

## Frizinghall Primary School Computing Curriculum Intent, Implementation and Impact

### Intent

Children are on the front lines of a digital revolution. Devices, social networks, and media are changing childhood in radical ways. We all want of our pupils to grow up healthy and happy as the world accelerates around them. To meet this, our computing curriculum is based on the Computing National Curriculum and the EYFS Framework and Development Matters. In addition, we have embedded online safety across it and our teaching is centred around giving pupils the knowledge, understanding and skills to use information and communication technology creatively and purposefully in order they are aware of the risks and rewards that the online world can bring.

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are 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. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

### Definitions

**Abstraction:** Breaking down a problem in to small parts as part of the solving process

**Logic:** Being aware of the constraints of a problem and acting on these

**Algorithm:** A detailed list of instructions to successfully complete a task

**Data representation:** The way in which information can be broken down so that it can be analysed and processed.

The Frizinghall Computing Curriculum is underpinned by: the whole school SCARF values, the development of computing skills, set within the context of the knowledge to be acquired, and the development of spoken language, including dialogic talk. It is enhanced by experiences, including visits and visitors, computing links in the activity passports and active learning opportunities.

Computing knowledge and subject-specific skills are set out in long-term plans, ensuring coverage of and progression in the National Curriculum. (See Year Group LTP). Computing is mapped so that knowledge and skills are developed through and across phases, as is vocabulary

progression. Computing has been mapped across the school to ensure that children have the opportunity to revisit and consolidate past learning and look forward to future learning, through common computing threads e.g. digital media. (see appendix 1 and 2)

### **Implementation – see teaching and learning policy and edit points that are applicable**

Teachers plan lessons to meet the needs of all groups of children at all levels and depth of learning. Lessons begin with a clearly articulated purpose and share next step(s) for learning with pupils. Pupils will be given criteria and models so that they will know if they have been successful. Children are encouraged to ask questions as well as answer them. There will be a range of strategies used to ensure all children are actively engaged in the lesson eg a no hands up policy, roles and responsibilities in group work. Lessons will be purposeful and linked to real-life situations and problems (for example online safety or creating own animation). Lessons are delivered with appropriate pace and challenge. Account is taken of different learning styles and delivery and appeal so that all learners can access the content of our computing curriculum. TAs are used effectively to support teaching and learning. Consideration is given to vulnerable groups of children and slow movers in classes and at times pupils may revisit topics to ensure their skills are embedded. Parents are kept informed of units and children's learning as well as the progress their child is making.

### Subject content

#### Key stage 1

Pupils are taught to:

1. understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
2. create and debug simple programs
3. use logical reasoning to predict the behaviour of simple programs
4. use technology purposefully to create, organise, store, manipulate and retrieve digital content
5. recognise common uses of information technology beyond school
6. use technology safely and respectfully, keeping personal information private
7. identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

#### Keystage 2

Pupils are taught to:

1. design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
2. solve problems by decomposing them into smaller parts
3. use sequence, selection, and repetition in programs; work with variables and various forms of input and output
4. use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
5. understand computer networks including the internet; how they can provide multiple services, such as the worldwide web; and the opportunities they offer for communication and collaboration
6. use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
7. 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

8. use technology safely, respectfully and responsibly;
9. recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

### Assessment

The knowledge and skills developed through each computing unit and are tracked on the computing AfL grid (Exaat in EYFS). In lessons, verbal feedback is given and recorded in a feedback sheet at the front of children’s work folders. The overall achievement is then tracked for each child.

These are completed termly and enable:

- teachers to identify gaps and areas of weakness and adjust future plans accordingly
- the computing leader to identify groups/cohorts where achievement is not as expected (through analysis of data, work scrutiny and learning walks) and through this to work with teachers to resolve problems/issues
- themes and long term plans to be reviewed annually
- SLT to identify subjects where further development is needed (CPD, resourcing)

### Impact

We use a range of strategies to monitor the impact of the computing curriculum. These include: work scrutiny, pupil and teacher discussions, data analysis and observations. We consider how the impact on progress against the knowledge and skills objectives, the aims of the computing curriculum, pupil’s readiness for the next stage of learning and whole school priorities. This information will feed into school self-evaluation, areas for further development and curriculum review.

### Appendix 1

R	Mouse and Trackpad Skills Keyboard Skills				Drawing skills Robots Sounds				Photography Hardware Using Purple Mash with an Individual Login							
	Self-Image and Identity Online Relationships Online Reputation				Online Bullying Managing Online Information Health, well-being and Lifestyle				Privacy and Security Copyright and Ownership							
Y 1	Self-Image and Identity (1)	Group and Sorting (2)	Online Relationships (1)	Pictograms (3)	Online Reputation (1)	Lego Builders (3)	Online Bullying (1)	Maze Explorer(3)	Managing Online Information (1)	Animated Stories (5)	Health, well-being and Lifestyle (1)	Tech Outside School (2)	Privacy and Security (1)	Coding (5)	Copyright and Ownership (1)	Spreadsheets (3)
Y 2	Self-Image and Identity (1)	Spreadsheets (4)	Online Relationships (1)	Creating Pictures (5)	Online Reputation (1)	Making Music (3)	Online Bullying (1)	Presenting Ideas (3)	Managing Online Information (1)	Effective Searching (3)	Health, well-being and Lifestyle (1)	Coding (6)	Privacy and Security (1)	Questioning (5)	Copyright and Ownership (1)	

Y 3	Self-Image and Identity (1)	Spreadsheets (3)	Online Relationships (1)	Touch Typing (4)	Online Reputation (1)	Email (5)	Online Bullying (1)	Graphing (2)	Managing Online Information (1)	Presenting (5)	Health, well-being and Lifestyle (1)	Coding (6)	Privacy and Security (1)	Branching Databases (4)	Copyright and Ownership (1)
Y 4	Self-Image and Identity (1)	Spreadsheets (5)	Online Relationships (1)	Writing for Different Audiences (4)	Online Reputation (1)	Logo (4)	Online Bullying (1)	Animation (3)	Managing Online Information (1)	Effective Searching (3)	Health, well-being and Lifestyle (1)	Making Music (3)	Privacy and Security (1)	Coding (6)	Copyright and Ownership (1)
Y 5	Self-Image and Identity (1)	Online Relationships (1)	Word (5)	Online Reputation (1)	Game Creator (5)	Online Bullying (1)	3D Modelling (4)	Managing Online Information (1)	Coding (6)	Health, well-being and Lifestyle (1)	Spreadsheets (5)	Privacy and Security (1)	Databases (4)	Copyright and Ownership (1)	
Y 6	Self-Image and Identity (1)	Spreadsheets (7)	Online Relationships (1)	Blogging (4)	Online Reputation (1)	Text Adventures (4)	Online Bullying (1)	Networks (3)	Managing Online Information (1)	Quizzing (5)	Health, well-being and Lifestyle (1)	Coding (6)	Privacy and Security (1)	Copyright and Ownership (1)	

## Appendix 2 - Vocabulary Progression

<p><b>EYFS</b></p> <p>Technology - Science and engineering knowledge put into practical use to solve problems or invent useful tools.  Computer a device for working with information. The information can be numbers, words, pictures, movies, or sounds.  Mouse a small movable device that is connected to a computer and used to move the cursor and select functions on the screen  Printer is a piece of hardware for a computer. It allows a user to print items on paper, such as letters and pictures.  Keyboard a piece of equipment with letters printed on used to type on a computer  Logging on – typing in letters and or numbers to be able to use a computer</p>
<p><b>Year 1</b></p> <p>Posture – The correct way to sit at the computer.  Top row keys – The keys on the top row of the keyboard.  Home row keys – The keys on the middle row of the keyboard.  Bottom row keys – The keys on the bottom row of the keyboard.  Space bar – The bar at the bottom of the keyboard.</p> <p><b>E-safety</b></p>

Rules – something to follow to keep you safe

Trusted – someone or something you can rely upon

Online – when using the internet

### **Information Literacy**

Log in – Using a username and password to access a system.

Username – A name that is used by a person to access an online site.

Password – A series of letters, numbers and special characters that is entered after the username to access an online site.

Avatar – A digital picture to represent someone.

My Work – The place where your work is stored. Only you and your teachers can access this.

Log out – Leaving a computer system.

Save – Store your work as you create something so it can be accessed later.

Notification – A system that lets you know if you have something to look at.

Topics – The area that contains ready-made resources.

Tools – Different learning apps and features that help you do something.

### **Digital Media**

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.

### **Data Handling**

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).

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 – 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.

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.

### **Computer Science Programming**

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.

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

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.

Program – 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.

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.

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 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.

## **Year 2**

### **E-safety**

Search – Look for information in (in a database or the World Wide Web) using a search engine.

Display board – This is a tool that enables you to share work with a wide audience.

Internet – A way to send information from one computer to another anywhere in the world using technology such as phones, satellites and radio links.

Sharing – Post or repost (something) on a website.

Email – Messages distributed by electronic means from one computer user to one or more people.

Attachment – A computer file sent with an email.

Digital Footprint – The information about a person that exists on the Internet as a result of their online activity.

### **Information Literacy**

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 or the World Wide Web using a search engine.

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

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.

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.

### **Digital Media**

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

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

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

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 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.

### **Data Handling**

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.

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 – 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.

Pictogram – A diagram that uses pictures to represent data.

Question – A sentence written or spoken to find information.

Data – Facts and statistics collected 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.

### **Computer Science Programming**

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 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 computer program when it is run.

### **Key Resources**

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 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.

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.

### **Year 3**

#### **E-safety**

Password – 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 a website.

Internet – A global computer network providing a variety of information and communication facilities, consisting of interconnected networks and computers.

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.

Concept map – A diagram that shows how different objects or ideas are related and connected.

Username – An identification used by a person with access to a computer, network, or online service.

Website – A set of related web pages located under a single name.

Webpage – A page online that makes up one screen of a website.

Spoof website – A website that uses dishonest designs to trick users into thinking that it represents the truth.

PEGI rating – A rating that shows what age a game is suitable for.

#### **Information Literacy**

Communication – The sharing or exchanging of information by speaking, writing, or using some other medium such as email.

Email – Messages sent by electronic means from one device to one or more people.

Compose – To write or create something.

Send – To make an email be delivered to the email address it is addressed to.

Report to the teacher – A way to tell the teacher if you have received an email that makes you feel upset or scared.

Attachment – A file, which could be a piece of work or a picture, that is sent with the email.

Address book – A list of people who you regularly send an email to.

Save to draft – Allows you to save an email that you are working on and send it later.

Password – 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.

CC – A way of sending a copy of your email to other people so they can see the information in it.

Formatting – Allows you to change the way the text of an email looks. For example, you can make the text bold or underline it.

#### **Digital Media**

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

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

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

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 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.

### **Data Handling**

< > = – Symbols used to represent comparing two values.  $a < b$  means 'a is less than b'.  $a > b$  means 'a is greater than b'.  $a = b$  means 'a is equal to b'. These can be combined, for example  $a \leq b$  means 'a is equal to or less than b'.

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.

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.

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.

Spin Tool – Clicking on this in a cell will increase or decrease the value in the cell to the right by 1.

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.

Branching database – A way to sort information by asking questions that are normally answered 'yes' or 'no'.

Data – Facts and statistics collected together for information.

Database – 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.

Question – Something that is asked or written to try and gain information.

Graph – a diagram showing the value of objects.

Field – a part of a record.

Data – facts and statistics collected together for reference

Bar chart – a graph in which the numerical amounts are shown by the height or length of lines or rectangles of equal width.

Block graph – a graph where a block represents one item.

Line graph – a graph where a line is used to show an amount.

### **Computer Science Programming**

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.

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.

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 computer program when it is run.

Event – Something that causes a block of code to be run.

If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be 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.

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.

### **Year 4**

#### **E-safety**

Computer virus – A piece of code which can copy itself and typically has a damaging effect on the device, such as corrupting the system or destroying data.

Cookies – A small amount of data generated by a website and saved by a web browser. Its purpose is to remember information about the user.

Copyright –When the rights to something belong to a specific person.

Digital footprint – The information about a person that exists on the Internet as a result of their online activity.

Email – Messages sent by electronic means from one device to one or more people.

Identity theft – When a person pretends to be someone else.

Malware – Software that is specifically designed to disrupt, damage, or gain unauthorized access to a computer system.

Phishing – Practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers.

Plagiarism – When you use someone else's words or ideas and pass them off as your own.

Spam - Messages sent over the Internet, typically to many users, for the purposes of advertising, phishing or spreading malware.

### **Information Literacy**

Font – the style of writing one can use when typing on a document.

Bold – to make the text stand out

Italic – a style of formatting when the text is at an angle.

Underline – to draw a line underneath the font.

Easter egg – An unexpected or undocumented feature in a piece of computer software or on a DVD, included as a joke or a bonus.

Internet – A global computer network providing a variety of information and communication facilities.

Internet browser – A software application used to locate and display Web pages.

Search – To look for information. In this case on the Internet.

Search engine – A program that searches for and identifies items in a database. Used especially for finding sites on the World Wide Web.

Spoof website – 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.

Website – A set of related web pages located under a single domain name.

### **Digital Media**

Animation – A process by which still pictures appear to move.

Flipbook – A book with pictures drawn in a way that makes them appear to move when the pages are flicked.

Frame – A single image in an animation.

Onion skinning – A process where the shadow image of the previous frame is present to help you line up the objects of the animation correctly.

Background – A non-moving image that appears behind the animated images.

Play – Press this button to make the animation start.

Sound – Music or oral effects that can be added to the animation.

Stop motion – A technique whereby the camera is repeatedly stopped and started, for example to give animated figures the impression of movement.

Video clip – A short piece of film or animation.

### **Data Handling**

Average – Symbols used to represent comparing two values

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.

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.

### **Computer Science Programming**

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.

Flowchart 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 computer program when it is run.

Event – Something that causes a block of code to be run.

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If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.

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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.

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

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.

### **Year 5**

#### **E-safety**

Online safety – Refers to staying safe when having a presence online.

Smart rules – A set of rules based around the word SMART designed to help you stay safe when online.

Password – A string of characters that allows access to a computer system or service.

Reputable – Having a good reputation.

Encryption – The process of converting information or data into a code, especially to prevent unauthorized access.

Identity theft – The practice of using another person's name and personal information in order to obtain credit, loans, etc.

Shared image – A picture that is shared online for other people to see.

Plagiarism – The practice of taking someone else's work or ideas and passing them off as one's own.

Citations – A quotation from or reference to a book, paper, or author, especially in an academic work

Reference – A mention of a source of information in a book or article including online.

Bibliography – A list of all the books and articles used in a piece of work.

### **Information Literacy**

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.

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.

### **Digital Media**

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.

### **Data Handling**

Average – Symbols used to represent comparing two values

Advance mode – A mode 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.

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.

### **Computer Science Programming**

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.

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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.

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.

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.

## **Year 6**

### **E-safety**

Digital footprint – The information about a person that exists on the Internet as a result of their online activity.

Password - A string of characters that allow access to a computer system or service.

PEGI rating – A rating that shows what age a game is suitable for.

Phishing – The practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers

Screen time - Time spent using a device such as a computer, television, or games console.

Spoof website – A website that uses dishonest design to trick users into thinking that it represents the truth.

### **Information Literacy**

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.

### **Digital Media**

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.

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Playability – A measure of either the ease by which a video game may be played, or of the overall quality of its gameplay.

### **Data Handling**

Average – Symbols used to represent comparing two values

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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 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.

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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.

Audience - the people giving attention to something.

Collaboration - the action of working with someone to produce something.

Concept map - a tool for organising and representing knowledge. They form a web of ideas which are all interconnected.

Database - a structured set of data held in a computer, especially one that is accessible in various ways.

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

## **Computer Science Programming**

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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.

Flowchart 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 – A type of procedure or routine.

Get Input - This puts the text that a user types into the computer's temporary memory to be used to control the program flow.

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Sequence - This is when a computer program runs commands in order.

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 – Allows you to move between blocks of code on different pages  
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