Computing Knowledge and Skills Progression 2025 2026

Our goal for Computing education is for children to be able to use their computational thinking skills and creativity to become digitally literate within an ever changing world. We aim for our children to be able to see connections between the computing skills they learn in school to the wider world around them and how they can be active participants in their future digital world. We do this through:

- *developing a knowledge of computing systems and networks within the world*
- *understanding the use of data and information*
- *building a solid foundation of programming skills*
- *using a range of media systems to solve problems*
- *creating an understanding of how to use technology safely and respectfully*

William Tyndale Primary School

Computing Whole School Overview

Our goal for Computing education is that children are able to use computational thinking and creativity to understand and change the world, developing:
• a knowledge of programming;
• digital literacy; and
• an understanding of how to use technology safely and respectfully

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Whole school days/events linked to Computing	*National Coding Week*	*Computer Science Education Week* *Bebras Challenge*	*Internet Safety Day*		*International Girls in ICT Day*	
Right of the month	*September: Article 28 – the right to learn and go to school* *October: Article 12 – the right to be listened to*	*November: Article 19 – the right not to be harmed and to be looked after and kept safe* *December: Article 13 – the right to follow your own religion*	*January: Article 29 – the right to become the best you can be* *February: Article 42 – the right to learn about your rights*	*March: Article 7 – the right to a name and a nationality* *April: Article 24 – the right to food, water and medical care*	*April: Article 24 – the right to food, water and medical care* *May: Article 20 – the right to practice your own culture, language and religion*	*June: Article 22 – the right to special protection and help if you are a refugee* *July: Article 31 – the right to play and rest*
Skills Builder	*September: Listening* *October: Speaking*	*November: Teamwork* *December: GLOBAL GOALS*	*January: Problem Solving* *February: Staying Positive*	*March: Creativity* *April: GLOBAL GOALS*	*April: GLOBAL GOALS* *May: Aiming High*	*June: Leadership* *July: GLOBAL GOALS*
Nursery & Reception	Children will be provided with a range of experiences through play and discussion throughout the year that will enable them to see the use of technology in their everyday lives and the people who help them. In role play and continuous provision they will explore everyday technology and show curiosity as to its purpose and how it works. Over the year, they will begin to build foundational knowledge of computational thinking, computer science skills, ict skills and digital literacy. They will learn about how to stay safe online through stories such as Jessie and Friends/ DigiDuck / Smartie the Penguin as well as discrete lessons once a term. In Reception, children will begin to learn some of the lessons of each 'Digital Citizen'.					

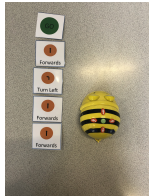|					
Year 1	**Computing systems and networks** identify technology in my life to look after technology in my life	**Computer Science** understand what algorithms are identify algorithms in my daily life	**Creating Media** create, share and respond to multimedia and digital artefacts explain why work using technology belongs to me	**Data and information** explain what data is sort and group basic data	**Computer Science** create a simple sequence of events
Year 2	**Creating Media** take a digital photograph and explain the artistic choices I made	**Computing systems and networks** look after technology in my classroom identify technology in the world around me and its uses	**Data and information** create a digital pictogram to display data	**Creating Media** use keywords to find appropriate information using a search engine use technology purposefully to create digital content	**Computer Science** use a Beebot to create and predict what will happen in a sequence of events	**Computer Science** use block coding to create a simple algorithm
Year 3	**Computing systems and networks** understand that the internet is a network of computers	**Creating Media** use text and images to convey a message to an audience using publishing software	**Creating Media** explain what inputs and outputs are create a simple stop motion clip	**Computer Science** Create a clear and structured sequence of events	**Data and information** can use a branching database to group data	**Computer Science** explain the relationship between an event and an action in a simple code using a micro bit
Year 4	**Computing systems and networks** can explain what a website is and how to contribute to the WWW	**Computer Science** make my code more efficient using repetition and explain the choices I have made	**Computer Science** use sequence, repetition to code a microcontroller use selection (an 'if…then…' statement) with physical computing	**Creating Media** can make simple edits to a photograph	**Data and information** use a data logger to collect information	**Creating Media** can create a Vlog is and explain how it is created using visual and audio inputs
Year 5	**Computing systems and networks** know that computers communicate between them through computer systems use a search engine effectively	**Computer Science** use selection and conditions effectively 'if statements' (when _____ happens, _____ happens) in block coding explain my coding choices	**Creating Media** create a vector drawing using lines and shapes	**Creating Media** capture, edit and manipulate visual and audio content to make a short film	**Data and information** use a flat file database to collect and display data	**Computer Science** control and simulate physical systems to achieve a specific goal

	Computing systems and networks	Creating Media	Computer Science	Data and information	Creating Media	Creating Media
Year 6	use computer systems to collaborate with my peers explain how data is transferred over the internet	use 3D modelling software manipulate digital images and explain my choices	know that a variable is used by computers to store information create a game using variables	analyse data in a spreadsheet use a simple formula in a spreadsheet	Create a webpage on Google Sites consider accessibility features which could be included on a webpage	manipulate digital images and explain my choices (linked with Global Routes)

Nursery					
	Digital Literacy - Online Safety	Digital Literacy	IT- Digital Media	IT- Data	Computer Science- Coding
	Know who to talk to if I ever feel worried whilst using technology (PSED/CLL)	Talk about the different pieces of technology that they may find at school and what they may find at home. (KUW)	Take a photo using an ipad/camera I can explain what makes a good photo Use technology to record voice Use listening devices (CLL/KUW/EAD)	Compare groups of objects Answer questions about groups of objects (MD/KUW)	Follow and act out a series of instructions Explain what a given command will do Use buttons to control (program) a floor robot (PD/CLL)

Reception					
	Digital Literacy - Online Safety	Digital Literacy	IT- Digital Media	IT- Data	Computer Science- Coding
	Create rules for using technology responsibly Be aware that we need passwords to protect our work and adults use them (PSED/CLL)	Recognise technology that is used at home and in school. Understand what a computer is and the different uses of computers (KUW)	Take a photo and observe ways to improve it Use technology to listen to different sounds, music and audio books (Press play, pause and stop)	Use technology to organise objects into groups (pictogram) Interpret greater or less from looking at pictograms (MD/KUW)	Understand that instructions need to go in the correct order. Plan, follow and complete a simple program on a computer or floor robot. Create and read an algorithm Give commands/instructions when using simple software/hardware (PD/CLL)

Year 1

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
National Curriculum Targets	recognise common uses of information technology beyond school	understand what algorithms are	use technology purposefully to create, organise, store, manipulate and retrieve digital content	use technology purposefully to create, organise, store, manipulate and retrieve digital content	use technology purposefully to create, organise, store, manipulate and retrieve digital content	follow precise and unambiguous instructions create and debug simple programs
	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.					
Ready to Progress Targets	I can identify technology and look after it Online Safety: I understand what it means to be responsible Identify ways to care for devices	I know what an algorithm is Online Safety: Learn the "Pause! Breathe! Finish Up!" routine as a self-regulation strategy I know who I can talk to if I feel worried	I can create, share and respond to multimedia and digital artefacts I can explain why work using technology belongs to me Online Safety: I can describe how to behave and stay safe online I can explain how and why passwords are used I know when and why to take breaks from device time I can consider the feelings of people around them, even when engaged in fun online activities		I can explain what data is I can sort and group data Online Safety: I can explain why it is important to be kind to people online and to respect their choices	I can create a simple sequence of events Online Safety: I can stop and think about what I see online I can ask a trusted adult for help
Events	**National Coding Week**	**Computer Science Education Week**	**Safer Internet Day**		**International Girls in ICT Day**	

Online Safety [Common Sense Media Digital Citizenship Curriculum (Project Evolve & Digital Matters)](#)	**DIGITAL FOOTPRINT & IDENTITY** We define who we are. **Main Lesson:** [Device Advice - Caring for Our Devices](#) **Additional Lesson:** [Digiduck Saves the Day](#) [Meet Feet of the Digital Citizens!](#)	**RELATIONSHIPS & COMMUNICATION** We know the power of words & actions. **Main Lesson:** [Pause & Think Online](#) **Additional Lesson:** [Jessie & Friends: Episode 3 Why We Pause for People](#) [Meet Heart of the Digital Citizens!](#)	**CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH** We are kind & courageous. **Main Lesson:** [Media Balance Is Important](#) **Additional Lesson:** [Barefoot Computing: Safety Snakes](#) [Meet Legs of the Digital Citizens!](#)	**PRIVACY & SECURITY** We care about everyone's privacy. **Main Lesson:** [Safety in My Online Neighbourhood](#) **Additional Lesson:** [Smartie the Penguin (Lesson Plan for Year 1 Lesson B)](#) [Meet Guts of the Digital Citizens!](#)	**MEDIA BALANCE & WELL-BEING** We find balance in our digital lives. **Main Lesson:** [Pause for People](#) **Additional Lesson:** [Jessie & Friends: Episode 2 - Sharing Pictures](#) [Meet Arms of the Digital Citizens!](#)	**NEWS & MEDIA LITERACY** We are critical thinkers & creators. **Main Lesson:** [Meet Head of the Digital Citizens!](#) [Media Balance Is Important - Quick Bite](#) **Additional Lesson:** [Smartie the Penguin (Lesson Plan for Year 1 Lesson A)](#)
Year 1	**Class Digital Citizenship Agreement** How can we safely and respectfully use technology in the classroom? **Key questions and skills:** What technology do we use in class? How does using technology link to the [rights of a child](#)? How can we look after our technology? Links to Home: [Send home online family agreement](#) **Teach Computing - Computing systems and networks** [Discuss various uses of technology in children's own lives](#) [End of Unit Assessment](#)	**Teach Computing - Robotic Programming** [End of Unit Assessment](#) [End of Unit Assessment Scaffold](#) **Key questions and skills:** [What is an algorithm?](#) [What is sequencing?](#) I can make an algorithm with a clear sequence I can explain why a sequence needs to be specific To identify which buttons to press to create a sequence To press play to start the sequence To be able to clear a sequence To explain what the sequence should be and why	**Creating Media - Create, Share, Respond & Multimedia and Digital Writing (2 half terms)** Local Link with Islington Computing Scheme and Busy Things Link with [David Hockney Digital Art](#) Link with Online safety and make posters about key online safety tips End of Unit Assessment Sheet 📄 EoP - Y1 – IT - Digital Media and Writing **Key questions and skills:** I can undo a mistake I can save and retrieve my work I can compare digital painting with a paper alternative I can take a digital photo I can change my picture using filters and effects **Additional Resources:** [Teach Computing -Creating Media- Digital Painting](#) [Teach Computing Digital Writing Lesson](#)	**Data and Information- Grouping Data using our IT Skills** Local Link with Islington Computing Scheme and Busy Things Use the Islington Computing lesson sequence for developing an understanding of Grouping Data. [End of Unit Assessment](#) [End of Unit Assessment Scaffold](#) **Key questions and skills:** What is data? How can we sort data? Why do we need to sort data? To sort and group objects To label groups of objects	**Teach Computing- Programming Animations** **Application- Scratch Jnr** **Key questions and skills:** What is sequencing? What is an algorithm? What does it mean to debug? I can explain what an algorithm is I can make a sequence I can explain what a sprite is I can explain what block coding is I can debug a sequence I can predict the outcome of a sequence

Key questions and skills: What is a computer? What is technology? What is information technology? (has a computer) What do we use different types of technology for? How does it impact our lives? Why do we use technology? [HTML Heroes- what is the internet](#) **Vocabulary:** technology, computer, mouse, trackpad, keyboard, screen, double-click, typing. **Extension and support activities:** Scavenger hunt of information technology Go on trip around the school to see what people are using and why Do a task with technology and try without. Compare **Links to Home:**	To be able to identify if an error has occurred and how to fix it **Extension and support activities:** **[Islington Computing Lessons](#)** Students use their own bodies and arrow cards to create an algorithm on how to get around the class/playground. Create a sequence with FakeBot cards and ask students to predict the outcome Create obstacles for the BeeBot to face and ask children simplest way to get around them Use compass directions to add for instructions (N,S,E,W) Ask students to explain their reasoning of why they chose the sequence they have chosen **Vocabulary:**	**Vocabulary -** laptop/computer/chromebook/ipad - screen, keyboard, trackpad or touchpad, mouse, cursor/pointer, swipe, click, drag, drop, spacebar, backspace, enter or return key, delete, spacebar, shift key Paint tools: brush/pen, paint bucket, rubber, stamp, sticker, undo, redo, clear, save Text tools: font, size, text colour JIT tools: page, layout, template, picture, font, size, text colour, wordbank, save, open file **Spring 1: Internet Safety Day –** know to speak to a trusted adult if there is anything they are not comfortable with. Keeping personal information private (name, age, school, address) [Jessie and Friends](#) [Detective Digiduck](#) [SMART Lessons](#) [Short film - online safety and pop ups](#) **Key Questions:** Who are your trusted adults? What is your personal information? What can you do if you see something online that makes you feel uncomfortable?	To count how many are in a group To identify the property we are grouping by To compare groups of objects **Extension and support activities:** **[Teach Computing Slides](#)** [Sorting Objects Activity (SEND)](#) Use physical objects and sort into groups Connect to maths with subitising and looking at numbers and grouping them Use the students to group and sort by names, height, interests etc. **Vocabulary:** object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same	**Vocabulary:** ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design. **Extension and support activities:** Give a sequence of events and a code and ask students to debug the sequence. Use [Code.org - Course A](#) lessons to support coding knowledge Create a race between two sprites of students choice Students must explain how they know their code will work without pressing play [Head, Shoulders, Knees and Toes Algorithms (SEND)](#)

What technology do we use at home? [Finding Balance with Media and Tech Use at Home](#) 	Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program. **Resources:** Barefoot Computing: [Starting with Beebots](#) [Beebots Basics SEND](#) Computing Spotlight Resources	

IT Skills:

I can hold and carry an i-pad with two hands or hugging it to my chest

I can log into the ipad using the passcode

I can put the i-pad to sleep by touching the power button

I can recognise the home button and know when I press it, it will take to to the home screen

I can swipe to each page to find the application I want

I can take a picture with the camera (hold it still and focus by tapping the screen)

I can log into an application (reading eggs/doodle maths) using a code

[I can drag and drop items](#)

I can control the volume level

I can type onto a document using the keypad

Vocabulary:

Algorithm: a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. A group of steps within a task

Sequence: When we sequence things, we arrange them in a particular order. Sequence-based algorithms are made from a precise set of instructions.

Technology: is anything made by people to help us

Application: Application software are the computer programs for performing user tasks such as word processing and web browsers

Code: The language used to tell computers what the user wants it to do. (Java Script, Block coding, HTML etc.)

Offline: not controlled by or directly connected to a computer or the internet.

Safety: free from the risk of harm. providing protection from harm, loss, or danger

Digital Citizenship: refers to the responsible use of technology by anyone who uses computers, the Internet, and **digital** devices to engage with society on any level

Debug: process of finding (and correcting) errors in a computer program

Program: Computer programming is the process of telling a **computer** to do certain things by giving it instructions

Precise: accurate; exact

Event: An action that causes something to happen in computing

Commands: are strung together can make up algorithms and computer programs and are ultimately instructions for the computer **Information technology**: anything is a computer, works with a computer or has a computer inside it Internet: The **internet** is an informal term for the world-wide communication network of computers.	**Input:** The term for giving information to a computer **Data:** is the word used to describe information. This could be facts, observations, numbers, graphs or measurements - any kind of information that has been collected and can be analysed. On a device this can also be sound and images. Digital information, the inputs and outputs of computers **Personal Information:** specific information that is about a person such as their name, address, age, phone number. **Online:** connected to, directly controlled by, or available through a computer system an **online** database working **online**.

Year 2

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
National Curriculum Targets	use technology purposefully to create, organise, store, manipulate and retrieve digital content	recognise common uses of information technology beyond school	use technology purposefully to create, organise, store, manipulate and retrieve digital content	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 create and debug simple programs use logical reasoning to predict the behaviour of simple programs	understand what algorithms are; how they are implemented as programs on digital devices create and debug simple programs use logical reasoning to predict the behaviour of simple programs
	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.					
Ready to Progress Targets	I can look after technology in my classroom I can take a digital photograph and explain the artistic choices I made Online Safety: I can reflect on how I am a part of a digital classroom community	I can identify technology in the world around me Online Safety: I can recognise the different kinds of feelings I can have when using technology	I can talk about how anyone experiencing bullying can get help I can create a pictogram to display data Online Safety: I can explain why I have a right to say 'no' or 'I will have to ask someone' I can get help from an adult if I am unsure about a website	I can use technology purposefully to create digital content I can use keywords to find appropriate information using a search engine Online Safety: I know why it's important to be aware and respectful of people while using devices	I can use a Beebot to create and predict what will happen in a sequence of events Online Safety: I can explain how information put online about someone can last for a long time I can explain and give examples of what is meant by 'private' and 'keeping things private'	I can use block coding to create a simple algorithm Online Safety: I know strategies to manage device distractions at school I can reflect on what it looks and feels like to stay focused on a task
Events	[National Coding Week](#)	[Computer Science Education Week](#)	[Safer Internet Day](#)		[International Girls in ICT Day](#)	
Online Safety [Common Sense Media Digital Citizenship Curriculum](#) [(Project Evolve](#) & [Digital Matters)](#)	RELATIONSHIPS & COMMUNICATION We know the power of words & actions. **Main Lesson:** [Our Device Charter](#) **Additional Lesson:** [Barefoot - Who does this belong to?](#)	MEDIA BALANCE & WELL-BEING We find balance in our digital lives. **Main Lesson:** [How Technology Makes You Feel](#) **Additional Lesson:** [Jessie & Friends: Episode 3 - Playing Games](#)	DIGITAL FOOTPRINT & IDENTITY We define who we are. **Main Lesson:** [Digital Trails](#) **Additional Lesson:** [BBC Own It: Digital Footprint: What Is It and Why Should I Care?](#)	CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH We are kind & courageous. **Main Lesson:** [We, the Digital Citizens](#) [Pause for People - link with online life](#) **Additional Lesson:** [Smartie the Penguin (Lesson Plan, Year 2 Lesson A)](#)	PRIVACY & SECURITY We care about everyone's privacy. **Main Lesson:** [Internet Traffic Light](#) **Additional Lesson:** [Pantosaurus and His PANTS song](#)	NEWS & MEDIA LITERACY We are critical thinkers & creators. **Main Lesson:** [Device Advice - Managing Device Distractions](#) **Additional Lesson:** [The Adventures of Smartie the Penguin (Year 2 Lesson B)](#)

	Create a Class Digital Citizenship Agreement:	Teach Computing- Computing systems and networks: Discuss various uses of technology in the world around us	Teach Computing- Data and Information: Pictograms	Creating Media- Use i-Pads purposely for research and create digital content to show my findings	Teach Computing- Programming Robots (BeeBots)	Teach Computing- Programming Quizzes
Year 2	**Key questions and skills:** How can we safely and respectfully use technology in the classroom? What technology do we use in class? Who can we talk to in school/home if there is something online that makes us feel uncomfortable? (trusted adult/child line) How does our digital agreement link to our rights as a child? **Links to Home:** Send home online family agreement **Teach Computing- Creating Media: Digital Photography** iPad camera and Pixlr app End of Unit Assessment **Key questions and skills:** I can explain what I did to capture a digital photo	**j2e application** Recap: What is technology? What is a computer? What is information technology? What do we use technology for? How does it impact our lives? End of Unit Assessment End of Unit Assessment Scaffold **Key questions and skills:** How is IT used in the wider world? What are inputs, processes and outputs with technology? (speaker = output, process= microphone = input) How does IT benefit our world? (supermarkets, alarm systems at home, TVs to watch shows etc.) **Skills Builder Link**: Trip to a shop/supermarket to see what technology they use to help them. A guest/parent to come in	**j2e application** Use the Teach Computing lesson sequence for developing an understanding of data and information using pictograms (refer back to year 1 lessons to recap thinking of sorting data) End of Unit Assessment End of Unit Assessment Scaffold **Key questions and skills:** What is data? How can we count and record data? Why do we present data? To collect data using a tally chart To use the data to create a pictogram To present the data and explain what the pictogram shows (link skills builder presenting)	I can identify devices I can use to access information online I can identify a search engine to find information I can use simple words to search a topic I understand that not all information online is true **Create digital content outcomes:** Create a PicCollage poster or Google Slides to share information Choose an appropriate layout for the poster or slides How to take a picture that is in focus How to add text to our poster that is clear and easy to read (font, size, alignment) To use appropriate images to match the content of our poster	**Key questions and skills:** What is sequencing? What is an algorithm? Why is it important that we have our events in a clear sequence? I can explain why the sequence matters to ensure the algorithm and code works I can use the same instructions to create different algorithms I can predict the outcome of a sequence I can spot mistakes and debug them **Vocabulary:** instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition **Extension and support activities:** Lego Building Algorithm Activity (SEND)	**Key questions and skills:** What is sequencing? What is an algorithm? What is debugging? How can we show these in a code? Why does the sequence need to have precise instructions? Why do we need to understand code? What is an event? I can use block coding to create an algorithm I can explain what block coding is I can explain I need a starting event/block so my programme knows it needs to run I can create a simple sequence of events using block coding I can explain the clicking is a type of event in code to tell the code to do something

I can explain the process of taking a good photograph I can improve a photograph by retaking it I can recognise that images can be changed To hold the camera still to take a photo To use both portrait and landscape for different purposes To move closer and further away from the object to make it bigger or smaller To have the image in focus **Vocabulary:** device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting, **Extension and support activities:** 📄 **Y2 - IT - Creating M…** Look at different types of cameras and compare	and share how they use technology in their job **Vocabulary:** Information technology (IT), computer, barcode, scanner/scan **Extension and support activities:** 📄 **Year 2 – DL - Uses of …** Scavenger hunt around school/home for inputs, outputs and technology Make a physical machine with children Design own technology to solve a problem	To answer 'more than'/'less than' and 'most/least' questions about an attribute To understand what data is okay to share and what data is not okay **Vocabulary:** more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing **Extension and support activities:** 📄 **Year 2 - IT - Data JIT …** Use cut and paste pictograms or build on Google Slides to support different needs Paired Programming to support SEND Colourful Kits - Data BBC Bitesize - Pictograms BBC Bitesize - Tally Charts **Safer Internet Day -** know to speak to a trusted adult if there is anything they are not comfortable with.	How to screen share with our class **Vocabulary:** **Subject links:** Research for Science animal habitats Research for RE about a religious event **Extension and support activities:** Year 2 Islington multimedia unit Screenshare the posters to the board Collaborate by airdropping posters and editing them	Creating Patterns Activity (SEND) Unplugged Activity -Algorithms Challenge- I can explain my choices when creating a code	I can look at a basic sequence and predict what will occur I can explain why I have made specific choices with my sequence and events I can plan, create and debug a code that is fit for a specific purpose **Vocabulary:** sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code. **Extension and support activities:** Paired Programming to support SEND and challenge more able coders Use pictures to map out the code first or printed coding blocks 📄 Year 2 CS- Coding Un…

Think about AI technology and creating images. Is this really art?		Keeping personal information private (name, age, school, address) Key Questions: Who are your trusted adults? What is your personal information? What can you do if you see something online that makes you feel uncomfortable? I can explain what private means and how to keep things private Project Evolve Jessie and Friends Detective Digiduck SMART Lessons			

IT Skills:

Target: use technology purposefully to create, organise, store, manipulate and retrieve digital content

I can hold and carry an i-pad with two hands or hugging it to my chest

I can log into the ipad using the passcode

I can put the i-pad to sleep by touching the power button

I can recognise the home button and know when I press it, it will take to to the home screen

I can swipe to each page to find the app I want

I can take a picture with the camera (hold it still and focus by tapping the screen)

I can log into an app (reading eggs) using a code

I can drag and drop items

I can use the camera to scan a QR code to access apps/websites needed

I can type using the keyboard

Vocabulary:
Yr 2

Algorithm: a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. A group of steps within a task

Sequence: When we sequence things, we arrange them in a particular order. Sequence-based algorithms are made from a precise set of instructions.

Technology: is anything made by people to help us

Application: Application software are the computer programs for performing user tasks such as word processing and web browsers

Code: The language used to tell computers what the user wants it to do. (Java Script, Block coding, HTML etc.)

Commands: are strung together can make up algorithms and computer programs and are ultimately instructions for the computer

Information technology: anything is a computer, works with a computer or has a computer inside it

Internet: The **internet** is an informal term for the world-wide communication network of computers.

Debug: process of finding (and correcting) errors in a computer program

Program: Computer programming is the process of telling a **computer** to do certain things by giving it instructions

Precise: accurate; exact

Event: An action that causes something to happen in computing

Input: The term for giving information to a computer

Personal Information: specific information that is about a person such as their name, address, age, phone number.

Online: connected to, directly controlled by, or available through a computer system an **online** database working **online**.

Offline: not controlled by or directly connected to a computer or the internet.

Safety: free from the risk of harm. providing protection from harm, loss, or danger

Digital Citizenship: refers to the responsible use of technology by anyone who uses computers, the Internet, and **digital** devices to engage with society on any level

Data: is the word used to describe information. This could be facts, observations, numbers, graphs or measurements - any kind of information that has been collected and can be analysed. On a device this can also be sound and images. Digital information, the inputs and outputs of computers

Attribute: A property of an object or person etc. Something you can say it has (such as size or colour)

Tally chart: A tally chart is just one method of collecting data using tally marks, which are lines grouped in 5s

Pictogram: is a chart that uses pictures or symbols to represent data so you don't have to look at lots of numbers.

Block Coding: Block coding refers to the technique of adding extra bits to a digital word in order to improve the reliability of transmission.

Sprite: a computer graphic which may be moved on-screen and otherwise manipulated as a single entity. (a character you can manipulate)

Event: Something that can happen when a program is running, such as a mouse being clicked, a key being pressed, or an amount of time passing.

Year 3

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
National Curriculum Targets	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 on a range of digital devices to design and create content that accomplishes given goals use search technologies effectively; appreciate how results are selected and ranked	select, use and combine a variety of software (including internet services) on a range of digital devices to collect, analyse, evaluate and present data and information use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	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 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 (including internet services) on a range of digital devices to collect, analyse, evaluate and present data and information	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs use sequence, selection, and repetition in programs; work with forms of input and output
	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Ready to Progress	I understand that the internet is a network of computers Online Safety: I can compare and contrast how people are connected on the internet I can describe how connected devices can collect and share anyone's information with others	I can use text and images to convey a message to an audience using publishing software Online Safety: I can use key phrases in search engines to gather accurate information online I can explain why copying someone else's work from the internet without permission isn't fair and give credit	I can explain what inputs and outputs are I can create a simple stop motion clip Online Safety: I can explain what it means to 'know someone' online and why this might be different from knowing someone offline I can explain what private means and how to keep things private	I can create a clear and structured sequence of events Online Safety: I can describe appropriate ways to behave towards other people online and why this is important	I can use a branching database to group data Online Safety: I can explain why spending too much time using technology can sometimes have a negative impact on someone I can identify ideal device-free moments for myself and others	I can explain the relationship between an event and an action in a simple sequence of code using a microbit Online Safety: I know that the information I share online leaves a digital footprint or "trail" I can say what information is OK to be shared online
Online Safety [Common Sense Media Digital Citizenship Curriculum](#) ([Project Evolve](#) & [Digital Matters](#))	DIGITAL FOOTPRINT & IDENTITY We define who we are. **Main Lesson:** [Digital Trails](#) **Additional Lesson:** [BBC Own It: Where Are Your Photos Going?](#) [Lego Build & Talk: Digital Footprints](#)	CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH We are kind & courageous. **Main Lesson:** [Putting a STOP to Online Meanness](#) **Additional Lesson:** [Interland: Kind Kingdom](#)	MEDIA BALANCE & WELL-BEING We find balance in our digital lives. **Main Lesson:** [Device-Free Moments](#) **Additional Lesson:** [Lego Build & Talk: Screen Time](#) [Interland: Reality River](#)	RELATIONSHIPS & COMMUNICATION We know the power of words & actions. **Main Lesson:** [Who Is in Your Online Community?](#) **Additional Lesson:** [Band Runner: Share](#)	PRIVACY & SECURITY We care about everyone's privacy. **Main Lesson:** [That's Private!](#) **Additional Lesson:** [Interland: Tower of Treasure](#) [Barefoot - Do the Right Thing](#) [NCSC - Adventure Stories](#)	NEWS & MEDIA LITERACY We are critical thinkers & creators. **Main Lesson:** [Let's Give Credit!](#) **Additional Lesson:** [Lego Build & Talk: False Information Online](#) [Interland: Reality River](#)

Events	National Coding Week	Computer Science Education Week	Safer Internet Day		International Girls in ICT Day	
Year 3	**Create a Class Digital Citizenship Agreement:** **Key questions and skills:** How can we safely and respectfully use technology in the classroom? What technology do we use in class? Who can we talk to in school/home if there is something online that makes us feel uncomfortable? (trusted adult/child line) How does our digital agreement link to our rights as a child? **Links to Home:** Send home online family agreement **Teach Computing- Computing Systems and Networks: Connecting Computers** **Recap:** What is a computer? What is technology? What is information technology? **Key questions and skills:**	**Teach Computing- Creating media using a range of softwares** Use a range of applications such as: Canva, Google Slides and Book Creator and compare the softwares for a purpose (presentation) **Key questions and skills:** Collaboration in groups Add, use and position text and images Saving and retrieving the digital work Understand the rule of thirds and spacing Use appropriate font and background choices I can explain the reasons I have chosen what I have included within my presentation I can think of my audience I can screen share my work with the class **Subject links:** Publish poem or tourism pamphlet	**Teach Computing- Creating media using stop motion** **Key questions and skills:** I can explain how an animation/flip book works I can explain how an animation/flip book works I can review a sequence of frames to check my work I can improve my animation based on feedback **Stop motion animators and additional resources:** Tim Allen Kelli S Williams Ainslie Henderson Max Porter and Ru Kuwahata 📄 Year 3 - IT -T- Digital … End of Unit Assessment End of Unit Assessment Scaffold **Vocabulary:**	**Teach Computing- Sequencing sounds** Use the Teach Computing lesson sequence to introduce and develop an understanding of Scratch, sequence and repetition **Key questions and skills:** I can recognise that commands in Scratch are represented as blocks I can create a sequence of connected commands I can decide the actions for each sprite in a program I can implement my algorithm as code **Vocabulary:** Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code. **Extension and support activities:**	**Teach Computing- Data and Information- Branching Databases** **j2e application** developing an understanding of branching databases (refer back to year 2 lessons to recap collecting data using pictograms) End of Unit Assessment End of Unit Assessment Scaffold **Key questions and skills:** What is data? What is a database? What is a branching database? used to classify groups of objects by answering questions with either 'yes' or 'no'. Branching databases can also be called binary trees. How can we group data using yes/no questions? Why can databases be useful in the wider world?	**Micro:bit Planning sequence** **Programming events and actions using micro:bits** Use the micro:bit and Make code lesson sequence to look at events and actions **Key questions and skills:** What is an event? What is an input and output? What are accessibility features? How can I ensure my design is inclusive to a wide variety of users? I can explain the relationship between an event and an action I can consider the real world when making design choices I can link with inputs and outputs when I am creating code I can test a program against a given design I can debug and modify my design to fit the purpose **Vocabulary:**

To know that the internet is a network of computers and how we can connect globally through them What is the internet? What is a network? How do we use these in our lives? What parts make up digital devices? What of these are inputs and outputs? How are digital devices connected? How can digital devices and networks make our lives easier? How have they changed society over time? **Vocabulary:** digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets **Extension and support activities:** Network Hunt Activity	Create a presentation about light or a location in the UK/Europe **Vocabulary:** text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.	animation, flip book, stop-frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition. **Internet Safety Day:** know to speak to a trusted adult if there is anything they are not comfortable with. Keeping personal information private (name, age, school, address) Recognising acceptable/unacceptable behaviour and reporting behaviour if you have concerns Talk about app usage and content, conduct and contact on them **Key questions and skills:** Who are your trusted adults? What is your personal information? What can you do if you see something online that makes you feel uncomfortable? I can explain what private means and how to keep things private	Draw out the code/maze first to have visual to support Use paired programming to support all students Give children a code already built that they can modify to make into their own Challenge children to make the game accessible for a particular user e.g. someone with visability impairments Use Garageband to record and create a repetitive music loop Use the Audioshare application to create music with a loop. Using Chrome musiclab, try out the different ways of creating digital sounds and make music (a beat or rhythm repeated) - https://musiclab.chromeexperiments.com/	To select attributes in which groups of data can be stored into using yes/no questions To select objects to arrange in a branching database To test the branching database To choose and explain that questions need to be ordered carefully to split objects into similarly sized groups **Vocabulary:** attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree. **Extension and support activities:** BBC BItesize - Databases To interpret and draw conclusions from the database and compare it to others Draw out the database prior to using j2e Use physical objects to sort into a database	Algorithm, input, output, sequence, computer, selection, sensor, repetition

| | | Jessie and Friends

Detective Digiduck

SMART Lessons

Code.org Safety Video

ThinkUKnow - Band Runner Programming A - Sequencing sounds | | Collect information linked to another subject such as classifying types of plants or vocabulary words etc. | |

IT Skills/Ipad Skills:

I can hold and carry an i-pad with two hands or hugging it to my chest

I can log into the ipad using the passcode

I can put the i-pad to sleep by touching the power button, I can turn on/off the ipad by holding the power button

I can recognise the home button and know when I press it, it will take to to the home screen

I can swipe to each page to find the app I want

I can take a picture or video with the camera (hold it still and focus by tapping the screen)

I can find a picture or video I have taken

I can accurately log into apps (reading eggs) using my unique logins

I can use the keyboard on the i-pad to type accurately checking for mistakes such as full stops or spaces

Browser: Google Chrome/Safari

I can find and open Google Chrome browser

I can identify the URL bar

I can open a new tab and close them

Google Classroom:

I can log into my google classroom and find the classwork assigned to me

I can 'view assignment'

I can click on links/documents provided to access the work

I can 'Hand in' or 'Mark as done'

I can un-submit assignment if needed

I can add a 'Private Comment' to an assignment

I can find and navigate my Drive

I can create folders and sort my documents

I can add a file to an assignment on Google Classroom

I can use Google to search for websites and images

I can use the back, forward and refresh button on the web browser as needed

Vocabulary: Year 3

Algorithm: a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. A group of steps within a task

Sequence: When we sequence things, we arrange them in a particular order. Sequence-based algorithms are made from a precise set of instructions.

Technology: is anything made by people to help us

Application: Application software are the computer programs for performing user tasks such as word processing and web browsers

Code: The language used to tell computers what the user wants it to do. (Java Script, Block coding, HTML etc.)

Commands: are strung together can make up algorithms and computer programs and are ultimately instructions for the computer

Information technology: anything is a computer, works with a computer or has a computer inside it

Internet: The **internet** is an informal term for the world-wide communication network of computers.

Personal Information: specific information that is about a person such as their name, address, age, phone number.

Online: connected to, directly controlled by, or available through a computer system an **online** database working **online**.

Offline: not controlled by or directly connected to a computer or the internet.

Safety: free from the risk of harm. providing protection from harm, loss, or danger

Digital Citizenship: refers to the responsible use of technology by anyone who uses computers, the Internet, and **digital** devices to engage with society on any level

Debug: process of finding (and correcting) errors in a computer program

Data: is the word used to describe information. This could be facts, observations, numbers, graphs or measurements - any kind of information that has been collected and can be analysed. On a device this can also be sound and images. Digital information, the inputs and outputs of computers

Attribute: A property of an object or person etc. Something you can say it has (such as size or colour)

Tally chart: A tally chart is just one method of collecting data using tally marks, which are lines grouped in 5s

Pictogram: is a chart that uses pictures or symbols to represent data so you don't have to look at lots of numbers.

Block Coding: Block coding refers to the technique of adding extra bits to a digital word in order to improve the reliability of transmission.

Sprite: a computer graphic which may be moved on-screen and otherwise manipulated as a single entity. (a character you can manipulate)

Event: Something that can happen when a program is running, such as a mouse being clicked, a key being pressed, or an amount of time passing.

Online identity: what people see of you online. Whenever you use a social network, send a text, or post online, you're adding to your online identity. Your online identity may be different from your real-world identity — the way your friends, parents, and teachers think of you. Trying on different personas is part of the fun of an online life.

Anonymity: This describes situations where a person's true identity is unknown.

Copyright: the legal right to be the only one to reproduce, publish, and sell the contents and form of a literary or artistic work.

Debug: process of finding (and correcting) errors in a computer program

Program: Computer programming is the process of telling a computer to do certain things by giving it instructions

Program: Computer programming is the process of telling a **computer** to do certain things by giving it instructions **Precise: accurate**; exact **Input**: The term for giving information to a computer **Output**: feed information OUT of a computer – like speakers, a monitor or a printer. They are parts of a computer that let the user see or hear the results of the computer's data processing**.**	**Private:** belonging to or for the use of one particular person or group of people only. **Repetition and Loops:** are a programming element that repeat a portion of code a set number of times until the desired process is complete (a condition has been met). Repetitive tasks are common in programming, and loops are essential to save time and minimise errors. **Branching Database:** used to classify groups of objects. It is used to help identify the objects by. answering questions with either 'yes' or 'no'. Branching databases can also be called binary trees. They are called branching because each time a question is asked there can be two answers, making two branches.

Year 4

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
National Curriculum Targets	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	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	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	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, 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 collect, analyse, evaluate and present data and information	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
	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Ready to Progress	I can explain what a website is and how to contribute to the WWW Online Safety: I can define what a community is, both in person and online I can create and pledge to adhere to shared norms for being in an online community	I can make my code more efficient using loops/repetition and explain the choices I have made I can create digital content using a range of applications and explain why they are best suited for purpose Online Safety: I can define the term "password" and describe its purpose I can understand why a strong password is important	I can use sequence, repetition to code a microcontroller I can use selection (an 'if…then…' statement) in physical computing Online Safety: I can give examples of how to be respectful to others online I can understand that it's important to think about the words we use, because everyone interprets things differently	I can make simple edits to a photograph Online Safety: I can recognise that photos and videos can be altered digitally I can think critically when viewing images or videos online	I can use a data logger to collect information Online Safety: I can examine both online and in-person responsibilities I can describe the "Rings of Responsibility" as a way to think about how our behaviour affects ourselves and others	I can create a Vlog is and explain how it is created using visual and audio inputs Online Safety: I can explain how what I post online can affect my identity I can identify ways I can post online to best reflect who I am

Online Safety	RELATIONSHIPS & COMMUNICATION **We know the power of words & actions.**	PRIVACY & SECURITY **We care about everyone's privacy.**	MEDIA BALANCE & WELL-BEING **We find balance in our digital lives.**	NEWS & MEDIA LITERACY **We are critical thinkers & creators.**	DIGITAL FOOTPRINT & IDENTITY **We define who we are.**	CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH **We are kind & courageous.**
Common Sense Media Digital Citizenship Curriculum (Project Evolve & Digital Matters)	**Main Lesson:** Our Digital Citizenship Pledge **Additional Lesson:** Band Runner: Chat	**Main Lesson:** Password Power-Up **Additional Lesson:** Lego Build & Talk: Online Security Barefoot - You're the Jury NCSC - Adventure Stories	**Main Lesson:** Your Rings of Responsibility **Additional Lesson:** The Adventures of Kara, Winston and the SMART Crew: Chapter 1	**Main Lesson:** Is Seeing Believing? **Additional Lesson:** Interland: Mindful Mountain AI Lesson Resources	**Main Lesson:** This Is Me **Additional Lesson:** The Adventures of Kara, Winston and the SMART Crew: Chapter 4	**Main Lesson:** The Power of Words **Additional Lesson:** Lego Build & Talk: Cyberbullying Band Runner: Like
Events	**National Coding Week**	**Computer Science Education Week**	**Safer Internet Day**		**International Girls in ICT Day**	
Year 4	**Create a Class Digital Citizenship Agreement:** **Key questions and skills:** How can we safely and respectfully use technology in the classroom? What technology do we use in class? Who can we talk to in school/home if there is something online that makes us feel uncomfortable? (trusted adult/child line) How does our digital agreement link to our rights as a child? **Links to Home:** Send home online family agreement	Touch Typing- Typing Club **Teach Computing- Programming Repetition in Games** **Key questions and skills:** What is repetition? BBC Bitesize Why is repetition essential in coding? How does repetition help with the concept of abstraction? I can explain the difference between infinite and count controlled loops I can explain what the outcome of the repetition will be	Touch Typing- Typing Club **Teach Computing- Physical Programming with Crumbles** **Key questions and skills:** Why do computer scientists need conditional statements/events? Why do computer scientists need selection? I can state what selection is I can create a simple circuit and connect it to a microcontroller I can use a count-controlled loop to control outputs	Touch Typing- Typing Club **Teach Computing: Creating Media - Photo Editing** Use the Teach Computing lesson sequence for developing an understanding of photo editing and how to save and retrieve data **Key questions and skills:** I can explain why I may rotate or crop an image I can explain to effects colour has in images to the viewer I can compare my image against a given criteria	Touch Typing- Typing Club **Teach Computing: Data and Information- Data Logging** Use the Teach Computing lesson sequence for developing an understanding of data and how we log it over time Use micro:bits as an alternative to Data loggers (refer back to year 3 lessons to recap collecting data using pictograms) **Key questions and skills:** What is data? How can we collect and record data over time?	Touch Typing- Typing Club **Creating Media Outcome Project - Create a series of Vlogs or Podcasts about a topic from the year** Over the course of the term students/teachers are to choose a topic for students to create a 3 sequence Vlog using Inshot or FlipGrid. Students are to plan, film and edit a series of Vlogs that follow a topic **Key questions and skills:** I can plan a series of Vlogs that follow each other in a sequence I can set up a shot of myself thinking about framing, lighting and sound

Teach Computing - **Computing systems and networks: The Internet** [End of unit Assessment](#) [End of Unit Assessment Scaffolded](#) **Key questions and skills:** What is a website? What is the internet made up of? Who can contribute to the WWW? I can explain what a website is and how to navigate it I can analyse information to make a judgement on its accuracy I can identify misinformation and disinformation and why people may share these online I can think critically about what I see online I can identify how search engines work and results are shared	I can create an algorithm that includes repetition that serves a purpose for my code [I can think about accessibility needs for different people and how this may impact my game](#) **Extension and support activities:** [Shapes & Crystal Flowers Repetition](#) Paired programming to support all students Children can modify a code rather than build from nothing Add comments to code to justify and explain coding choices **Vocabulary:** Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate. **IT Creating Digital Content:**	I can explain that a condition being met can start an action I can use selection (an 'if…then…' statement) to direct the flow of a program [BBC Bitesize - Selection](#) **Vocabulary:** microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer **Extension and support activities:** Physical programming Simon says "if i say this, then do this" Paired programming to support all students Get students to think of real life problems that they could create a solution for **Internet Safety Day –**	I can explain how images can be altered and how what we see online may not be real **Vocabulary:** image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, zoom, undo, font. **Extension and support activities:** Use different cameras to see different qualities of images from different devices Work in pairs to support those who need extra support Have an exhibition of images for parents Give a series of ideas or concepts for children to capture e.g. light, colour, shape, form, portrait Have students set up their own scenes to capture such as a still life	Why do we collect data over time? How does this help people? What are some examples of data being collected over time? (census, speed cameras, temperature, weather) To collect data using a data logger To understand that different data will answer different questions To sort data and explain why it has been sorted in that way To interpret and draw conclusions from data **Vocabulary:** data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion. **Extension and support activities:** Link with a subject to collect and collate data Link with maths and reading/creating graphs	I can be concise and engaging when speaking I can use the editing software to trim or cut parts that are not needed I can add titles or information on the video if needed [Teach Computing lesson series: Audio Production](#) **Vocabulary:** audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.

	I can use key words and phrases to search information **Vocabulary:** internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts **Further developing IT skills with introduction of individual laptops** Introduce children to the laptops ensuring they have an understanding of the elements and how to access Google Classroom Teaching basic skills of using a computer such as logging in, using a keyboard and mouse.	English News report- record it, Create an online blog for the newspaper, create a front page using google docs, use Google Suite to create a presentation or publish a piece of work. Ensure children are able to explain choices they have made when using the applications	**Key questions and skills:** Who are your trusted adults? What is your personal information? What can you do if you see something online that makes you feel uncomfortable? I can explain what private means and how to keep things private What is your online reputation and why is this important to consider? SMART Videos Digital Matters Play, Like, Share	Set up your own still life and see how many ways children can capture the same still life in different ways		

IT Skills:

Laptops Skills:

I can turn on and off a laptop and I understand that by closing the screen I am not turning it off

I can log into the laptop using my own unique .206 login and log out again

I can double tap to right click on something

I can copy (Crtl, C), cut (Crtl, X) and paste (Crtl, V)

I can use the shift button to make capital letters and the @, ?, (), ! symbols

Browser:

I can find and open Google Chrome browser

I can identify the URL bar

I can open a new tab and close them

I can use Google to search for websites and images

I can use the back, forward and refresh button on the web browser as needed

Google Classroom:

I can log into my google classroom and find the classwork assigned to me

I can 'view assignment'

I can click on links/documents provided to access the work

I can 'Hand in' or 'Mark as done'

I can unsubmit assignment if needed

Vocabulary: Year 4

Algorithm: a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. A group of steps within a task

Sequence: When we sequence things, we arrange them in a particular order. Sequence-based algorithms are made from a precise set of instructions.

Technology: is anything made by people to help us

Application: Application software are the computer programs for performing user tasks such as word processing and web browsers

Code: The language used to tell computers what the user wants it to do. (Java Script, Block coding, HTML etc.)

Commands: are strung together can make up algorithms and computer programs and are ultimately instructions for the computer

Information technology: anything is a computer, works with a computer or has a computer inside it

Internet: The **internet** is an informal term for the world-wide communication network of computers.

Personal Information: specific information that is about a person such as their name, address, age, phone number.

Online: connected to, directly controlled by, or available through a computer system an **online** database working **online**.

Offline: not controlled by or directly connected to a computer or the internet.

Safety: free from the risk of harm. providing protection from harm, loss, or danger

Digital Citizenship: refers to the responsible use of technology by anyone who uses computers, the Internet, and **digital** devices to engage with society on any level

Debug: process of finding (and correcting) errors in a computer program

Program: Computer programming is the process of telling a **computer** to do certain things by giving it instructions

Precise: accurate; exact

I can add a 'Private Comment' to an assignment

I can find and navigate my Drive

I can create folders and sort my documents

I can add a file to an assignment on Google Classroom

Word processing:

Changing font (type and size)

Changing background

Insert image (copy & paste or "Insert")

Formatting a document (heading, subheading main text)

Text alignment

Selecting text

Purpose of each word processing type (e.g. docs, slides, sheets etc.)(

Computer Science:

I can explain what an algorithm is

I can make a sequence

I can debug a sequence

I can add a loop or repetition to condense my code

I can use block coding to create an algorithm with a sequence and repetition

Input: The term for giving information to a computer

Output: feed information OUT of a computer – like speakers, a monitor or a printer. They are parts of a computer that let the user see or hear the results of the computer's data processing**.**

Data: is the word used to describe information. This could be facts, observations, numbers, graphs or measurements - any kind of information that has been collected and can be analysed. On a device this can also be sound and images. Digital information, the inputs and outputs of computers

Attribute: A property of an object or person etc. Something you can say it has (such as size or colour)

Block Coding: Block coding refers to the technique of adding extra bits to a digital word in order to improve the reliability of transmission.

Sprite: a computer graphic which may be moved on-screen and otherwise manipulated as a single entity. (a character you can manipulate)

Event: Something that can happen when a program is running, such as a mouse being clicked, a key being pressed, or an amount of time passing.

Online identity: what people see of you online. Whenever you use a social network, send a text, or post online, you're adding to your online identity. Your online identity may be different from your real-world identity — the way your friends, parents, and teachers think of you. Trying on different personas is part of the fun of an online life.

Anonymity: This describes situations where a person's true identity is unknown.

Copyright: the legal right to be the only one to reproduce, publish, and sell the contents and form of a literary or artistic work.

Debug: process of finding (and correcting) errors in a computer program

Repetition and Loops: are a programming element that repeat a portion of code a set number of times until the desired process is complete (a condition has been met). Repetitive tasks are common in programming, and loops are essential to save time and minimise errors.

Selection - In computer science, conditional statements (selection) can perform different computations or actions depending on whether a programmer-specified condition equals true or false.

		For example: If he clicks the red square he gets a prize, if he clicks the blue square, he loses.
		Conditionals: Statements that only run under certain conditions.
		Fake news: Fake news is news or stories on the internet that are not true. There are two types of fake news, disinformation, and misinformation.
		Disinformation: False information that's created and shared to deliberately cause harm.
		Misinformation: Misinformation is generally used to refer to misleading information created or disseminated without manipulative or malicious intent.
		Influencers: a person with the ability to influence potential buyers of a product or service by promoting or recommending the items on social media.
		Scams: a dishonest scheme; a fraud. a dishonest or illegal plan or activity, esp. one for making money
		Data Logging: A data logger is a device that records data over time

Year 5

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
National Curriculum Targets	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	design, write and debug programs that accomplish specific goals and 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	design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts 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, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Ready to Progress targets	I know that computers communicate between them through computer systems I can use a search engine effectively Online Safety: I can reflect on the characteristics that make	I can use conditionals and selection effectively 'if statements' (when _____ happens, _____ happens) in block coding I can explain my coding choices Online Safety: I can describe the positives	I can create a vector drawing using lines and shapes Online Safety: I can define the term "digital footprint" and identify the online activities that contribute to it I understand what responsibilities I have for the	I can capture, edit and manipulate visual and audio content to make a short film Online Safety: I can define "copyright" and explain how it applies to creative work	I can use a flat file database to collect and display data Online Safety: I can identify the reasons why people share information about themselves online I can explain why it is risky to	I can control and simulate physical systems to achieve a specific goal Online Safety: I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology

	someone an upstanding digital citizen I can recognise what cyberbullying is	and negatives of social interaction in online games I can create an online video game cover that includes guidelines for positive social interaction	digital footprints of myself and others	I can apply copyright principles to real-life scenarios	share private information online	I can evaluate how healthy different types of media choices are
Online Safety Common Sense Media Digital Citizenship Curriculum (Project Evolve & Digital Matters)	DIGITAL FOOTPRINT & IDENTITY **We define who we are.** **Main Lesson:** Our Online Tracks **Additional Lesson:** BBC Own It - Self-Image & Identity	CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH **We are kind & courageous.** **Main Lesson:** Be a Super Digital Citizen **Additional Lesson:** BBC Own It: Cyberbullying Quiz BBC Own It - Online Bullying	NEWS & MEDIA LITERACY **We are critical thinkers & creators.** **Main Lesson:** A Creator's Rights and Responsibilities **Additional Lesson:** Digital Matters - Introduction to Thinking Critically Online BBC Own It - Managing Online Information NCSC Cyber Sprinters	PRIVACY & SECURITY **We care about everyone's privacy.** **Main Lesson:** Private and Personal Information **Additional Lesson:** Barefoot - The Phisherman game BBC Own It - Privacy & Security	RELATIONSHIPS & COMMUNICATION **We know the power of words & actions.** **Main Lesson:** Keeping Games Fun and Friendly **Additional Lesson:** Adventures of Kara, Winston and the SMART Crew: Ch. 5 BBC Own It - Online Relationships + Online Reputation	MEDIA BALANCE & WELL-BEING **We find balance in our digital lives.** **Main Lesson:** My Media Choices Social Media Test Drive **Additional Lesson:** Band Runner: Lock BBC Own It - Health, Wellbeing and Lifestyle
Events	**National Coding Week**	**Computer Science Education Week**	**Safer Internet Day**		**International Girls in ICT Day**	
Year 5	**Create a Class Digital Citizenship Agreement:** **Key questions and skills:** How can we safely and respectfully use technology in the classroom? What technology do we use in class? Who can we talk to in school/home if there is something online that makes us feel uncomfortable? (trusted adult/child line)	Touch Typing **Teach Computing- Programming: Selection in Quizzes** **Key questions and skills:** I can state what selection is What does selection look like in a code? What is a condition?	Touch Typing **Teach Computing- Creating Media: Vector graphics** Vectr.com , Adobe Illustrator or Google Drawings Use the Teach Computing lesson sequence for creating vector graphics End of Unit Assessment End of Unit Assessment Scaffolded **Key questions and skills:**	Touch Typing **Teach Computing- Creating Media: Video Production** Create a short film, advertisement etc. with iMovie or Wevideo linked with a topic End of Unit assessment iMovie End of Unit Assessment Wevideo **Key questions and skills:** I can explain what a video is	Touch Typing **Teach Computing- Data and information: Flat-file databases** Use the Teach Computing lesson sequence for developing an understanding of data and flat file databases (refer back to year 4 lessons to recap collecting data using pictograms) End of Unit Assessment	Touch Typing **Programming: Exploring further with Crumbles** As a class or in groups, children will think of a problem which can be solved using a crumble and its kit elements. Children will plan, tinker, create and debug to create a final product. Example: create a buggy for space, create a light code to communicate with friends,

How does our digital agreement link to our [rights as a child?](#)

Links to Home:

[Send home online family agreement](#)

[Teach Computing-](#) **Computing systems and networks: Systems and Searching**

[What is a computer network?](#)

I can describe the input, process, and output of a digital system

I can explain that computer systems communicate with other devices

I can recognise the role of computer systems in our lives

I can make use of a web search to find specific information and refine my web search

I can explain how search systems are ranked

I can identify how search engines work and results are shared

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I can explain that a condition being met can start an action

I can use selection (an 'if…then…' statement) to direct the flow of a program

I can debug my code to ensure it is fit for purpose

[I can think about inclusive design when creating my quiz](#)

[End of Unit Assessment](#)
[End of Unit Assessment Scaffolded](#)

Vocabulary:

Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator

Extension and support activities:

I can explain my choices in code and how I could use abstraction to simplify it

If the answer is wrong, add some instruction to

I can explain what a vector drawing is and how it is different to paper based drawing

I can recognise that vector drawings are made using shapes

I can copy part of a drawing by duplicating several objects

I can create a vector drawing for a specific purpose

I can make connections between this skill and a real job such as illustrator or graphic designer

Vocabulary:

vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection

Extension and support activities:

To use a different software/application and compare them

To create a design that is fit for specific purposes

To create a design for a new school logo

I can use a storyboard to plan my film

I can explain the effects of different angles

I can store, retrieve, and export my recording to a computer

I can explain how to improve a video by reshooting and editing

I can select the correct tools to make edits to my video

Vocabulary:

video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share.

Extension and support activities:

Have a movie showing with the community

[End of Unit Assessment Scaffolded](#)

Key questions and skills:

What is data?

How can we collate data?

Why would a flat file database be more convenient than other databases?

To collect data and input it into a flat file database

To organise data and be able to sort it

To compare data visually using graphs or charts

To interpret and draw conclusions from data that relate to real life problems

Vocabulary:

database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.

Extension and support activities:

Work in paired programming groups to support the understanding

Collect data linked to children's interests

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create an alarm or timer, create a constellation of stars to teach about space, create a lighthouse, create a night light etc.

Key questions and skills:

I can set up a simple circuit to connect the different elements

I can use physical technology to solve a simple problem

I can show resilience when using physical programming

I can explain how my code works to solve my problem

I can use efficient coding methods and debug my code to ensure it works effectively

Vocabulary:

microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer

Vocabulary: system, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking. **Extension and support activities:** Network Hunt Activity Consolidating **IT Skills** Teaching basic skills of using a computer such as logging in, using a keyboard and mouse. Word processing skills such as touch typing, using Google docs. Consolidating knowledge of the Google Suite applications use a range of software to achieve specific goals Use Digimaps in links with Geography to see how technology can support us in seeing the world and linked with our mapping skills	support the player to get the answer correct	To work in teams and use a range of Skills Builder Skills to design a vector image for a purpose **Internet Safety Day –** know to speak to a trusted adult if there is anything they are not comfortable with. Keeping personal information private (name, age, school, address) Recognising acceptable/unacceptable behaviour and reporting behaviour if you have concerns Content, conduct, contact Key Questions: Who are your trusted adults? What is your personal information? What can you do if you see something online that makes you feel uncomfortable? I can explain what private means and how to keep things private

Extension and support activities:

STEM Projects with Crumbles

Work in paired programming groups to support the understanding

Challenge by giving limited equipment or specific materials

		What is your online reputation and why is this important to consider?			

IT Skills:

Ipad Skills:

I can hold and carry an i-pad with two hands or hugging it to my chest

I can log into the ipad using the passcode

I can put the i-pad to sleep by touching the power button, I can turn on/off the ipad by holding the power button

I can recognise the home button and know when I press it, it will take to to the home screen

I can swipe to each page to find the app I want

I can take a picture or video with the camera (hold it still and focus by tapping the screen)

I can find a picture or video I have taken

I can accurately log into apps (reading eggs) using my unique logins

I can use the keyboard on the i-pad to type accurately checking for mistakes such as full stops or spaces

Laptops Skills:

I can log into the laptop using my own unique .206 login and log out again

I understand that by closing the screen I am not turning off the computer

I can double tap to right click on something

I can copy (Crtl, C), cut (Crtl, X) and paste (Crtl, V)

Browser:

I can find and open Google Chrome browser

I can identify the URL bar

I can open a new tab and close them

I can use Google to search for websites and images

I can use the back, forward and refresh button on the web browser as needed

Google Classroom:

I can log into my google classroom and find the classwork assigned to me

I can 'view assignment'

I can click on links/documents provided to access the work

I can 'Hand in' or 'Mark as done'

I can un-submit assignment if needed

I can add a 'Private Comment' to an assignment

I can find and navigate my Drive

I can create folders and sort my documents

I can add a file to an assignment on Google Classroom

I can use the shift button to make capital letters and the @, ?, (), ! symbols

Vocabulary: Year 5

Algorithm: a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

Sequence: When we sequence things, we arrange them in a particular order. Sequence-based algorithms are made from a precise set of instructions.

Technology: is anything made by people to help us

Information technology: anything is a computer, works with a computer or has a computer inside it

Internet: The **internet** is an informal term for the world-wide communication network of computers.

Online: connected to, directly controlled by, or available through a computer system an online database working online.

Safety: free from the risk of harm. providing protection from harm, loss, or danger

Digital Citizenship: refers to the responsible use of technology by anyone who uses computers, the Internet, and digital devices to engage with society on any level

Online identity: what people see of you online. Whenever you use a social network, send a text, or post online, you're adding to your online identity. Your online identity may be different from your real-world identity — the way your friends, parents, and teachers think of you. Trying on different personas is part of the fun of an online life.

Anonymity: This describes situations where a person's true identity is unknown.

Copyright: the legal right to be the only one to reproduce, publish, and sell the contents and form of a literary or artistic work.

Debug: process of finding (and correcting) errors in a computer program

Computer programming: is the process of telling a computer to do certain things by giving it instructions

Precise: accurate; exact

Private: belonging to or for the use of one particular person or group of people only.

Repetition and Loops: are a programming element that repeat a portion of code a set number of times until the desired process is complete (a condition has been met). Repetitive tasks are common in programming, and loops are essential to save time and minimise errors.

Selection: In computer science, conditional statements (selection) can perform different computations or actions depending on whether a programmer-specified condition equals true or false.
For example: If he clicks the red square he gets a prize, if he clicks the blue square, he loses.

Conditionals: Statements that only run under certain conditions.

Event: In computing, an event is an action or occurrence recognized by the software. An event causes something to happen, for example pressing the mouse and the document opens.

Variable: A variable stores a piece of information in a computer's memory while a program is running, that can be retrieved when needed.
A variable is an example of a data structure. As pupils move on to secondary school, they will learn about other data structures such as arrays. A variable can be a number or text or perhaps true/false. **Flat File Database**: A flat file database is described by a very simple database model, where all the information is stored in a plain text file, one database record per line

HTML: stands for HyperText Markup Language

Fake news: Fake news is news or stories on the internet that are not true. There are two types of fake news, disinformation, and misinformation.

Disinformation: False information that's created and shared to deliberately cause harm.

Misinformation: Misinformation is generally used to refer to misleading information created or disseminated without manipulative or malicious intent.

Influencers: a person with the ability to influence potential buyers of a product or service by promoting or recommending the items on social media.

Block code: utilises a drag-and-drop learning environment, where programmers use coding instruction "blocks" to construct animated stories and games. It's an entry-level activity, where kids can gain a foundation in computational thinking through visuals as opposed to coding that is based in text. (scratch) **Blocks:** it's a way to describe the "chunks" or "pieces" of instructions a user is putting together in order to tell their creation what to do. **Sprite:** a computer graphic which may be moved on-screen and otherwise manipulated as a single entity. (a character you can manipulate)	**Scams:** a dishonest scheme; a fraud. a dishonest or illegal plan or activity, esp. one for making money **Input:** An input is data that a computer receives. This could be information or a click of the mouse **Output:** An output is data that a computer sends. This could be sound

Year 6

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
National Curriculum Targets	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 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	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	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	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	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.					
Ready to Progress Targets	I can use computer systems to collaborate with my peers I can explore how data is transferred over the internet. Online Safety: I can explain how to use search technologies effectively. I can demonstrate how to make references to and acknowledge sources I have used from the internet.	I can use 3D modelling software Online Safety: I can recognise similarities and differences between in-person bullying, cyberbullying and being mean I can identify strategies for dealing with cyberbullying and ways they can be an upstander for those being bullied I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.	I know that a variable is used by computers to store information I can create a game using variables Online Safety: I can understand the purposes of different parts of an online news page I can watch out for when reading online news pages, such as sponsored content and advertisements	I can analyse data in a spreadsheet I can use a simple formula in a spreadsheet Online Safety: I can define "gender stereotypes" and describe how they can be present online.	I can create a webpage using Google Sites I can consider accessibility features which could be included on a webpage Online Safety: I can explain how clickbait uses the curiosity gap to get your attention I can use strategies for avoiding clickbait	I can manipulate digital images and explain my choices Online Safety: I can consider what "media balance" means and how it applies to me

Online Safety	RELATIONSHIPS & COMMUNICATION **We know the power of words & actions.**	CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH **We are kind & courageous.**	NEWS & MEDIA LITERACY **We are critical thinkers & creators.**	DIGITAL FOOTPRINT & IDENTITY **We define who we are.**	MEDIA BALANCE & WELL-BEING **We find balance in our digital lives.**	PRIVACY & SECURITY **We care about everyone's privacy.**
Common Sense Media Digital Citizenship Curriculum (Project Evolve & Digital Matters)	**Main Lesson:** Digital Friendships **Additional Lesson:** Internet Matters - Online Relationships + Online Reputation Childnet: Trust Me Lessons	**Main Lesson:** Is It Cyberbullying? **Additional Lesson:** Internet Matters - Online Bullying Chicken-Shop Grooming (Childnet)	**Main Lesson:** Reading News Online **Additional Lesson:** Digital Matters - Once Upon Online Internet Matters - Managing Online Information + Copyright & Ownership BBC Young Reporter - Fake News	**Main Lesson:** Beyond Gender Stereotypes - link with RSE **Additional Lesson:** Internet Matters - Self-Image & Identity Are You Living an Insta Lie? Social Media vs. Reality	**Main Lesson:** Finding My Media Balance Social Media Test Drive **Additional Lesson:** Internet Matters - Health, Wellbeing and Lifestyle Children's Commissioner: Digital 5 a Day	**Main Lesson:** You Won't Believe This! **Additional Lesson:** NCSC Cyber Sprinters Internet Matters - Privacy & Security + Digital Matters Barefoot - You're the Cyber Security Expert NCSC - Adventure Stories
Events	National Coding Week	Computer Science Education Week	Safer Internet Day		International Girls in ICT Day	
Year 6	**Create a Class Digital Citizenship Agreement:** **Key questions and skills:** How can we safely and respectfully use technology in the classroom? What technology do we use in class? Who can we talk to in school/home if there is something online that makes us feel uncomfortable? (trusted adult/child line) How does our digital agreement link to our rights as a child?	**Teach Computing- Creating Media: 3D modelling** Create an Anderson shelter model linked with History to then build Use the Teach Computing 3D modelling lessons and Tinkercad to support development of skills End of Unit assessment End of Unit Assessment Scaffold **Key questions and skills:** I can create a 3D shape, resize, duplicate and move it	**Teach Computing- Programming: Variables in games** End of Unit Assessment **Key questions and skills:** What is a variable? (vary= something that can change) How can I name my variables to ensure they are clear? How can variables work in a game? I can explain why we would use variables I can create a programme using variables and fix and solve bugs in the code	**Teach Computing- Data and information: Introduction to Spreadsheets** Use the Teach Computing lesson sequence for developing an understanding of spreadsheets (refer back to year 5 lessons to recap) End of Unit assessment End of Unit Assessment Scaffold **Key questions and skills:** What is data?	**Teach Computing- Creating Media: Webpage Creation** End of Unit assessment End of Unit Assessment Scaffold **Key questions and skills:** I can explain what makes a good website I can explain why layout it important I can add headings, body text, and images I can change the font style and colours I can add hyperlinks	**Creating Media- Global Routes Project** Using the Global Routes lesson plans, children will build upon previous years with photographic and digital media skills to create a series of digital photographic works. **Key questions and skills:** I can explain my reasoning for choosing lighting, camera angles, focus points and cropping I can use Adobe Photoshop to experiment with

Links to Home:

[Send home online family agreement](#)

**Teach Computing-
Computing systems and
networks: Communication
and collaboration**

Use the Teach Computing
lessons along with Google
Suite to look at
communication across the
web. Ensure the students
are also understanding the
collaboration skills beyond
the lessons.

I can explain what an IP
address is and its purpose

I can explain what a data
packet is

I can collaborate with my
peers using Google Suite
applications

I can share a document
with another person using
the correct settings

[End of Unit assessment](#)

[End of Unit Assessment
Scaffold](#)

Vocabulary:

I can group and ungroup 3D
models

I can explain why this
software would be valuable
to people

I can plan and create my
own anderson shelter

I can use physical
programming such as
micro:bits and crumbles to
add features to my model

Vocabulary:
TinkerCAD, 2D, 3D, shapes,
select, move, perspective,
view, handles, resize, lift,
lower, recolour, rotate,
duplicate, group, cylinder,
cube, cuboid, sphere, cone,
prism, pyramid, placeholder,
hollow, choose, combine,
construct, evaluate, modify.

**Extension and support
activities:**

Use physical 3D shapes to
help visualise the model
that can be made on
Tinkercad

Draw out design from
different angles to be able
to imagine what it will look
like

Children can make an
object they are familiar
with

I have thought about how
my game is accessible for all
types of players needs

[I can use inclusive design
when creating my game](#)

[Game accessibility](#)
guidelines

Vocabulary:
variable, change, name,
value, set, design, event,
algorithm, code, task,
artwork, program, project,
code, test, debug, improve,
evaluate, share, assign,
declare

**Extension and support
activities:**

Challenge by adding the
element of physical coding
with Crumbles

Use physical coding
activities to support
understanding of variables

Link variables with PE
games and lessons. Link
with current knowledge of
games children play

Internet Safety Day – know
to speak to a trusted adult
if there is anything they are
not comfortable with.

How can we collate data?

How do spreadsheets
compare to other data
collection methods?

To collect data and input it
into a spreadsheet

To organise data and be
able to sort it

To use formulas to support
the collection and
producing calculated data

To interpret and draw
conclusions from data that
relate to real life problems

To use sheets effectively

Make connections between
the skills needed and real
life jobs

Vocabulary:
data, collecting, table,
structure, spreadsheet, cell,
cell reference, data item,
format, formula, calculation,
spreadsheet, input, output,
operation, range, duplicate,
sigma, propose, question,
data set, organised, chart,
evaluate, results, sum,
comparison, software, tools.

**Extension and support
activities:**

[Pizza Party - Data](#)

I can explain ways in which I
have thought about
accessibility of others while
they are on my website e.g.
dyslexia, sight problems,
easy for motor functions,
easy to access and navigate

Vocabulary:
website, web page, browser,
media, Hypertext Markup
Language (HTML), logo,
layout, header, media,
purpose, copyright, fair use,
home page, preview,
evaluate, device, Google
Sites, breadcrumb trail,
navigation, hyperlink,
subpage, evaluate,
implication, external link,
embed.

Helpful Links:

[HTML Lessons](#)

[Raspberry Pi](#)

[https://trinket.io/](#)

[Web Accessibility
Guidelines](#)

[Web tech Tutor](#)

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manipulating photographs
for a purpose

I can save and retrieve work
to make tweaks to a final
product

I can present my final works
either digitally or physically

I can explain how to be safe
when taking photographs in
the community

**Extension and support
activities:**

Links with PSHE Safe out
and about

Create an exhibition of
work for the wider
community to come a visit

communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, one-way, two-way, one-to-one, one-to-many.

Extension and support activities:

Group assignment to support each other

Paired programming/collaboration

Have silence in the classroom or spread children around so that they can only collaborate online

Curriculum Links:

History WW1/WW2

📄 Year 5 - DL- History …

-research, knowing trustworthy sources (.org, .co.uk, lock sign closed, sites you know, author, date published, in formal language), creating a slide presentation, creating knowledge organisers etc.

Have children use 3D model to build a real object linked to DT

Challenge children by using the scale size and ratio to build a scale model

Use search technologies effectively and collate the data I have found into digital content

I can analyse information to make a judgement on its accuracy

I can identify misinformation and disinformation and why people may share these online

I can think critically about what I see online

I can identify how search engines work and results are shared

I can use key words and phrases to search information

Keeping personal information private (name, age, school, address)

Recognising acceptable/unacceptable behaviour and reporting behaviour if you have concerns

Content, conduct, contact

Helpful Links:

Downloaded Lessons

SMART Lessons

Code.org Safety Video

ThinkUKnow - Band Runner

Google Interland

Google Online Safety Lessons

Computing Links:

Geography North America: Google maps, research on tribes, Interactive map with features, look at features of the globe with google maps (equator, time zones etc.), create a slides presentation

Use collaboration skills from earlier in the year to work collaboratively on a data collection

Use paired programming techniques to support all students in being able to create a spreadsheet

Link data collection with something relevant in school such as: paper wastage, attendance, rainfall or sunshine hours etc.

	IT Skills: **Laptops Skills:** I can log into the laptop using my own unique .206 login and log out again I understand that by closing the screen I am not turning off the computer I can double tap to right click on something I can copy (Crtl, C), cut (Crtl, X) and paste (Crtl, V) I can use the shift button to make capital letters and the @, ?, (), ! symbols I can use the features such as the camera, screenshot etc	**Google Classroom:** I can log into my google classroom and find the classwork assigned to me I can 'view assignment' I can click on links/documents provided to access the work I can 'Hand in' or 'Mark as done' I can un-submit assignment if needed I can add a 'Private Comment' to an assignment I can find and navigate my Drive I can create folders and sort my documents I can add a file to an assignment on Google Classroom
	Vocabulary: **Algorithm:** a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. **Sequence:** When we sequence things, we arrange them in a particular order. Sequence-based algorithms are made from a precise set of instructions. **Technology:** is anything made by people to help us **Information technology:** anything is a computer, works with a computer or has a computer inside it **Internet:** The **internet** is an informal term for the world-wide communication network of computers. **Online:** connected to, directly controlled by, or available through a computer system an online database working online. **Safety:** free from the risk of harm. providing protection from harm, loss, or danger	**Block code:** utilises a drag-and-drop learning environment, where programmers use coding instruction "blocks" to construct animated stories and games. It's an entry-level activity, where kids can gain a foundation in computational thinking through visuals as opposed to coding that is based in text. (scratch) **Blocks:** it's a way to describe the "chunks" or "pieces" of instructions a user is putting together in order to tell their creation what to do. **Sprite:** a computer graphic which may be moved on-screen and otherwise manipulated as a single entity. (a character you can manipulate) **Private:** belonging to or for the use of one particular person or group of people only. **Repetition and Loops:** are a programming element that repeat a portion of code a set number of times until the desired process is complete (a condition has been met). Repetitive tasks are common in programming, and loops are essential to save time and minimise errors. **Selection:** In computer science, conditional statements (selection) can perform different computations or actions depending on whether a programmer-specified condition equals true or false.

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Computer programming: is the process of telling a computer to do certain things by giving it instructions

Precise: accurate; exact
HTML: stands for HyperText Markup Language

Fake news: Fake news is news or stories on the internet that are not true. There are two types of fake news, disinformation, and misinformation.

Disinformation: False information that's created and shared to deliberately cause harm.

Misinformation: Misinformation is generally used to refer to misleading information created or disseminated without manipulative or malicious intent.

Influencers: a person with the ability to influence potential buyers of a product or service by promoting or recommending the items on social media.

Scams: a dishonest scheme; a fraud. a dishonest or illegal plan or activity, esp. one for making money

Input: An input is data that a computer receives. This could be information or a click of the mouse

Output: An output is data that a computer sends. This could be sound

For example: If he clicks the red square he gets a prize, if he clicks the blue square, he loses.

Conditionals: Statements that only run under certain conditions.

Event: In computing, an event is an action or occurrence recognized by the software. An event causes something to happen, for example pressing the mouse and the document opens.

Variable: A variable stores a piece of information in a computer's memory while a program is running, that can be retrieved when needed.
A variable is an example of a data structure. As pupils move on to secondary school, they will learn about other data structures such as arrays.

A variable can be a number or text or perhaps true/false.