living.
- **Communication.** Being able to communicate effectively through a variety of methods and tools to a range of different audiences.

What is Computer Science?

Computer science teaches students design, logical reasoning, problem solving and resilience - all valuable well beyond the computer science classroom. The ability to create and adapt new technologies distinguishes computer science from computer literacy; which focuses more on using existing technologies (e.g. word processing, spreadsheets)

What is Information Technology?

This is how we interface with technology using existing hardware. We need to teach children how to navigate around a variety of devices, type, save work, find and move files. Also they need to understand the internet and the web, use search engines, understand networks and generally be efficient and independent users of a range of technologies.

We use the following vocabulary from Year 1 – Year 6: [Computational thinking](#), [decomposing](#), [debug](#), [abstraction](#), [input](#), [output](#).

This is so the children are used to and confident in using these words. Each year, a new word is introduced as it is linked with the skills they are learning and builds upon previous skills.

Our Digital Citizenship lessons are based on **Education for a Connected World** and we use **Project Evolve** to support them.

It focuses specifically on eight different aspects of online education:

Self-image and Identity

Online relationships

Online reputation

Online bullying

Health, wellbeing and lifestyle

Managing online information

Privacy and security

Copyright and ownership

These are colour coded in the document.

We aim to cover:

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Self-image and Identity Online relationships Online reputation	Online bullying	Managing online information	Health, wellbeing and lifestyle	Privacy and Security	Copyright and ownership

Each half term the first lesson of computing is a Digital Citizenship lesson. We feel this maintains the importance of online safety throughout the year. Every class will complete the same topic at the same time.

Vocabulary:

Green vocabulary is to be taught 1 per year group, building on the previous years knowledge: Algorithm, Program, Sequence, Repeat or Loop, Selectional or Conditional, Variables.

Blue Vocabulary: This set of vocabulary is taken directly from the Nation Curriculum and ensures that teachers have a clear understanding of what the key terms mean. Delivery of these words should be the responsibility of all teaching staff and across all year groups.

Computational thinking, decomposing, debug or deglitch, abstraction, input, output.

Whole School Long Term Plan: Yearly Overview

Autumn 1 – Online Safety / Digital Citizenship

Autumn 2 – Digital literacy (Cross Curricular)

Spring 1 - Computer Science (Core Skills)

Spring 2 – Computer Science (Core Skills and apply)

Summer 1 - Digital literacy (Cross Curricular)

Summer 2 - Information Technology (Each Year Group has a focus and to learn about 1 person)

STEM weeks (to organise with DT Lead)

Digital Citizenship to be promoted throughout the year – Each half term to teach one E-Safety lesson

Best practice is to teach skills in lessons and then pupils apply their skills in a cross curricular way providing purposeful learning.

EYFS does not follow this planning. EYFS is bespoke and online safety is taught through PSED throughout the year. Technology is introduced when children are interested and the different types of technology are explored. There is no longer a technology Early Learning Goal, however when talking about technology we hit some of our targets. We focus on naming the equipment and learning how to use it safely.

SEND – Ambition and Access in Computing

Ambition – What are we aiming for children with SEND to achieve in this subject?	Access – What amendments are made in the teaching of computing in order to help children with SEND achieve?
<p>We are ambitious in what our SEND children can achieve.</p> <p>We want children with SEND to take ownership of their own learning.</p> <p>Access all of the broad computing curriculum.</p>	<ul style="list-style-type: none">• Revisit and revise previous learning at the start of every lesson.• Computing display for staying safe online accessible for all.• Variety of resources to be used: ipads, laptops, LBQ's and beebots.• 'Unplugged' lessons are also taught.



St. John The Evangelist RCP School EYFS Computing Progression (Intent)

To be taught throughout the year through PSED and interests of the children

Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology
Prior Knowledge:	Some experiences of apps on phones Some recognition of a computer			
Intended Vocabulary	Mouse, monitor, keyboard, computer, ipad, interactive board, printer,			
Aims	To teach children to recognise their feelings and who to go to for help. To teach children the names of computing equipment . To prepare children to use equipment safely. To allow children to explore a variety of equipment and technology. To prepare children for the curriculum with basic skills such as using a mouse and beginning to type			
Statutory Requirements (ELG's)	<ul style="list-style-type: none"> •ELG: Managing Self – Explain the reasons for rule, know right from wrong and try to behave accordingly - describe ways that some people can be unkind online, - identify rules that help keep us safe and healthy in and beyond the home when using technology. •ELG: Self Regulation – Show an understanding of their own feelings and those of others and begin to regulate their behaviour accordingly - identify rules that help keep us safe and healthy in and beyond the home when using technology. •ELG: Building Relationships – Show sensitivity to their own and to others' needs. recognise that I can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset. (Butterfly feeling) and how this could be either in real life or online. 	ELG: Writing – Spell words by identifying sounds in them and representing the sounds with a letter or letters - <i>find the letters in my name on a computer keyboard and type my name</i> ELG: Fine Motor Skills – Use a range of small tools, including scissors, paint brushes and cutlery - <i>use the mouse to click and drag, right click and use the mouse pad on a laptop</i> ELG: Creating with materials – Safely use a variety of materials, tools and techniques experimenting with colour, design, texture, form and function. - <i>use a paint package to draw a picture using a range of devices e.g. Paint, 2Paint a picture, iPad apps</i>	ELG: Listening, Attention and Understanding (whole target)	ELG: Listening, Attention and Understanding (whole target)
Intended Skills	I can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks me to do something that	I can find letters in my name I can play educational games	I can use every day ICT devices	I can identify some simple examples of my personal

	<p>makes me feel sad, embarrassed or upset. (Butterfly feeling)</p> <p>I can identify rules that help keep us safe and healthy in and beyond the home when using technology I can give some simple examples</p>	<p>I can draw a picture on different packages</p>	<p>I can explore on screen activities – by clicking (cause and effect)</p> <p>I can use on screen simulations and compare with real life activities – (click and drag activities)</p>	<p>information (e.g. name, address, birthday, age, location).</p> <p>I can describe the people I can trust and can share this with; I can explain why I can trust them</p> <p>I can shut down a computer appropriately</p>
Intended Knowledge	<p>I can explain how this could be either in real life or online</p> <p>I know some ways in which the internet can be used to communicate.</p> <p>I can describe ways that some people can be unkind online.</p> <p>I can offer examples of how this can make others feel</p>	<p>I know how to change the colour</p> <p>I know how to change the brush type</p> <p>I know how to add effects</p>	<p>I can name items we control in the everyday environment</p> <p>I know that an algorithm is a set of instruction that can solve a problem</p> <p>I can create a simple algorithm for a floor robot e.g. BeeBot/Blue-Bots (do not need to use 'algorithm')</p>	<p>I know that work I create belongs to me.</p> <p>I can name my work so that others know it belongs to me</p> <p>I can talk about how I can use the internet to find things out.</p> <p>I can identify devices I could use to access information on the internet.</p> <p>I can name the parts of a computer and know what they are used for: Mouse, Monitor, Printer, Keyboard, DVD/CD Rom, USB</p>
Assessment	<p>EYFS is based on teacher judgement towards the ELG as a whole. All of these skills are not necessary as it is the ELG's that are statutory, however these are useful skills which will aid in transition for pupils into the national curriculum.</p>			



St. John The Evangelist RCP School Year 1 Computing Progression (Intent)

Timescale	Autumn 1 (Then one lesson per half term)	Autumn 2 & Summer 1	Spring 1 & 2	Summer 2
Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology <i>Internet Resources</i>
Prior Knowledge:	See previous year group			
Intended Vocabulary	Topic dependent – see lessons on Project evolve to cover all eight strands throughout the year.	Digital literacy Keyboard keys Caps lock Shift Format Space bar	algorithm debug command Direction Computer science	Computing Pioneers: Steve Jobs <small>(Will recognise iphone and ipads)</small>
Aims	<p>The national curriculum for computing aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology. 			
Statutory Requirements (NC)	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.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	<p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>Create and debug simple programs</p> <p>Use logical reasoning to predict the behaviour of simple programs</p>	Recognise common uses of information technology beyond school
Intended Skills	<p>I can give examples of when and how to speak to an adult I can trust. (Butterfly feeling)</p> <p>I can use the internet with adult support to communicate with people I know</p>	<p>I can input text and images using a simple publishing programs</p> <p>I can type a simple sentences on the screen, making use of a word bank</p>	<p>I can give and follow instructions, which include straight and / or turning commands – one at a time.</p> <p>I can plan a simple algorithm</p> <p>I can create a simple program</p>	<p>I can identify a browser and can use the internet to find things out I can use simple keywords in search engines</p> <p>I can save my work (Purplemash/school network) so that others know it belongs to me (e.g. filename, name on content)</p>

		<p>I can type simple sentences using the correct format (capital letters, space and full stop)</p> <p>I can move to different places in the text using the arrow keys or mouse</p> <p>I can use the 'undo' icon to fix a mistake</p> <p>I can use a pictogram to answer simple questions</p>	<p>I can debug a simple program that is causing an unexpected outcome.</p>	<p>I can log on and off the school network using my individual username and password</p>
Intended Knowledge	<p>I know why it is important to be considerate and kind to people online</p> <p>I know that information can stay online and could be copied</p> <p>I know what information I should not put online without asking a trusted adult first</p> <p>I know rules to keep us safe when we are using technology both in and beyond the home</p>	<p>I can tell you the main keys for typing e.g. shift, space bar, full stop</p> <p>I know the buttons within a programme to make text bold/ italics / text alignment etc.</p> <p>I know how to alter my writing in a number of ways (size, colour, font etc.)</p>	<p>I know what an algorithm is</p> <p>I know that a program is a precise set of instructions</p> <p>I can predict if a simple program will fulfil my algorithm</p> <p>I know how break a problem down into smaller parts (chunking / decomposing)</p>	<p>I know and can demonstrate how to get help from a trusted adult (Butterfly feeling)</p> <p>I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school)</p> <p>I know explain why I should always ask a trusted adult before I share any information about myself online</p> <p>I know how passwords can be used to protect information and devices</p> <p>I know why work I create using technology belongs to me I can say why it belongs to me (e.g. 'it is my idea' or 'I designed it')</p>
Assessment	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>

	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>
--	---	---	---	---

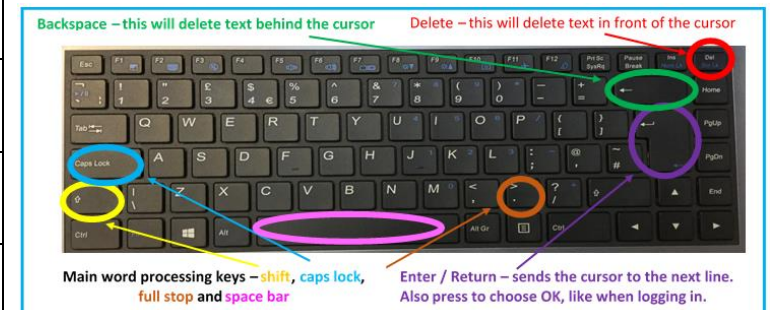
Year 1 Computing: Digital Literacy

How do I logon to a device?	I will use my username and password to logon.
How do I input text and images?	I will use Purple Mash to input text and images.
How do I type simple sentences?	Caps lock and shift = a capital letter Space Bar = adds spaces between words Use full stop to add a full stop at the end of sentences.
How do I change my typing?	Arrow keys to move around the text. Undo to help me go back to the last thing I did. Bold to make text thicker. <i>Italics</i> to make text 'fall over'. Text alignment to move text to the left, right or in the middle.
How do I make my work clearer?	Font size will change the size of text – bigger numbers mean bigger text. The font will change the style of text. Change the colour of the text and background.

Key Vocabulary

Digital literacy	How we present our work using the computer.
Keyboard keys	Letters, numbers and symbols used to type on the computer.
Caps lock	Caps lock will type all capital letters.
Shift	Hold down shift and press a key to type a capital letter.
Format	Changes the font, size and colour of text.
Space bar	Press space bar once to add one space.

Key images



Year 1 Computing: Computer Science (algorithm)

What is an algorithm?	An algorithm is a set of instructions. For example, 'get ready for school' or 'go out and play'
How do I plan my algorithm	I need to think about where I want my algorithm to start, what I want my 'beebot' to do and which direction it will go
What commands can I give the beebot?	I can make the beebot go forward, left, right and backwards using the arrow keys.
What happens if my algorithm does not work?	I can 'de-bug' the algorithm by checking each part and fixing the mistakes

Key Vocabulary		Key Images	
algorithm	A set of instructions in everyday language, e.g 'get ready for school', 'go out to play'		
debug	Finding and fixing mistakes when the beebot does not work		
command	An instruction that you have to follow		
Direction	Which way it goes		
Computer science	Creating software and solving problems		



St. John The Evangelist RCP School Year 2 Computing Progression (Intent)

Timescale	Autumn 1 (Then one lesson per half term)	Autumn 2 & Summer 1	Spring 1 & 2	Summer 2
Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology Effective Searching
Prior Knowledge:	See previous year group			
Intended Vocabulary	Topic dependent – see lessons on Project evolve to cover all eight strands throughout the year.	Digital communication word processing document table row / column insert border	Algorithm Program Event De-bug Computer science	Computing Pioneers: Bill Gates (begin to become more confident in word and Microsoft)
Aims	<p>The national curriculum for computing aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology. 			
Statutory Requirements (NC)	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.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	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
Intended Skills	I can use the internet to communicate with people I know	I can use skills I have learnt across multiple application programs, including: I can use spell checker to check my work I can use a database to answer	I can give and follow instructions, which include direction and turning command – several in order I can create a program that contains several commands for a device or software programme	I can use keywords in search engines I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections)

		<p>simple questions</p> <p>I can search a database to find information</p> <p>I can use ICT to support handling data – creating simple graphs, bar charts and pie charts</p>	<p>I can debug a program independently that has caused an unexpected outcome</p> <p>I can use different events to start my programs – timing / on click / on button press</p>	<p>I can log on and off the school network using my individual username and password and save my work</p>
Intended Knowledge	<p>I know that other people's identity online can be different to their identity in real life</p> <p>I know that information put online about me can last for a long time.</p> <p>I know who to talk to if I think someone has made a mistake about putting something online.</p> <p>I can give examples of bullying behaviour and how it could look online.</p> <p>I know how someone can/would get help about being bullied online or offline</p> <p>I can explain simple guidance for using technology in different environments and settings.</p>	<p>I know how to save an image from the internet rather than using copy & paste</p>	<p>I know what a program is</p> <p>I know what an event is</p> <p>I know programs need an event to begin</p> <p>I know that computers need precise instructions</p> <p>I can plan use logical reasoning to predict outcomes</p>	<p>I can explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now, and Siri)</p> <p>I know why some information I find online may not be true</p> <p>I know and can explain some rules for keeping my information private</p> <p>I know what passwords are and can use passwords for my accounts and devices</p> <p>I know how many devices in my home could be connected to the internet and can list some of those devices</p> <p>I know that other people's work belongs to them and that content on the internet may belong to other people</p> <p>I know there is a difference between physical, wireless and mobile networks</p>
Assessment	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p>

	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>
--	---	---	---	---

Year 2 Computing: Digital Literacy

How can I check my spellings on a Computer?	If I see a red line under a word then I know a spelling is incorrect. I can right click and choose the correct spelling.
Can I add a picture to a word document?	To add a picture to a Word Document, first I need to find a photo online and save it to my folder. Then I need to click on Insert and Pictures and find the folder in my file. Then I click insert and the picture will appear in my word document.
How can I improve how my work look?	To make my work look better on a computer, I can change the orientation of my work from portrait or landscape. I can add a page border and change the font type and font size.
What methods can I use to present information?	I can click on Insert and Table to create a table. I make the table the correct size and I input the information into the table. I can use the enter key to create a line break.
How do you create a digital communication on a Computer?	I use Word or Purple Mash to create a digital communication on a Computer. I use different skills that I have learnt to present my work.

Key Vocabulary

Digital communication	Digital communication can mean electronic or computer-based message that you send out into the world.
word processing document	Writing on a computer; document is a piece of writing that you have used a computer for.
table	A clear way to show information like facts or numbers.
row / column	A row has information going across. (horizontal) A column has information going up and down. (vertical)
insert	Put something into a document, like a picture.
border	A design around the outside of a document.

Formatting
Makes text change style and size
Adds numbers or bullet points to make a list
Makes text **bold**, *italic* (slanted) and underlined
Makes text change colour
Makes text move to the left, right, middle or 'spread out'

Tables
Click on Insert tab, Table and choose the number of rows and columns needed.

Pictures
Right click on picture and choose "Save image as..."
Click This PC → your class → your name → Spring 1 and call your picture something appropriate. Click Save.
In Word, click on Insert tab, Picture. Find your picture in your folder. Click Insert.

Page Border
Click on Design tab, Page Border. Choose either a line, style, colour, or Art.

Page Orientation
Click on Layout tab, Orientation. Choose either Portrait or Landscape.

Spelling Checker
Click on Review tab, Spelling & Grammar. Choose to Ignore or Change.

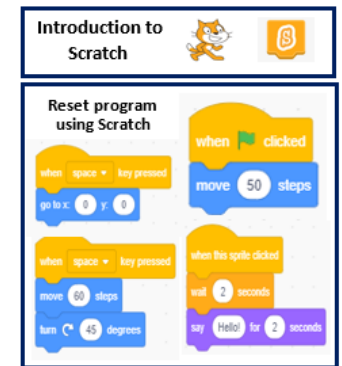
Year 2 Computing: Computer Science (Program)

What is a program?	A program is a precise set of instructions for a computer
What is an event?	An event is something which starts a program. For example, clicking a mouse, touching a key on the keyboard
How do I plan my program	I need to think about where I want my program to start, what I want my 'beebot' / sprite to do, how many sprites I will need, which direction they will go and whether they will pause.
What can I include in my program?	I can create a program that has several commands and uses different events to start it such as timing / on click / on button press
What happens if my program does not work?	I can 'de-bug' the program by checking each part and fixing the mistakes to make it work correctly.

Key Vocabulary

Algorithm	A set of instructions in everyday language, e.g 'get ready for school', 'go out to play'
Program	a precise set of instructions for a computer
Event	all programs need an event which acts like a start button
De-bug	Finding and fixing mistakes in the program which stop it from working correctly
Computer science	Creating software and solving problems

Key Images





St. John The Evangelist RCP School Year 3 Computing Progression (Intent)

Timescale	Autumn 1 (Then one lesson per half term)	Autumn 2 & Summer 1	Spring 1 & 2	Summer 2
Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology Focus: Online Communication
Prior Knowledge:	See previous year group			
Intended Vocabulary	Topic dependent – see lessons on Project evolve to cover all eight strands throughout the year.	Table Copy Paste Save Save as	Sequence Decompose Program De-bug Outcome	Computing Pioneers: Ada Lovelace <small>(Recap previous knowledge on Algorithm and Program)</small>
Aims	<p>The national curriculum for computing aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology. 			
Statutory Requirements (NC)	<p>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</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>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</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>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,</p>	<p>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</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>

			analysing, evaluating and presenting data and information	
Intended Skills	<p>I can use technology safely and respectfully and responsibly</p> <p>I can search for information about myself online I can recognise I need to be careful before I share anything about others or myself online</p>	<p>I can use skills I have learnt across multiple application programs, including:</p> <p>I can type a number of sentences using the keyboard</p> <p>I can use cut, copy and paste to re-order text</p> <p>I can use simple keyboard shortcuts</p> <p>I can use bullet points, speech bubbles, auto shapes and text boxes</p> <p>I can format images - move, rotate and re-size shapes</p> <p>I can create a folder to save my work in</p> <p>I can edit pictures using various tools in paint or photo-manipulation software</p> <p>I can add suitable sound effects and tracks</p> <p>I can combine still/moving images in a show to create stop-motion animation/movies on a range of devices</p>	<p>I can use and edit a pre-written program to achieve a specific outcome</p> <p>I can detect and debug errors in algorithms and programs</p> <p>I can sequence a simple program on Logo to produce a line drawing</p> <p>I can write a program to complete an algorithm</p>	<p>Consolidate</p> <p>Prior Learning: <i>I can log on and off the school network using my individual username and password</i> <i>I can independently open and save work to a given folder – in the cloud or school network</i> <i>I can create a folder to save my work in</i></p> <p>I can use key phrases in search engines</p>
Intended Knowledge	<p>I know what is meant by the term 'identity'</p> <p>I can explain how I can represent myself in different ways online</p> <p>I can give examples of technology specific forms of communication (e.g. emojis, acronyms, text speak)</p>	<p>I know the difference between save and save as</p>	<p>I know what a sequence is</p> <p>I can solve problems by decomposing them into smaller parts</p> <p>I know that if I change the sequence I may change the outcome of the program</p>	<p>I know what autocomplete is and how to choose the best suggestion</p> <p>I know how the internet can be used to sell and buy things</p> <p>I know the difference between a 'belief', an 'opinion' and a 'fact'</p>

	<p>I can explain some risks of communicating online with others I don't know well</p> <p>I can explain why I should be careful who I trust online and what information I can trust them with</p> <p>I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life</p> <p>I know who I should ask if I am not sure if I should put something online</p> <p>I know what bullying is and can describe how people may bully others</p> <p>I know rules about how to behave online and how I follow them</p> <p>I know why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos)</p>		<p>I can predict how a change in a sequence may impact on the outcome of a program</p>	<p>I know why I should only share information with people I choose to and can trust</p> <p>I know that if I am not sure or I feel pressured, I should ask a trusted adult</p> <p>I can describe simple strategies for creating and keeping passwords private</p> <p>I can describe how connected devices can collect and share my information with others</p> <p>I know why copying someone else's work from the internet without permission can cause problems</p>
<p>Assessment</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>

Year 3 Computing: Digital Literacy

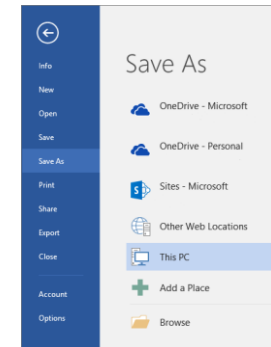
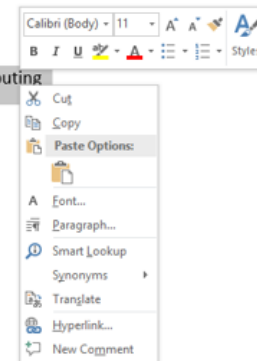
How can I use table tools to enhance my work?	A table can be created and altered to include a range of features. I can use these features to alter the size of the table, add new columns and rows, delete columns and rows and alter each cell independently.
How can I use the formatting tab to alter text and images?	The formatting tab is available on most Microsoft products. I can use this to resize, change colour, cut, copy and paste to re-order text as well as cut, copy and paste word art and other images.
How can I create an appropriate file name to save my work?	Identify the importance of saved work being named appropriately and identify how to name it appropriately for the task.
How can I identify the use of the keyboard shortcuts and the tab key?	We can identify that the "ctrl" button on the keyboard is vital to using a shortcut and name some of the main ones such as: Ctrl + V (paste), X (cut), C (copy) to re-order text.
How can I copy text and images?	We can copy and paste from the internet or using a Microsoft product by right clicking on the mouse button and left clicking copy.

Key Vocabulary

Table	A group of boxes used to organise information.
Copy	To get a second copy of something so that it can be placed elsewhere.
Paste	To place an image or information into a table or graph.
Save	Saving a piece of work which you have already saved before.
Save as	Saving a new piece of work to a folder.



Year 3 computing



Year 3 Computing: Computer Science (Sequence)

What is a sequence?	A sequence is a list of instructions in a particular order
What happens if I change the sequence?	If the sequence of my instructions changes, the outcome of the program may be different to what I had intended it to be.
Why do I decompose programs?	I can decompose a program by breaking it down in smaller steps which can help me to solve any problems.
How do I draw a shape in Logo?	I use the commands in logo to draw a shape. I can use forward, backward, right, left, pen up, pen down and pen colour / size.
What do I do if my sequence does not work?	If the outcome is not what I intended, I need to de-bug the sequence to fix any mistakes.

Key Vocabulary		Key Images
Sequence	a program with a number of steps in the right order	<div data-bbox="1361 858 2051 948" data-label="Code-Block"> <pre>> eg. fd 5 rt 90... An example of a sequence for a square setpc red fd 5 rt 90 fd 5 rt 90 fd 5 rt 90 fd 5 rt 90 setpc</pre> </div> <div data-bbox="1415 967 1570 1281" data-label="List-Group"> <p>Logo Commands</p> <ul style="list-style-type: none"> fd (forward) bk (backwards) rt (right) lt (left) rpt (repeat) pd (pen down) pu (pen up) </div> <div data-bbox="1697 975 1973 1281" data-label="Image"> <p>Program for a square using Scratch using a sequence</p> </div>
Decompose	breaking a program down into smaller steps	
Program	a precise set of instructions for a computer	
De-bug	Identifying and correcting mistakes when the program doesn't work as expected	
Outcome	The end result or the way it turns out	



St. John The Evangelist RCP School Year 4 Computing Progression (Intent)

Timescale	Autumn 1 (Then one lesson per half term)	Autumn 2 & Summer 1	Spring 1 & 2	Summer 2
Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology Focus: Computer Networks
Prior Knowledge:	See previous year group			
Intended Vocabulary	Topic dependent – see lessons on Project evolve to cover all eight strands throughout the year.	spreadsheet cell formula format data	Reasoning Repeat Decompose Program De-bug	Computing Pioneers: Charles Babbage <small>(First computer)</small>
Aims	<p>The national curriculum for computing aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology. 			
Statutory Requirements (NC)	<p>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</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>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</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>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</p>	<p>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</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>

			goals, including collecting, analysing, evaluating and presenting data and information	
Intended Skills	I can use technology safely and respectfully and responsibly	<p>I can use skills I have learnt across multiple application programs, including:</p> <p>I can select appropriate tools to add emphasis and effect to my work</p> <p>I can edit the colour, text and add digital photographs</p> <p>I can take a series of pictures to form an a short film clip / animation / eBook</p> <p>I can edit video, animation or music footage by cropping clips</p> <p>I can enter a basic mathematical formula into Excel</p> <p>I can use SUM to calculate the total of a set of numbers in a range of cells</p> <p>I can use spreadsheets to create a graph</p> <p>I can decide on the most appropriate form of graph for a data set giving reasons for my choice</p> <p>I can interpret graphs of data collected from sensors</p>	<p>I can use sequence and loops (repetition) in programs confidently</p> <p>I can detect and debug errors in algorithms and programs</p> <p>I can independently select and sequence code to make my own program</p> <p>I can transfer my coding skills between software</p>	<p>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it</p> <p>I can talk about the advantages and disadvantages of using a computer</p> <p>I can identify the most relevant results from a search engine – not just ‘sponsored’ links</p>
Intended Knowledge	<p>I know how my online identity can be different to the identity I present in ‘real life’.</p> <p>Knowing this, I can describe the right decisions about how I interact with others and how others perceive me</p>	<p>I can explain why I have chosen my layout and formatting</p> <p>I can review and edit my work and talk about the changes I made</p>	<p>I know that a loop is used to repeat a set of instructions</p> <p>I can explain why it is important to use ‘loops’ in particular place in my sequence</p>	<p>I can analyse information and differentiate between ‘opinions’, ‘beliefs’ and ‘facts’</p> <p>I know some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can</p>

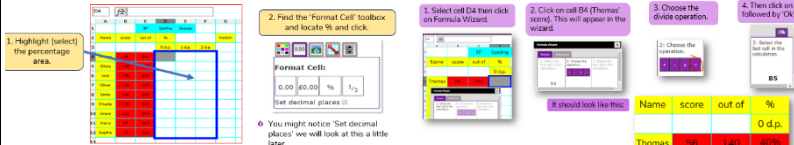
	<p>I know how to be respectful to others online</p> <p>I know how others can find out information about me by looking online</p> <p>I know ways people can be bullied through a range of media (e.g. image, video, text, chat)</p> <p>I know why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation)</p> <p>I know how using technology can distract me from other things I might do or should be doing</p> <p>I know times or situations when I might need to limit the amount of time I use technology</p>	<p>I can effectively plan for an animation or film and use purposefully</p>		<p>recognise some of these when they appear online</p> <p>I know that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people</p> <p>I know that lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true</p> <p>I know what a strong password is</p> <p>I know that others online can pretend to be me or other people, including my friends</p>
Assessment	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>

Year 4 Computing: Digital Literacy

What is a spreadsheet?

A spreadsheet is a grid of 'cells' arranged in rows and columns and information can be inserted into each cell. Each cell can contain text, numbers and formulas.

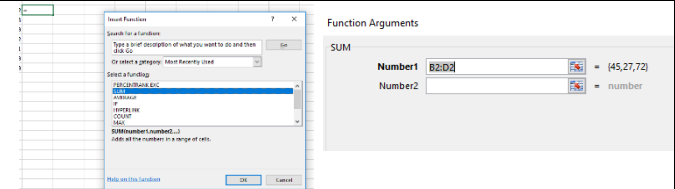
How can I enter a basic mathematical formula into a spreadsheet?



On Purple Mash, we can use 2Calculate to format cells and enter a basic formula to calculate percentages, decimals and fractions.

How can I use the SUM function to calculate the total of numbers in a range of cells?

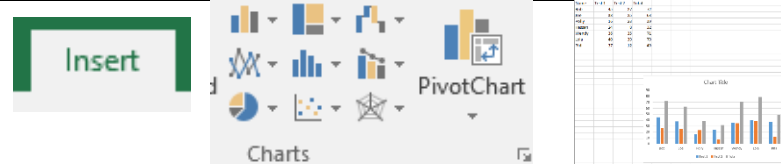
In MS Excel, I can calculate the total by using: $=SUM(_ : _)$ and inputting the cell numbers into the blank spaces.



How can I change the look of a spreadsheet by using a range of formats?

I can use the font tools to change the colour, size and style of the text in a cell. I can change the size of a cell by expanding each column. I can fill in cells in different colours to colour-code my data.

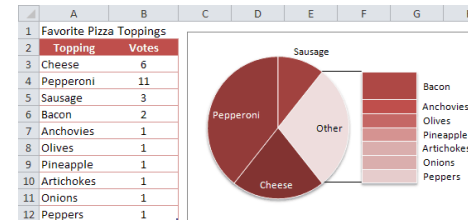
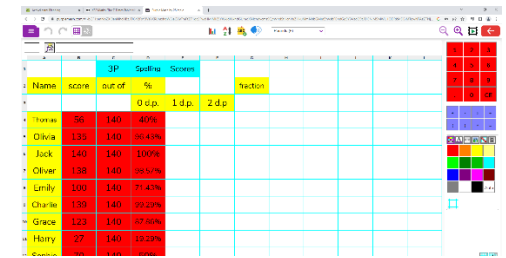
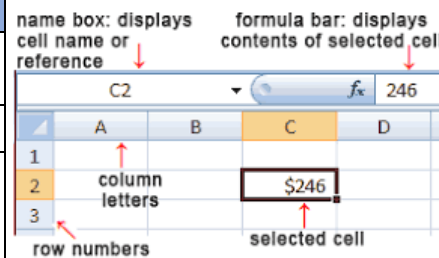
How can I use a spreadsheet to create a graph?



In MS Excel I can use the insert function to create a chart with the data I have inputted.

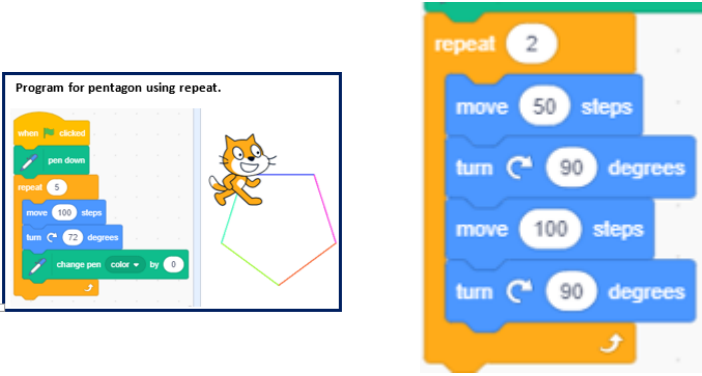
Key Vocabulary

spreadsheet	A grid of cells containing numbers and text which can be formatted in different ways.
cell	The small boxes in the grid of a spreadsheet.
formula	A formula is a calculation based on the contents of cells or a total of a combination of cells.
format	The layout of the spreadsheet, including the font style, text colour, row and column
data	The information stored in each cell is called data.



Year 4 Computing: Computer Science (Repeat)

What is a repeat?	A repeat is a pattern within a program that can be used again (repeated)
What is a repeat used for?	Repeating a pattern within a program can help use save time when coding. I can explain why it has been used in each area of my program.
What can I use in my own program?	I can use repeats in my own program as well as sequences.
What do I do if my program does not work?	If the outcome is not what I intended, I need to de-bug the sequence to fix any mistakes.
Is there other coding software?	Scratch is an example of other coding software and I can use my knowledge and skills from 2code in Scratch.

Key Vocabulary		Key Images
Reasoning	Thinking about something in a logical way	 <p>The 'Key Images' section contains two images. On the left is a Scratch script titled 'Program for pentagon using repeat.' It starts with 'when clicked', followed by 'pen down', a 'repeat 5' loop containing 'move 100 steps', 'turn 72 degrees', and 'change pen color by 6'. To the right of the script is a drawing of a pentagon with a cat cursor. On the right is a zoomed-in view of a 'repeat 2' block containing 'move 50 steps', 'turn 90 degrees', 'move 100 steps', and 'turn 90 degrees'.</p>
Repeat	Recognising patterns within a program that can be repeated	
Decompose	breaking a program down into smaller steps	
Program	a precise set of instructions for a computer	
De-bug	Identifying and correcting mistakes when the program doesn't work as expected	




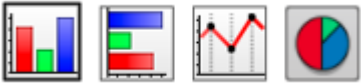

St. John The Evangelist RCP School Year 5 Computing Progression (Intent)

Timescale	Autumn 1 (Then one lesson per half term)	Autumn 2 & Summer 1	Spring 1 & 2	Summer 2
Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology Focus: What is a computer?
Prior Knowledge:	See previous year group			
Intended Vocabulary	Topic dependent – see lessons on Project evolve to cover all eight strands throughout the year.	data database emphasis tabs icon	conditional / selection computational thinking abstraction decompose debugging/ deglitching	Computing Pioneers: Kate Bouman <small>(Woman in Science & Space link)</small>
Aims	<p>The national curriculum for computing aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology. 			
Statutory Requirements (NC)	<p>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</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>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</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>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</p>	<p>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</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>

			goals, including collecting, analysing, evaluating and presenting data and information	
Intended Skills	<p>I can use technology safely and respectfully and responsibly</p> <p>I can make positive contributions and be part of online communities</p> <p>I can describe some of the communities in which I am involved and describe how I collaborate with others positively</p> <p>I can search for information about an individual online and create a summary report of the information I find</p> <p>I can recognise when someone is upset, hurt or angry online</p>	<p>I can use skills I have learnt across multiple application programs, including:</p> <p>I can select appropriate tools to add emphasis and effect to my work</p> <p>I can draft and redraft my written work by deleting, inserting and replacing text to improve clarity and create mood.</p> <p>Creativity</p> <p>I can design a 3D model using ICT to meet a specific goal</p> <p>I can evaluate and improve my finished designs</p> <p>Databases</p> <p>I can create a database structure of my own and enter the data</p> <p>I can prepare a data collection form and collect quality information</p> <p>I can use spreadsheets to create a graph</p>	<p>I can plan and write an algorithm using the following: commands, sequence, repetition and selection 'if...then' (conditional statement)</p> <p>I can detect and debug errors in more complex algorithms and programs</p> <p>I can use selection to create games in which the user must make a choice</p> <p>I can use my skills and understanding of selection in more than 2 programs</p>	<p>I can use different search technologies</p> <p>I can create and use strong and secure passwords</p> <p>I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, and geolocation) with others</p> <p>I can explain how and why some apps may request or take payment for additional content (e.g. in-app purchases) and explain why I should seek permission from a trusted adult before purchasing</p> <p>I can assess and justify when it is acceptable to use the work of others, and when I need to credit the source</p> <p>I can give examples of content that is permitted to be reused</p> <p>I can recognise that intellectual property rights and copyright protection carry over into the online world.</p> <p>I can identify the features of legal downloads and illegal (pirated) content</p> <p>I know what an operating system is and why it important</p> <p>I can identify the key internal parts of a computer – RAM, memory, processor, motherboard</p> <p>I can describe what each part does</p> <p>I can discuss what it means to save work locally, to a network or to a 'Cloud'</p>
Intended Knowledge	<p>I know how identity online can be copied, modified or altered</p> <p>I can demonstrate responsible choices about my online identity, depending on context</p>	<p>I know how to review and edit my work and talk about the changes I made</p> <p>I know how to decide on the most appropriate form of graph for a</p>	<p>I can tell you what a conditional is</p>	<p>I can evaluate digital content and can explain how I make choices from search results</p> <p>I can explain key concepts including:</p>

	<p>I know that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/our fault</p> <p>I can describe ways that information about people online can be used by others to make judgments about an individual</p> <p>I know how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone</p> <p>I know how to block abusive users</p> <p>I know ways technology can affect healthy sleep and can describe some of the issues</p> <p>I know some strategies, tips or advice to promote healthy sleep with regards to technology</p>	<p>data set giving reasons for my choice</p> <p>I can interpret graphs of data collected from a variety of sources</p>		<p>Data, information, fact, opinion belief, true, false, valid, reliable and evidence</p> <p>I understand the difference between online mis-information (inaccurate information distributed by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead)</p> <p>I know information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose)</p>
<p>Assessment</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>

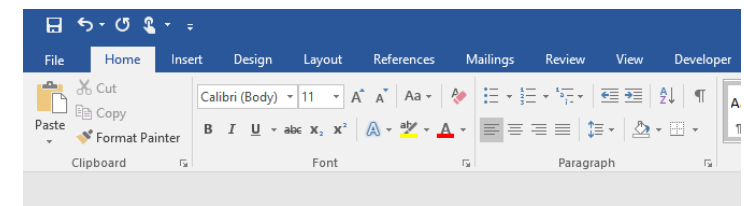
Year 5 Computing: Digital Literacy

<p>How do I use tools to add emphasis and effect to my work?</p>	<p>Microsoft word can be used to produce different types of work. You can use numerous tools to add emphasis, alter and format your work. You will find what you need in the 'Home' and 'insert' tabs on the top of a Microsoft word document.</p>
<p>What is a database and how do I enter my own data?</p>	<p>A database is a set of data that can be held in a computer in a format that can be searched and sorted for information. 2Investigate allows you to sort information using more than one field.</p> 
<p>How can I use a database to create a graph?</p>	<p>The chart icon allows you to show the information in chart form. There are a variety of different charts to choose from:</p>  <p>Select the field of the data that you wish to display in the drop-down box.</p> 
<p>How do I know the most appropriate form of graph for my data?</p>	<p>Data that is counted and has no in-between value is called discrete data. Discrete data is usually collected in a frequency table and then presented as a bar chart. Line graphs are used to show changes to a measurement over time. They show continuous data.</p>

Key Vocabulary



data	Information
database	A set of data held in a computer
emphasis	Make something appear special or important
tabs	Further pages or windows that can be opened on a computer
icon	A symbol which represents a program

Key images



Year 5 Computing: Computer Science (conditional / selection)

What is a conditional / selection?	This is a decision that must be made for the program to carry on. For example, if dark, turn light on.
What can I include in my program?	I can plan the algorithm and write a program using commands, sequence, repetition and conditional / selection (if...when)
What does conditional / selection do in a game?	Using conditional / selection in a game means the user has to make a choice in order to continue. I can show this in games / activities I have created.
What do I do if my program does not work?	If the outcome is not what I intended, I need to de-bug the errors in the algorithm and program to fix any mistakes.
What type of game can I make with conditionals?	I can transfer my skills into scratch to create a times table game using conditionals such as if/else

Key Vocabulary		Key Images
conditional / selection	a decision must be made for the program to carry on (i.e. if dark, turn the light on)	 
computational thinking	involves looking at a problem and working out a way a computer might be able to help you solve it	
abstraction	being able to focus on the problem and ignoring detail, focus on program before look and feel e.g. colour, size, background	
decompose	breaking a program down into smaller steps	
debugging/ deglitching	Identifying and correcting mistakes when the program doesn't work as expected	



St. John The Evangelist RCP School Year 6 Computing Progression (Intent)

Timescale	Autumn 1 (Then one lesson per half term)	Autumn 2 & Summer 1	Spring 1 & 2	Summer 2
Topic	Digital Citizenship	Digital Literacy	Computer Science	Information Technology Focus: The History and future of Computers
Prior Knowledge:	See previous year group			
Intended Vocabulary	Topic dependent – see lessons on Project evolve to cover all eight strands throughout the year.	emphasis interpret audience formatting layout	variables computational thinking abstraction decompose debugging/ deglitching	Computing Pioneers: Alan Turing <small>(WW2 link)</small>
Aims	<p>The national curriculum for computing aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology. 			
Statutory Requirements (NC)	<p>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</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>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</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>Select, use and combine a variety of software (including internet services) on a range of digital</p>	<p>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</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>

			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	
Intended Skills	<p>I can use technology safely and respectfully and responsibly</p>	<p>I can choose, select and use a combination of software to present my work</p> <p>I can select appropriate tools to add emphasis and effect to my work</p> <p>I can think about whether my work is suitable for the audience</p> <p>I can draft and redraft my written work by deleting, inserting and replacing text to improve clarity and create mood</p> <p>I can interpret graphs of data collected from a variety of sources</p>	<p>I can confidently use events, repeats, selection and variables</p> <p>I can use a variable in a variety of programming software - 2Simple – 2Code / ScratchJr / Scratch / Kodu /Kodable / LightBot / ALEX /</p> <p>I can confidently break a problem down and methodically create a program to solve it, testing and adapting as I go</p> <p>I confidently use the Blockly programming language</p>	<p>I can use search technologies effectively</p> <p>I use different passwords for a range of online services</p> <p>I can demonstrate the use of search tools to find and access online content, which can be reused by others</p> <p>I can demonstrate how to make references to and acknowledge sources I have used from the internet</p> <p>I can independently save and retrieve work from different places</p> <p>I can effectively research using the world wide web</p>
Intended Knowledge	<p>I understand my responsibilities for the well-being of others in my online social group.</p> <p>I know how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming)</p> <p>I know ways of reporting problems online for both my friends and myself</p> <p>I know some simple ways that help build a positive online reputation</p> <p>I know how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me</p>	<p>I can explain why I have chosen my layout and formatting</p>	<p>I can explain what a variable is</p> <p>I can evaluate the effectiveness of my programming and suggest improvements</p>	<p>I know how search engines work and how results are selected and ranked</p> <p>I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting')</p> <p>I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important</p> <p>I know what to do if my password is lost or stolen</p>

	<p>I know a range of ways to report concerns in both school and at home about online bullying</p> <p>I know different strategies to limit the impact of technology on my health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise)</p> <p>I know the importance of self-regulating my use of technology</p>			<p>I know what app permissions are and can give some examples from the technology or services I use</p> <p>I know simple ways to increase privacy on apps and services that provide privacy settings</p> <p>I know some ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing)</p> <p>I can suggest what technology might look like in twenty years' time</p>
Assessment	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>	<p>If a child cannot meet these targets then they are BLW</p> <p>If a child can meet less than half these targets then they are WTS</p> <p>If a child can meet most these targets then they are EXP</p> <p>If a child can meet all of these targets and show additional skills and knowledge then they are greater depth.</p>

Year 6 Computing: Digital Literacy

How can combinations of software be used to present work?	There are many examples of software that can be used in combination. For example, the internet can be used to source pictures that are used in MS Word or PowerPoint documents. Also, pictures can be edited in 'MS Paint' to be used in other software as well as graphs from Excel. The screenshot / snip tool function allows us to easily cut and paste them into our work.
What tools can add effect or emphasis to my work?	I can use a variety of tools to make the piece of work suitable for a particular audience. I can change font styles, colours, layouts, artistic effects and sizes to add effect or emphasis to my work. Thinking about the audience, helps me chose my layout and formatting options.
How can I draft / redraft my work using tools?	To 'insert' text I move the cursor to the chosen area of the document and type. I can find words in a piece of text by clicking 'find' and typing my chosen word which will highlight it in the document. To replace specific words in the text, I use the 'replace' tool and type my chosen word and the word that I wish to replace it with.
How can I review and edit my work?	Software such as Ms Word, MS PowerPoint and MS Publisher have tools to help us review our work, such as an online spell check and online thesaurus
How can I show data using graphs?	I can create a suitable graph to interpret a variety of data. For example, a line graph for continuous data, pie chart to show how data compares to a whole and bar charts for separate pieces of information.

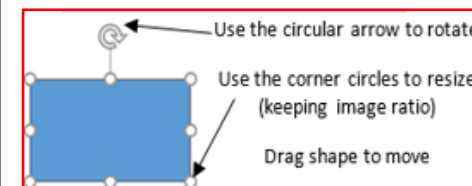
Key Vocabulary

emphasis	Special importance
interpret	Explain the meaning of something
audience	Who the document is intended for
formatting	Make the text look different
layout	Different ways to set out information, pictures and tables in documents or presentation.

Key images

Cut, Copy, Paste

Cut – Ctrl + X
Copy – Ctrl + C
Paste – Ctrl + V
Select all – Ctrl -



Year 6 Computing: Computer Science (variables)

What is a variable?	A variable is a part of a program that can change value, e.g. scores, times, lives, hit points
What can I include in my program?	In my program I can use events, repeats, selection and variables
Is there other programming software?	I can use variables in other software such as scratch to change the number of points achieved in a game
How do I create an effective program?	I can decompose a problem and methodically create a program to solve it, testing and adapting as I go. When I have completed it, I check the outcome is what I intended and de-bug if it is not. I can then suggest improvements to make my program better.
What type of game can I make with variables?	I can transfer my skills into scratch to create a times table game using variables such as points, lives or times.

Key Vocabulary		Key Images
variables	a part of a program that can change value, e.g. scores, times, lives, hit points	
computational thinking	involves looking at a problem and working out a way a computer might be able to help you solve it	
abstraction	being able to focus on the problem and ignoring detail, focus on program before look and feel e.g. colour, size, background	
decompose	breaking a program down into smaller steps	
debugging/degitching	Identifying and correcting mistakes when the program doesn't work as expected	