Springdale Primary School – Skills Progression:
Key Stage 1 and 2
Subject Area: ICT (Computing)

Pupils will learn about computer science, being taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Pupils need to be digitally literate – able to use and express themselves and develop ideas through, information and communication technology, at a level suitable for the future workplace and as active participants in a digital world.

National Curriculum Objectives

KEY STAGE 1:
Pupils should be taught to:
- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content,
- Recognise common uses of IT beyond school.
- Use technology safely and respectfully; keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

KEY STAGE 2
Pupils should be taught to:
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

	Year 1 – I Can…		Year 2 – I Can …		Year 3 – I Can …		Year 4 – I Can ….		Year 5 – I Can ….		Year 6 – I Can …
1.1	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	2.1	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	3.1	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	4.1	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	5.1	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	6.1	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
1.2	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	2.2 2.3	Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.	3.2	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	4.2	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	5.2	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	6.2	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
	Create and debug simple programs.	2.4	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	3.3	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	4.3	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	5.3	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	6.3	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.
1.3	Use logical reasoning to predict the behaviour of simple programs.	2.5	Recognise common uses of information technology beyond school.	3.4	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.	4.4	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.	5.4	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.	6.4	
1.4	Recognise common uses of information technology beyond school.	2.6	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.	3.5	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	4.5	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	5.5	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	6.5	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
1.5	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			3.6	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.	4.6	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.	5.6	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.	6.6	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.
				3.7	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content	4.7	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.	5.7	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.	6.7	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

	E- Safety				
	Year 1 + Year 2 – I Can…		**Year 3 + Year 4– I Can …**		**Year 5 + Year 6 – I Can ….**
1	Understand the different methods of communication (e.g. email, online forums etc).	1	Understand the need for rules to keep me safe when exchanging learning and ideas online.	1	Discuss the positive and negative impact of the use of ICT in my own life, my friends and family.
2	Know you should only open email from a known source.	2	Recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion.	2	Understand the potential risk of providing personal information online.
3	Know the difference between email and communication systems such as blogs and wikis.	3	Understand that the internet contains fact, fiction and opinion and begin to distinguish between them.	3	Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content.
4	Know that websites sometimes include pop-ups that take me away from the main site.	4	Use strategies to verify information, e.g. cross-checking.	4	Understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented.
5	Know that bookmarking is a way to find safe sites again quickly.	5	Understand the need for caution when using an internet search for images and what to do if I find an unsuitable image.	5	Recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing).
6	Know that everything on the internet is not true.	6	Understand that copyright exists on most digital images, video and recorded music.	6	Understand that some material on the internet is copyrighted and may not be copied or downloaded.
7	Know that it is not always possible to copy some text and pictures from the internet.	7	Understand the need to keep personal information and passwords private.	7	Understand that some messages may be malicious and know how to deal with this.
8	Know that personal information should not be shared online.	8	Understand that if I make personal information available online it may be seen and used by others.	8	Understand that online environments have security settings, which can be altered, to protect the user.
9	Know I must tell a trusted adult immediately if anyone tries to meet me via the internet.	9	Know how to respond if asked for personal information or feel unsafe about content of a message	9	Understand the benefits of developing a 'nickname' for online use.
10	Follow the school's safer internet rules.	10	Recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy.	10	Understand that some malicious adults may use various techniques to make contact and elicit personal information.
11	Use the search engines agreed by the school.	11	Know how to report an incident of cyber bullying.	11	Know that it is unsafe to arrange to meet unknown people online.
12	Know what to do if I find something inappropriate online or something I am unsure of (including identifying people who can help; minimising screen; online reporting using school system etc).	12	Know the difference between online communication tools used in school and those used at home.	12	Know how to report any suspicions.
13		13	Understand the need to develop an alias for some public online use.	13	Understand I should not publish other people's pictures or tag them on the internet without permission.
14	Use the internet for learning and communicating with others, making choices when navigating through sites.	14	Understand that the outcome of internet searches at home may be different than at school.	14	Know that content put online is extremely difficult to remove.
15	Send and receive email as a class.	15	Follow the school's safer internet rules.	15	Know what to do if I discover something malicious or inappropriate.
16	Recognise advertising on websites and learn to ignore it. Use a password to access the secure network.	16	Recognise the difference between the work of others which has been copied (plagiarism) and re-structuring and re-presenting materials in ways which are unique and new.	16	Follow the school's safer internet rules.
		17	Identify when emails should not be opened and when an attachment may not be safe.	17	Make safe choices about the use of technology.
		18	Explain and demonstrate how to use email safely.	18	Use technology in ways which minimises risk. e.g. responsible use of online discussions, etc.
				19	Create strong passwords and manage them so that they remain strong.
				20	Independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school.
				21	Competently use the internet as a search tool.
				22	Reference information sources.
				23	Use appropriate strategies for finding, critically evaluating, validating and verifying information. e.g. using different keywords, skim reading to check relevance of information, cross checking with different websites or other non ICT resources.
				24	Use knowledge of the meaning of different domain names and common website extensions (e.g. .co.uk; .com; .ac; .sch; .org; .gov; .net) to support validation of information.

Children will be taught about:					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
AUTUMN TERM					
Grouping and Sorting	Coding	Coding	Coding	Coding	Coding
Pictograms		Spreadsheets			
Lego Builders	Spreadsheets		Spreadsheets	Spreadsheets	Spreadsheets
SPRING TERM					
Maze explorers	Questioning	Touch typing	Writing for different audiences	Databases	BloggingText
Animated Story Books	Effective Searching				
	Making music	Email including e-mail safety	Logo	Game creator	Adventures
SUMMER TERM					
Coding	Creating pictures	Branching databases	Animation	3D Modelling	Networks
Spreadsheets	Presenting Ideas	Simulations	Effective Searching	Concept Maps	Quizzing
Technology outside school		Graphing	Hardware investigators		

Year 1- Key Vocabulary

	Autumn			Spring		Summer		
Grouping and Sorting	**Lego Builders**	**Lego Builders**	**Maze explorers**	**Animated Story Books**	**Coding**	**Spreadsheets**	**Technology outside school**
Sort – Put things together by features they have in common. **Criteria** – A way in which something is judged.	**Pictogram** – A diagram that uses pictures to represent data. **Data** – Facts and statistics collected together that can provide information. **Collate** – Collect and combine (texts, information, or data	**Instruction** – Information about how something should be done. **Algorithm** – A precise, step-by-step set of instructions used to solve a problem or achieve an objective. **Computer** – an electronic device for storing and processing data. **Program** – To provide (a computer or other machine) with coded instructions. **Debug** – To find and remove errors from computer hardware or software	**Direction** – A course along which someone or something moves. **Challenge** – A task or situation that tests someone's abilities. **Arrow** – A mark or sign resembling an arrow, used to show direction or position. **Undo** – Cancel or reverse the instruction. Rewind – Move back several steps or to the start. **Forward** – To move in the direction that one is facing or travelling. Backwards – To move in the opposite direction to which one is facing. Right turn – To move the object in a clockwise direction. **Left turn** – To move the object in an anti-clockwise direction. **Debug** – To find and remove errors from computer hardware or software. **Instruction** – Information about how something should be done. **Algorithm** – A precise, step-by-step set of instructions used to solve a problem or achieve an objective.	**Animation** – process of giving the illusion of movement to drawings and models. **E-Book** – a book that they can read on the computer or on a tablet. **Font** – the style of text used in a piece of writing on the computer or tablet. **File** – a piece of work on the computer. **Sound Effect** – a sound other than speech or music made for use in a play, film or computer file. **Display Board** – a way to share your work on Purple Mash.	**Action** - Types of commands, which are run on an object. They could be used to move an object or change a property. **Background** – The part of the program design that shows behind everything else. It sets the scene for the story or game. **Button** – An object on the screen, which can be clicked on. **Character** - A type of object in 2Code that can be programmed to change actions or properties. **Code block** - A group of commands that are joined together and are run when a specific condition is met or when an event occurs. **Code Design** – Design what your program will look like and what it will do. **Coder** - A person who writes computer code. **Coding** – Writing instructions that can be interpreted by a computer to create a program. **Collision Detection** - Detecting when two characters on the screen touch each other. Command - A single instruction in a computer program **Design Mode** - Used to create the look of a 2Code computer program when it is run. **Input** - Information going into the computer. Can	**Arrow keys** – On a standard keyboard these can be used to move around the cells of a spreadsheet. **Backspace key** – Use this key to delete the character before the current cursor position. **Cursor** – An indicator on a computer screen identifying the point that will be affected by input from the user. Often a blinking vertical line. **Columns** – Vertical reference points for the cells in a spreadsheet. **Cells** – An individual section of a spreadsheet grid. It contains data or calculations. **Clipart** - Simple pictures and symbols available for computer users to add to documents. **Count Tool** – In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool. **Delete key** - Use this key to remove the contents of a cell. **Image Toolbox** – Use this to insert images into cells. Lock tool – This tool prevents cell values being changed.	**Technology** - Science and engineering knowledge put into practical use to solve problems or invent useful tools

| | | | | | include moving or clicking the mouse, using the keyboard, swiping and tilting the device.
Object - An element in a computer program that can be changed using actions or properties.
Program – In 2Code this is several commands that run purposefully together.
Properties – All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties.
Scale - The size of an object in 2Code.
Stop command - A command that stops a character moving.
Sound - This is a type of output command that makes a noise.
When clicked - An event command. It makes code run when you click on something (or press your finger on a touchscreen).
When Key - An event command. It makes code run when you press the specified key on the keyboard | **Move cell tool –** This tool makes a cell's contents moveable by drag-and-drop methods.
Rows - Vertical reference points for the cells in a spreadsheet.
Speak Tool – This tool will speak the contents of a cell containing a number each time the value changes.
Spreadsheet - A computer program that represents information in a grid of rows and columns. | |

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Year 2- Key Vocabulary

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Autumn		Spring			Summer	
Coding	Spreadsheets	Questioning	Effective Searching	Making music	Creating pictures	Presenting Ideas
Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device. **Object -** An element in a computer program that can be changed using actions or properties. **Properties –** All objects have properties that can be changed in	**Backspace key –** Use this key to delete the character before the current cursor position. **Copy and Paste –** A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.	**Pictogram –** A diagram that uses pictures to represent data. **Question –** A sentence written or spoken to find information. Data – Facts and statistics collected	**Internet –** A global computer network providing a variety of information and communication facilities, consisting of interconnected networks and computers. **Search –** Look for information in a database	**Bpm –** The number of beats played in a minute. **Composition –** A creative work, especially a poem or piece of music. **Digitally –** By means of digital or	**Impressionism –** The impressionist movement began in the 1860s and became most popular in the 1870s and 1880s. It differed from the common art of the time because it wasn't religious art, showing scenes from religious stories or specific events, but was just intended to capture a scene at a moment. The art gave an 'impression' of the scene.	**Concept Map (Mind Map) –** A tool for organising and representing knowledge. They form a web of ideas which are all interconnected. **Node –** A way to represent a concept or idea using text and/or images. Animated – A process by which we see still pictures appear to move.

design or by writing code e.g. image, colour and scale properties.

Repeat - This command can be used to make a block of commands run a set number of times or forever.

Scale - The size of an object in 2Code.

Timer - Use this command to run a block of commands after a timed delay or at regular intervals.

When clicked - An event command. It makes code run when you click on something (or press your finger on a touchscreen).

When Key - An event command. It makes code run when you press the specified key on the keyboard.

Action - Types of commands, which are run on an object. They could be used to move an object or change a property.

Algorithm - A precise step by step set of instructions used to solve a problem or achieve an objective.

Bug - A problem in a computer program that stops it working the way it was designed.

Character - A type of object in 2Code that can be programmed to change actions or properties.

Code block - A group of commands that are joined together and are run when a specific condition is met or when an event occurs.

Code Design – Design what your program will look like and what it will do.

Command - A single instruction in a computer program.

Debug/Debugging - Looking for any problems in the code, fixing and testing them.

Design Mode - Used to create the look of a 2Code computer program when it is run.

Columns – Vertical reference points for the cells in a spreadsheet.

Cells – An individual section of a spreadsheet grid. It contains data or calculations.

Count Tool – In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool.

Delete key - Use this key to remove the contents of a cell.

Equals tool – Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Image Toolbox – Use this to insert images into cells.

Lock tool – This tool prevents cell values being changed.

Move cell tool – This tool makes a cell's contents moveable by drag-and-drop methods.

Rows - Vertical reference points for the cells in a spreadsheet.

Speak Tool – This tool will speak the contents of a cell containing a number each time the value changes.

Spreadsheet - A computer program that represents information in a grid of rows and columns.

together that can provide information.

Collate – Collect and combine (texts, information, or data).

Binary Tree – A simple way of sorting information into two categories.

Avatar – An icon or figure representing a person in a video game, Internet forum or other online format.

Database – A computerised system that makes it easy to search, select and store information.

or the World Wide Web using a search engine.

Search Engine – A program that searches for and identifies items on the World Wide Web

computer technology.

Instrument – An object or device for producing musical sounds.

Music – Vocal or instrumental sounds (or both) played alone or combined.

Sound Effects (Sfx) – A sound other than speech or music made artificially for use in a play, film, or piece of music.

Soundtrack – A recording of the musical accompaniment of a film.

Tempo – The speed at which a passage of music is, or should be, played.

Volume – How loud a piece of music is.

Palette – Within computer graphics, this is the range of colours or shapes available to the user.

Pointillism – Pointillism was a development of impressionism. It was invented mainly by George Seurat and Paul Signac. Pointillist paintings are created by using small dots in different colours to build up the whole picture. Colours are placed near each other rather than mixed.

Share – An instance of posting or reposting something on a social media website or application.

Surrealism – Explored the subconscious areas of the mind. The artwork often made little sense as it was usually trying to depict a dream or random thoughts.

Template – Something that serves as a model for others to copy.

Quiz – A test of knowledge, especially as a competition between individuals or teams as a form of entertainment.

Non-Fiction –Informative or factual writing.

Presentation – A speech or talk in which a new product, idea, or piece of work is shown and explained to an audience.

Narrative – A speech or talk in which a new product, idea, or piece of work is shown and explained to an audience.

Audience – The people giving attention to something.

Year 3- Key Vocabulary						
Autumn		**Spring**			**Summer**	
Coding	Spreadsheets	Touch typing	Email including e-mail safety	Branching databases	Simulations	Graphing
<u>Action</u> - *Types of commands, which are run on an object. They could be used to move an object or change a property.* <u>Algorithm</u> - *a precise step by step set of instructions used to solve a problem or achieve an objective.* <u>Bug</u> - *A problem in a computer program that stops it working the way it was designed.* <u>Code block</u> - *A group of commands that are joined together and are run when a specific condition is met or when an event occurs.* <u>Code Design</u> – *Design what your program will look like and what it will do.* <u>Command</u> - *A single instruction in a computer program.* <u>Control</u> - *These commands determine whether parts of the program will run, how often and sometimes, when.* <u>Debug/Debugging</u> - *Looking for any problems in the code, fixing and testing them.* <u>Design Mode</u> - *Used to create the look of a 2Code computer program when it is run.* <u>Event</u> – *Something that causes a block of code to be run.* <u>If</u> - *A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.* <u>Input</u> - *Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.* <u>Output</u> - *Information that comes out of the computer e.g. sound.* <u>Object</u> - *An element in a computer program that can be changed using actions or properties. In 2Code,*	<u>q G =</u> – *Symbols used to represent comparing two values. a q b means 'a is less than b'. a G b means 'a is greater than b'. a = b means 'a is equal to b'. These can be combined, for example a =q b means 'a is equal to or less than b'.* <u>Advance mode</u> – *A mode of 2Calculate in which the cells have references and can include formulae.* <u>Copy and Paste</u> – *A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.* <u>Columns</u> – *Vertical reference points for the cells in a spreadsheet.* <u>Cells</u> – *An individual section of a spreadsheet grid. It contains data or calculations.* <u>Delete key</u> - *Use this key to remove the contents of a cell.* <u>Equals tool</u> – *tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.* <u>Move cell tool</u> – *This tool makes a cell's contents moveable by drag-and-drop methods.* <u>Rows</u> - *Vertical reference points for the cells in a spreadsheet.* <u>Spin Tool</u> – *Clicking on this in a cell will increase or decrease the value in the cell to the right by 1.*	<u>Posture</u> – *The correct way to sit at the computer.* <u>Top row keys</u> – *The keys on the top row of the keyboard.* <u>Home row keys</u> – *The keys on the middle row of the keyboard.* <u>Bottom row keys</u> – *The keys on the bottom row of the keyboard.* <u>Space bar</u> – *The bar at the bottom of the keyboard.*	<u>Communication</u> – *The sharing or exchanging of information by speaking, writing, or using some other medium such as email.* <u>Email</u> – *Messages sent by electronic means from one device to one or more people.* <u>Compose</u> – *To write or create something.* <u>Send</u> – *To make an email be delivered to the email address it is addressed to.* <u>Report to the teacher</u> – *A way in 2Email to tell the teacher if you have received an email that makes you feel upset or scared.* <u>Attachment</u> – *A file, which could be a piece of work or a picture, that is sent with the email.* <u>Address book</u> – *A list of people who you regularly send an email to.* <u>Save to draft</u> – *Allows you to save an email that you are working on and send it later.* <u>Password</u> – *A secret word, phrase or combination of letters, numbers and symbols that must be used to gain admission to a site or application such as email.* <u>CC</u> – *A way of sending a copy of your email to other people so they can see the information in it.* <u>Formatting</u> – *Allows you to change the way the text of an email looks. For example, you can make the text bold or underline it.*	<u>Branching database</u> – *A way to sort information by asking questions that are normally answered 'yes' or 'no'.* <u>Data</u> – *Facts and statistics collected together for information.* <u>Database</u> – *A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers.* <u>Question</u> – *Something that is asked or written to try and gain information.*	<u>Simulation</u> – *A computer simulation is a program that models a real-life situation. They let you try things out that would be too difficult or dangerous to do in real life*	<u>Line graph</u> – *a graph where a line is used to show an amount.*

buttons, characters and vehicles are types of objects. **Properties** – All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties. **Repeat** - This command can be used to make a block of commands run a set number of times or forever. **Computer simulation** - A program that models a real-life situation. **Selection** - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition. **Timer** - Use this command to run a block of commands after a timed delay or at regular intervals. **Variable** – A named area in computer memory. A variable has a name and a value. The program can change this variable value.	**Spreadsheet** - A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.					

Year 4 - Key Vocabulary

Autumn			Spring		Summer	
Coding	Spreadsheets	Writing for different audiences	Logo	Animation	Effective searching	Hardware investigators
<u>Action</u> - *Types of commands, which are run on an object. They could be used to move an object or change a property.* <u>Alert</u> - *This is a type of output. It shows a pop-up of text on the screen.* <u>Algorithm</u> - *a precise step by step set of instructions used to solve a problem or achieve an objective.* <u>Bug</u> - *A problem in a computer program that stops it working the way it was designed.* <u>Code Design</u> – *Design what a program will look like and what it will do.* <u>Command</u> - *A single instruction in a computer program.* <u>Control</u> - *These commands determine whether parts of the program will run, how often and sometimes, when.* <u>Debug/Debugging</u> - *Looking for any problems in the code, fixing and testing them.* <u>Design Mode</u> - *Used to create the look of a 2Code computer program when it is run.* <u>Event</u> – *Something that causes a block of code to be run.* <u>Get Input</u> - *This puts the text that a user types into the computer's temporary memory to be used to control the program flow.* <u>If</u> - *A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.*	<u>Formula Wizard</u> – *The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.* <u>Move cell tool</u> – *This tool makes a cell's contents moveable by drag-and-drop methods.* <u>Random tool</u> – *Click to give a random value between 0 and 9 to the cell.* <u>Rows</u> - *Vertical reference points for the cells in a spreadsheet.* <u>Spin Tool</u> – *Adds or subtracts 1 from the value of the cell to its right.* <u>Spreadsheet</u> - *A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.* <u>Timer</u> – *When placed in the spreadsheet, click the timer to adds 1 to the value of the cell to its right every second until it is clicked again.*	<u>Font</u> – *the style of writing one can uses when typing on a document.* <u>Bold</u> – *the make the text stand out* <u>Italic</u> – *a style of formatting when the text is at an angle.* <u>Underline</u> – *to draw a line underneath the font.*	<u>LOGO</u> – *a text-based coding language used to control an on-screen turtle to create mathematical patterns.* <u>BK</u> – *move backwards a distance of units.* <u>FD</u> – *move forward a distance of units.* <u>RT</u> – *turn right a given number of degrees.* <u>LT</u> – *turn left a given number of degrees.* <u>REPEAT</u> – *repeat a set of instructions a specified number of times.* <u>SETPC</u> – *set pen colour to a given colour.* <u>SETPS</u> – *set the pen thickness.* <u>PU</u> – *lift the pen up off the screen.* <u>PD</u> - *put the pen back down on the screen.*	<u>Animation</u> – *A process by which still pictures appear to move.* <u>Flipbook</u> – *A book with pictures drawn in a way that makes them appear to move when the pages are flicked.* <u>Frame</u> – *A single image in an animation.* <u>Onion skinning</u> – *A process where the shadow image of the previous frame is present to help you line up the objects of the animation correctly.* <u>Background</u> – *A non-moving image that appears behind the animated images.* <u>Play</u> – *Press this button to make the animation start.* <u>Sound</u> – *Music or oral effects that can be added to the animation.* <u>Stop motion</u> – *A technique whereby the camera is repeatedly stopped and started, for example to give animated figures the impression of movement.* <u>Video clip</u> – *A short piece of film or animation.*	<u>Easter egg</u> – *An unexpected or undocumented feature in a piece of computer software or on a DVD, included as a joke or a bonus.* <u>Internet</u> – *A global computer network providing a variety of information and communication facilities.* <u>Internet browser</u> – *A software application used to locate and display Web pages.* <u>Search</u> – *To look for information. In this case on the Internet.* <u>Search engine</u> – *A program that searches for and identifies items in a database. Used especially for finding sites on the World Wide Web.* <u>Spoof website</u> – *Website spoofing is the act of creating a website, as a hoax, with the intention of misleading readers that the website has been created by a different person or organisation.*	<u>Motherboard</u> – *a printed circuit board containing the main parts of a computer or other device, with connectors for other circuit boards to be slotted into.* <u>CPU</u> – *the part of a computer in which operations are controlled.* <u>RAM</u> –*allows programs to store information to help the computer run more quickly.* <u>Graphics card</u> – *a printed circuit board that controls the output to a display screen.* <u>Network card</u> – *an electronic device that connects a computer to a computer network.* <u>Monitor</u>– *a screen which displays an*

	Average – Symbols used to represent comparing two values **Advance mode** – A mode of 2Calculate in which the cells have references and can include formulae. **Copy and Paste** – A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing. **Columns** – Vertical reference points for the cells in a spreadsheet. **Cells** – An individual section of a spreadsheet grid. It contains data or calculations. **Charts** – Use this button to create a variety of graph types for the data in the spreadsheet. **Equals tool** – tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool. **Formula** – Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.				**Website** – A set of related web pages located under a single domain name	image generated by a computer. **Speakers** – a device for letting you hear sounds generated by the computer. **Keyboard and mouse** – external devices

Year 5 - Key Vocabulary

Autumn		Spring		Summer	
Coding	Spreadsheets	Databases	Game creator	3D Modelling	Concept Maps
If/Else - A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run. **Input -** Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device. **Output -** Information that comes out of the computer e.g. sound. **Object -** An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects. **Repeat -** This command can be used to make a block of commands run a set number of times or forever. **Sequence -** This is when a computer program runs commands in order. In 2Code this can also include "repeat" or a timer. **Selection -** This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition. **Simulation -** A model that represents a real or imaginary situation. **Timer -** Use this command to run a block of commands after a timed delay or at regular intervals. **Variable** – A named area in computer memory. A variable has a name and a value. The program can change this variable value. **Action -** Types of commands, which are run on an object. They could be	**Formula Wizard** – The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells. **Move cell tool** – This tool makes a cell's contents moveable by drag-and-drop methods. **Random tool** – Click to give a random value between 0 and 9 to the cell. **Rows -** Vertical reference points for the cells in a spreadsheet. **Spin Tool** – Adds or subtracts 1 from the value of the cell to its right. **Spreadsheet -** A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells. **Timer** – When placed in the spreadsheet, click the timer to adds 1 to the value of the cell to its right every second until it is clicked again. **Average** – Symbols used to represent comparing two values **Advance mode** – A mode of 2Calculate in which the cells have references and can include formulae. **Copy and Paste** – A way to copy information from the screen into	**Avatar** – An icon or figure representing a person in a video game, Internet forum, etc. **Binary tree (branching database)** – A way to sort information by dividing the information into groups based upon questions with yes or no answers. **Charts** – Representing information in a pictorial form. **Collaborative** – Produced by, or involving, two or more parties working together. **Data** –Facts and statistics collected together for information. **Database** – A set of data that can be held in a computer in a format that can be searched and sorted for information. **Find** - Search for information in a database. **Record** – A collection of data about one item entered into a database. **Sort, Group and Arrange** – Different ways to sort information in a database to it is easy to read, understand and interpret. **Statistics and reports** – To produce information about data in a database. **Table** –Sorting information into rows and columns.	**Animation** – Creating an illusion of movement. **Computer game** – A game played using a computer, typically a video game. **Customise** – Modify (something) to suit an individual or task. **Evaluation** – The making of a judgement about the value of something. **Image** – In this case, a picture displayed on the computer screen. **Instructions** – Detailed information about how something should be done or operated. **Interactive** – Responding to a user's input on a computer or device. **Screenshot** – An image of the data displayed on the screen of a computer or mobile device. **Texture** – High frequency detail or colour information on a computer-generated graphic. **Perspective** – Representing three-dimensional objects on a two-dimensional surface to give the right impression of their height, width, depth, and position in relation to each other. **Playability** – A measure of either the ease by which a video game may be played, or of the overall quality of its gameplay.	**CAD – Computer aided Design** – A CAD computer program or app allows you to design a 3D object or environment in 2D and visualise it in 3D on the screen from many angles. **Modelling** - The activity of making models. **3D** – Something that has three dimensions; height, width and depth. **Viewpoint** - A person's opinion or point of view. **Polygon** - An object with at least three straight sides and angles, and typically five or more. **2D** – Something that has only two dimensions; height and width. **Net** - A pattern that you can cut and fold to make a model of a solid shape. **3D Printing** - The action or process of making a physical object from a three-dimensional digital model, typically by laying down many thin layers of a material in succession. **Points** - An exact position or location on a 2Dsurface. **Template** - Something that serves as a model for others to copy.	**Audience** - People giving attention to something. **Collaboratively** - Something that is produced by, or involves, two or more parties working together. **Concept** – An idea. **Concept Map** - A tool for organising and representing knowledge. They form a web of ideas which are all interconnected. **Connection** - A relationship or link between two nodes or ideas. **Idea** - An opinion or belief. **Node** – A way to represent concepts or ideas. **Thought** - An idea or opinion produced by thinking or occurring suddenly in the mind. **Visual** - A picture, piece of film or display used to illustrate or accompany something.

used to move an object or change a property. **Alert** - This is a type of output. It shows a pop-up of text on the screen. **Algorithm** - a precise step by step set of instructions used to solve a problem or achieve an objective. **Bug** - A problem in a computer program that stops it working the way it was designed. **Code Design** – Design what a program will look like and what it will do. **Command** - A single instruction in a computer program. **Control** - These commands determine whether parts of the program will run, how often and sometimes, when. **Debug/Debugging** - Looking for any problems in the code, fixing and testing them. **Design Mode** - Used to create the look of a 2Code computer program when it is run. **Event** – Something that causes a block of code to be run. **Get Input** - This puts the text that a user types into the computer's temporary memory to be used to control the program flow. **If** - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run	the computer's memory and paste it elsewhere without re-typing. **Columns** – Vertical reference points for the cells in a spreadsheet. **Cells** – An individual section of a spreadsheet grid. It contains data or calculations. **Charts** – Use this button to create a variety of graph types for the data in the spreadsheet. **Equals tool** – tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool. **Formula** – Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.				

Year 6 - Key Vocabulary

Autumn		Spring		Summer	
Coding	Spreadsheets	Blogging	Text Adventures	Networks	Quizzing
Action - *Types of commands, which are run on an object. They could be used to move an object or change a property.* **Alert** - *This is a type of output. It shows a pop-up of text on the screen.* **Algorithm** - *a precise step by step set of instructions used to solve a problem or achieve an objective.* **Bug** - *A problem in a computer program that stops it working the way it was designed.* **Code Design** – *Design what a program will look like and what it will do.* **Command** - *A single instruction in a computer program.* **Control** - *These commands determine whether parts of the program will run, how often and sometimes, when.* **Debug/Debugging** - *Looking for any problems in the code, fixing and testing them.* **Event** – *Something that causes a block of code to be run.* **Function -** **Get Input** - *This puts the text that a user types into the computer's temporary memory to be used to control the program flow.* **If** - *A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.* **If/Else -** *A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.* **Input -** *Information going into the computer. Can include moving or clicking the mouse, using the*	**Average** – *Symbols used to represent comparing two values* **Advance mode** – *A mode of 2Calculate in which the cells have references and can include formulae.* **Copy and Paste** – *A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.* **Columns** – *Vertical reference points for the cells in a spreadsheet.* **Cells** – *An individual section of a spreadsheet grid. It contains data or calculations.* **Charts** – *Use this button to create a variety of graph types for the data in the spreadsheet.* **Count (how many) tool** – *Counts the number of whatever value object is in the cell to its immediate left and puts the answer in the cell to its immediate right.* **Dice** – *When clicked, this will simulate a dice roll by switching to one of the faces of a die.* **Equals tool** – *tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool* **Formula** – *Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for*	**Audience** – *In this case the readership of the blog.* **Blog** - *A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style.* **Blog page** - *A webpage onto which blog posts are hosted.* **Blog post** - *A piece of writing or other item of content published on a blog.* **Collaborative** - *Produced by or involving two or more parties working together.* **Icon** - *A symbol or graphic representation on a screen.*	**Text-based adventure** - *A computer game that uses text instead of graphics.* **Concept map** - *A tool for organising and representing knowledge. They form a web of ideas which are all interconnected.* **Debug** - *Identify and remove errors from (computer hardware or software).* **Sprite** - *A computer graphic which may be moved on-screen.* **Function** – *In this context, a section of code that gets run when it is called from the main code. A function in a program is usually a piece of code that gets run lots of times.*	**Internet** - *A global computer network providing a variety of information and communication facilities consisting of interconnected networks using standardized communication protocols.* **World Wide Web** - *An information system on the Internet which allows documents to be connected to other documents by hypertext links, enabling the user to search for information by moving from one document to another.* **Network** - *Several interconnected computers, machines, or operations.* **Local area network (LAN)-** *A computer network that links devices within a building or group of adjacent buildings, especially one with a radius of less than 1 km.* **Wide area network (WAN)** - *A computer network in which the computers connected may be far apart, generally having a radius of more than 1 km.* **Router** - *A device which forwards data packets to the appropriate parts of a computer network.* **Network cables** - *Used to connect and transfer data and information between computers and routers.* **Wireless** – *The ability to transmit data from one device to another without using wires.*	**Base 10** – *The number system commonly used in day-to-day life. Using the digits 0,1,2,3,4,5,6,7,8,9 to make. Also known as decimal or denary.* **Base 2** – *A number system based only on the numerals 0 and 1. Also known as binary. The digits 1 and 0 used in binary reflect the on and off states of transistors.* **Binary** – *See Base-2.* **Bit** – *A single 0 or 1 in the binary system.* **Byte** – *8 bits.* **Decimal** – *See Base-10.* **Denary** – *See Base-10.* **Digit** – *A single integer used to show a number.* **Gigabyte (GB)** – *1024 MB.* **Integer** – *Any whole number. This includes negative and positive numbers but not fractions or decimals.* **Kilobyte (KB)** – *1024 bytes.* **Machine code** – *The code that signals to a computer which transistors should be on or off. Machine code is written in binary.* **Megabyte (MB)** – *1024 KB.* **Nibble** – *4 bits.* **Switch** – *A component that can be one of two states at any time: on or off.* **Tetrabyte (TB)** – *1024 GB* **Transistor** – *A tiny switch that is activated by the electronic signals it receives.* **Variable** - *A variable is used in programming to keep track of things that can change while a program is running. A variable must have a name.*

keyboard, swiping and tilting the device.

Output - Information that comes out of the computer e.g. sound.

Object - An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.

Repeat - This command can be used to make a block of commands run a set number of times or forever.

Sequence - This is when a computer program runs commands in order. In 2Code this can also include "repeat" or a timer.

Selection - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.

Simulation - A model that represents a real or imaginary situation.

Tabs -

Timer - Use this command to run a block of commands after a timed delay or at regular intervals.

Variable – A named area in computer memory. A variable has a name and a value. The program can change this variable value.

the cells based upon the value of other cells in the spreadsheet.

Formula Wizard – The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

Move cell tool – This tool makes a cell's contents moveable by drag-and-drop methods.

Random tool – Click to give a random value between 0 and 9 to the cell.

Rows - Vertical reference points for the cells in a spreadsheet.

Spin Tool – Adds or subtracts 1 from the value of the cell to its right.

Spreadsheet - A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.

Timer – When placed in the spreadsheet, click the timer to adds 1 to the value of the cell to its right every second until it is clicked again.

The *value* of the variable is the information to store.