Brooklands Primary School Curriculum

Computing

"Computing is not about computers any more. It is about living." - Nicholas Negroponte

Year	Unit of Work	Vocabulary	Progression	Skills
Nursery	Computing Systems and Networks - What is Technology? Creating Media – An Introduction to Digital Painting Programming – Giving Instructions Data Logging and Information – What is Data?	**Computing Systems and Networks - What is Technology?** *Technology* *Computer* *Keyboard* *Mouse* **Creating Media – An Introduction to Digital Painting** *Tools* *Digital painting* *Artists* *Painting* *Digital devices* **Programming – Giving Instructions** *Instructions* *Control* *Tinker* *Computational thinking* **Data Logging and Information – What is Data?**	**Computing Systems and Networks** *This builds on experience at home.* *This leads to Reception where children will begin to develop use technology to complete tasks.* **Creating Media** *This builds on experience at home.* *This leads to Reception where children will explore the similarities and differences between digital art and non-digital art – why we would choose to use digital art.* **Programming** *This builds on experience at home.* *This leads to Reception where children will begin to explore what computers do when given specific commands. They will complete tasks and play games using commands.* **Data Logging and Information** *This builds on experience at home.*	**Computing Systems and Networks** -I can begin to develop my understanding of technology. -I can begin to see how technology can help me in my everyday life. **Creating Media** -I can begin to use tools for digital painting. -I can make my own digital paintings using the tools I've learned about. **Programming** -I can begin to understand that computers are machines made by people. -I can begin to learn that we can tell computers what to do by giving them instructions. **Data Logging and Information** -I can begin to understand what data and information are. -I can begin to learn how to label things to help organise them.

		Data *Information* *Grouping* *Labelling*	*This leads to Reception where children will explore how we can use programmes to present data.*	
Reception	Computing Systems and Networks – Using Technology

Creating Media – Digital Art

Programming – Completing Tasks

Data Logging and Information – Using Data | **Computing Systems and Networks - Using Technology** *Technology* *Computer* *Keyboard* *Mouse*

Creating Media – Digital Art *Tools* *Digital painting* *Artists* *Painting* *Digital devices*

Programming – Completing Taks *Instructions* *Control* *Tinker* *Computational thinking*

Data Logging and Information – Using Data? *Data* *Information* *Grouping* *Labelling* | **Computing Systems and Networks** *This builds on Nursery where children begin to identify what technology is and how they currently use it at home.*

This leads to Year 1 where children will begin to use a computer to complete specific tasks for a specific needs.

Creating Media *This builds on Nursery where children begin using apps to create digital art.*

This leads to Year 1 where children will explore the world of digital art and creative tools. They will create their own paintings, while getting inspiration from a range of other artists.

Programming *This builds on Nursery where children begin to understand that computers require instructions in order to do what they want.*

This leads to Year 1 where children will begin to use early programming concepts. Children will explore using individual commands.

Data Logging and Information *This builds on Nursery where children begin to understand what data is and why we use it.* | **Computing Systems and Networks** -I can begin to familiarise myself with the different components of a computer. -I can begin to improve my keyboard skills. -I can begin to learn how to use technology responsibly.

Creating Media -I can see how artists use different styles and ways of painting with digital tools. -I can think about what I like when I paint with digital devices. -I can try painting with and without using digital devices and see how they are different.

Programming -I can begin to explore computers and find out what they can do. -I can begin to have fun playing games and doing activities on the computer. -I can begin to learn how to use a computer to complete specific tasks.

Data Logging and Information -I can begin to group things together based on similarities. -I can begin to search for specific things I need or want. -I can begin to sort and arrange things in different ways to make them easier to find. |

			This leads to Year 1 where children will begin by using labels to put objects into groups, and labelling these groups. Children will sort objects into different groups to answer questions about data.	
Year	**Unit of Work**	**Vocabulary**	**Progression**	**Skills**
1	Computing Systems and Networks – Technology around us Creating Media – Digital painting Programming A – Moving a robot Data Logging and Information – Grouping data Creating Media – Digital writing Programming B – Programming animations	**Computing Systems and networks – Technology around us.** *technology* *computer* *mouse* *click and drag* *program* *file* *keyboard* *delete* *arrow keys* *cursor* **Creating Media – Digital Painting** *tools* *paint tools* *shape and line tools* *brush sizes* **Programming A – Moving a robot** *Command* *outcome* *device* *instruction* *directions* *sequence*	**Computing Systems and Networks** *This builds on Reception where children will begin to develop use technology to complete tasks.* *This leads to Year 2 where children will consider the benefits of using technology. They focus on the use of technology in the home and in society.* **Creating Media** *This builds on Reception where children explore the similarities and differences between digital art and non-digital art – why we would choose to use digital art.* *This leads to Year 2 where children will broaden their digital media skills in focusing on creating photography and music. They will continue to develop understanding of why we use certain tools.* **Programming** *This builds on Reception where children begin to explore what computers do when given specific commands. They will complete tasks and play games using commands.* *This leads to Year 2 where children will begin to use individual commands as part*	**Computing Systems and networks – Technology around us.** -I can identify technology -I can identify a computer and its main parts -I can use a mouse in different ways -I can use a keyboard to type on a computer -I can use the keyboard to edit text -I can create rules for using technology responsibly **Creating Media – Digital Printing** -I can describe what different freehand tools do -I can use the shape tool and the line tools -I can make careful choices when painting a digital picture -I can explain why I chose the tools I used -I can use a computer on my own to paint a picture -I can compare painting a picture on a computer and on paper **Programming A – Moving a robot** -I can explain what a given command will do -I can act out a given word -I can combine forwards and backwards commands to make a sequence -I can combine four direction commands to make sequences -I can plan a simple program -I can find more than one solution to a problem

		Vocabulary	Progression	Skills
		Data and information – Grouping data *label* *property of an object* *group objects* *record* **Creating media – Digital writing** *keyboard* *word processor* *text* *backspace* *toolbar* *clicking and dragging* *double-clicking* *tool* *undo* **Programming B - Programming animations** *programming tools* *commands* *sprite* *program* *Start block* *value* *algorithm*	*of a sequence. They also will next develop their understanding of design in programming.* **Data Logging and Information** *This builds on Reception where children explore how we can use programmes to present data.* *This leads to Year 2 where children will learn a different way of presenting data in the forms of tally charts, pictograms and block diagrams.*	**Data and information – Grouping data** -I can label objects -I can identify that objects can be counted -I can describe objects in different ways -I can count objects with the same properties -I can compare groups of objects -I can answer questions about groups of objects **Creating media – Digital writing** -I can use a computer to write -I can add and remove text on a computer -I can identify that the look of text can be changed on a computer -I can make careful choices when changing text -I can explain why I used the tools that I chose -I can compare typing on a computer to writing on paper **Programming B - Programming animations** -I can choose a command for a given purpose -I can show that a series of commands can be joined together -I can identify the effect of changing a value -I can explain that each sprite has its own instructions -I can design the parts of a project -I can use my algorithm to create a program
Year	Unit of Work	Vocabulary	Progression	Skills
2	Computing Systems and Networks – IT around us Creating Media – Digital photography	**Computing systems and networks – IT around us** *Computer* *IT*	**Computing Systems and Networks** *This builds on Year 1 as children focus on society more broadly and the ways in which technology can benefit us.*	**Computing systems and networks – IT around us** -I can recognise the uses and features of information technology

	Programming A – Robot algorithms Data Logging and Information – Pictograms Creating Media – Digital Music Programming B – Programming quizzes	*technology* *information technology* **Creating media – Digital photography** *Capture* *digital photo* *portrait or landscape* *format* *different light sources* **Programming A – Robot algorithms** *sequence* *instructions* *outcomes* *commands* *algorithm* *debug* **Data and information – Pictograms** *totals* *tally chart* *tally count* *data* *different format* *pictograms* **Creating media - Digital music** *rhythm pattern* *images* *sounds* *pitch* *sequence of notes* *musical pattern* **Programming B - Programming quizzes**	*This leads to Year 3 where children begin to learn about specific features of digital devices and how they work. They also look at the connection between digital devices.* **Creating Media** *This builds on Year 1 by expanding the toolkits of learners in creating media. After working with text and painting, they now focus on tools which can be used to create music and photographs.* *This leads to Year 3 where the children will begin to combine media to create a specific outcome. For example, they combine a sequence of photographs to create an animation.* **Programming** *This builds on Year 1 as children will apply their learning about individual commands to creating mini sequences of commands. They will focus on the importance of ordering these logically.* *This leads to Year 3 where children will apply their understanding to a new programming environment – Scratch. They will explore events and actions by creating their own programs for a purpose.* **Data Logging and Information** *This builds on Year 1 where children have secured a knowledge of grouping items in different ways. They now focus on other ways that data can be represented.*	-I can identify the uses of information technology in the school -I can identify information technology beyond school -I can explain how information technology helps us -I can explain how to use information technology safely -I can recognise that choices are made when using information technology **Creating media – Digital photography** -I can use a digital device to take a photograph -I can make choices when taking a photograph -I can describe what makes a good photograph -I can decide how photographs can be improved -I can use tools to change an image -I can recognise that photos can be changed **Programming A – Robot algorithms** -I can describe a series of instructions as a sequence -I can explain what happens when we change the order of instructions -I can use logical reasoning to predict the outcome of a program -I can explain that programming projects can have code and artwork -I can design an algorithm -I can create and debug a program that I have written **Data and information – Pictograms** -I can recognise that we can count and compare objects using tally charts

		program	*This leads to Year 3 where children further explore ways of presenting data using branching databases.*	-I can recognise that objects can be represented as pictures
		sequence		-I can create a pictogram
		outcome		-I can select objects by attribute and make comparisons
		sequence of commands		-I can recognise that people can be described by attributes
		sequences of blocks		-I can explain that we can present information using a computer
		actions of a sprite		
		algorithm		**Creating media - Digital music**
		backgrounds		-I can say how music can make us feel
		characters		-I can identify that there are patterns in music
		debug		-I can experiment with sound using a computer
		features		-I can use a computer to create a musical pattern
				-I can create music for a purpose
				-I can review and refine our computer work
				Programming B - Programming quizzes
				-I can explain that a sequence of commands has a start
				-I can explain that a sequence of commands has an outcome
				-I can create a program using a given design
				-I can change a given design
				-I can create a program using my own design
				-I can decide how my project can be improved
Year	Unit of Work	Vocabulary	Progression	Skills
3	Computing Systems and Networks – Connecting computers Creating Media – Stop frame animation Programming A – Sequencing sounds	**Computing systems and networks – Connecting computers** *Digital Devices*	**Computing Systems and Networks** *This builds on Year 2 by asking children to recognise specific input and output devices as opposed to focusing on IT more generally.*	**Computing systems and networks – Connecting computers** **-I can** explain how digital devices function -I can identify input and output devices -I can recognise how digital devices can change the way we work

	Data Logging and Information – Branching databases Creating Media - Desktop publishing Programming B – Events and actions in programmes	*inputs* *outputs* *network* *switch* *server* *wireless* *access* **Creating media - Stop-frame animation** *flip book—style animation* *sequence* *stop-frame* *animation* *storyboard* *onion skinning* **Programming A - Sequencing sounds** *attributes* *project* *sprites* *backdrops* *commands* *blocks* *code* *algorithm* **Data and information – Branching databases** *tree structure* *branching database* *attributes* *databases* *identification tool* **Creating media – Desktop publishing** *edit* *template*	*This leads to Year 4 where children will understand the internet as a network of networks and will recognise input/output devices within this.* **Creating Media** *This builds on Year 2 by using images as part of a sequence to create a stop-frame animation. In Year 3, they will also combine image and text skills together to convey information.* *This leads to Year 4 where the children will begin to edit photos. They will also develop skills in sound technology in Year 4 before combining all of their Media skills to create a video in Year 5.* **Programming** *This builds on Year 2 by securing understanding of using algorithms to create a sequence on a new programming environment – Scratch. Children will become familiar with this environment.* *This leads to Year 4 where children extend their programming knowledge further to include repetition and loops using both Scratch and Logo.* **Data Logging and Information** *This builds on Year 2 by allowing children to apply their understanding of what 'data' is by presenting it in a different way – branching databases.* *This leads to Year 4 where children will begin to focus on the role of computers in collecting their own data over a period of time.*	-I can explain how a computer network can be used to share information -I can explore how digital devices can be connected -I can recognise the physical components of a network **Creating media - Stop-frame animation** -I can explain that animation is a sequence of drawings or photographs -I can relate animated movement with a sequence of images -I can plan an animation -I can identify the need to work consistently and carefully -I can review and improve an animation -I can evaluate the impact of adding other media to an animation **Programming A - Sequencing sounds** -I can explore a new programming environment -I can identify that commands have an outcome -I can explain that a program has a start -I can recognise that a sequence of commands can have an order -I can change the appearance of my project -I can create a project from a task description **Data and information – Branching databases** -I can create questions with yes/no answers -I can identify the attributes needed to collect data about an object -I can create a branching database -I can explain why it is helpful for a database to be well structured

		page orientation *placeholders* *content* *layout* *desktop publishing* **Programming B - Events and actions in programs** *event* *action* *program* *character* *blocks* *programming extension* *sequences of commands* *additional features*		-I can plan the structure of a branching database -I can independently create an identification tool **Creating media – Desktop publishing** -I can recognise how text and images convey information -I can recognise that text and layout can be edited -I can choose appropriate page settings -I can add content to a desktop publishing publication -I can consider how different layouts can suit different purposes -I can consider the benefits of desktop publishing **Programming B - Events and actions in programs** -I can explain how a sprite moves in an existing project -I can create a program to move a sprite in four directions -I can adapt a program to a new context -I can develop my program by adding features -I can identify and fix bugs in a program -I can design and create a maze-based challenge
Year	**Unit of Work**	**Vocabulary**	**Progression**	**Skills**
4	Computing systems and networks – The Internet Creating media - Audio production Programming A – Repetition in shapes Data and information – Data logging	**Computing systems and networks – The Internet** *internet* *network* *World Wide Web* *Websites* *web pages* *uploaded*	**Computing Systems and Networks** *This builds on Year 3 by expanding knowledge of a single devices which form a network to the internet being a larger network of networks.*	**Computing systems and networks – The Internet** -I can describe how networks physically connect to other networks -I can recognise how networked devices make up the internet -I can outline how websites can be shared via the World Wide Web (WWW)

Creating media – Photo editing Programming B – Repetition in games	*media* **Creating media - Audio production** *audio* *podcast* *soundwave* *trim* *recording* *editable* *content* *exporting* **Programming A – Repetition in shapes** *code* *command* *template* *algorithm* *sequence* *count-controlled loop* *chunks* *debugging it* **Data and information – Data logging** *data* *sensors* *intervals* *data logger* *captured data* **Creating media – Photo editing** *crop* *rotating* *editing* *composition* *cloning*	*This leads to Year 5 where children focus on how information is transferred in the context of large scale systems.* **Creating Media** *This builds on Year 3 because children will now learn how to edit photographs for a specific purpose. Having produced a visual stop motion animation, they now focus on incorporating audio elements into their work.* *This leads to Year 5 where the children will incorporate audio and visual elements to produce a video. They will also produce their own images instead of using existing ones.* **Programming** *This builds on Year 3 by focusing on repetition and loops within programs. Children will use different programming environments to create a game using all programming concepts taught so far.* *This leads to Year 5 where the children will apply their knowledge to physical computers such as micro controllers and Crumbles.* **Data and Information** *This builds on Year 3 by broadening the children's understanding of data to look at how and why it might be collected over time. They use computers and data logging equipment to collect their own data.* *This leads to Year 5 where children will explore 'flat-file databases' – using the*	-I can describe how content can be added and accessed on the World Wide Web (WWW) -I can recognise how the content of the WWW is created by people -I can evaluate the consequences of unreliable content **Creating media - Audio production** -I can identify that sound can be recorded -I can explain that audio recordings can be edited -I can recognise the different parts of creating a podcast project -I can apply audio editing skills independently -I can combine audio to enhance my podcast project -I can evaluate the effective use of audio **Programming A – Repetition in shapes** -I can identify that accuracy in programming is important -I can create a program in a text-based language -I can explain what 'repeat' means -I can modify a count-controlled loop to produce a given outcome -I can decompose a task into small steps -I can create a program that uses count-controlled loops to produce a given outcome **Data and information – Data logging** -I can explain that data gathered over time can be used to answer questions -I can use a digital device to collect data automatically -I can explain that a data logger collects 'data points' from sensors over time

		Programming B – Repetition in games *repetition* *code* *snippet of code* *count-controlled* *infinite loop* *programming* *repetition* *algorithm*	*tools within these to order and answer questions about data.*	-I can recognise how a computer can help us analyse data -I can identify the data needed to answer questions -I can use data from sensors to answer questions **Creating media – Photo editing** -I can explain that the composition of digital images can be changed -I can explain that colours can be changed in digital images -I can explain how cloning can be used in photo editing -I can explain that images can be combined -I can combine images for a purpose -I can evaluate how changes can improve an image **Programming B – Repetition in games** -I can develop the use of count-controlled loops in a different programming environment -I can explain that in programming there are infinite loops and count controlled loops -I can develop a design that includes two or more loops which run at the same time -I can modify an infinite loop in a given program -I can design a project that includes repetition - I can create a project that includes repetition
Year	Unit of Work	Vocabulary	Progression	Skills
5	Computing systems and networks - Systems and searching Creating media - Video production	**Computing systems and networks - Systems and searching** *Inputs*	**Computing Systems and Networks** *This builds on Year 4 by developing children's knowledge of networks, whilst building on their understanding of the*	**Computing systems and networks - Systems and searching** -I can explain that computers can be connected together to form systems

	Programming A – Selection in physical computing	*Processes* *outputs* **Creating media -** **Video production** *web crawler* *index* *criteria* *rank* **Programming A –** **Selection in physical** **computing** *Features* *visual media format* *digital video recording* *device* *filming techniques* *scenes* *reshooting* *editing* **Data and information** **– Flat-file databases** *database* *flat-file database* *grouping* *sorting* *refine data selection* *filter* **Creating media –** **Introduction to** **vector graphics** *vector drawings* *element* *alignment* *layers* *duplicating* *group and ungroup*	*WWW and unreliable sources by looking at how search engines work and how they rank results.* *This leads to Year 6 when they build on their knowledge of search engines and ranking results by learning about web addresses and how computer systems allow us to communicate with other people remotely.* **Creating Media** *This builds on Year 4 by continuing to develop the effective use of editing tools and applying the knowledge of audio and photo editing to video editing and vector graphics.* *This leads to Year 6 where they apply these creative media skills to make webpages and develop from 2D picture editing, to 3D Modelling.* **Programming** *This builds on Year 4 by using knowledge of loops and applying that to physical computing using micro controllers and Crumbles. Having developed the use of repetition, children are now expected to create a program that uses selection.* *This leads to Year 6 as they apply skills learnt to design their own project and improve games using variables. Knowledge acquired throughout KS2 about inputs and outputs as they use a micro:bit to design and develop a program.* **Data and Information**	-I can recognise the role of computer systems in our lives -I can experiment with search engines -I can describe how search engines select results -I can explain how search results are ranked -I can recognise why the order of results is important, and to whom **Creating media - Video production** -I can explain what makes a video effective -I can identify digital devices that can record video -I can capture video using a range of techniques -I can create a storyboard -I can identify that video can be improved through reshooting and editing -I can consider the impact of the choices made when making and sharing a video **Programming A – Selection in physical computing** -I can control a simple circuit connected to a computer -I can write a program that includes count-controlled loops -I can explain that a loop can stop when a condition is met -I can explain that a loop can be used to repeatedly check whether a condition has been met -I can design a physical project that includes selection -I can create a program that controls a physical computing project **Data and information – Flat-file databases** -I can use a form to record information

	Programming A – Selection in physical computing Data and information – Flat-file databases Creating media – Introduction to vector graphics Programming B – Selection in quizzes	*Processes* *outputs* **Creating media -** **Video production** *web crawler* *index* *criteria* *rank* **Programming A –** **Selection in physical** **computing** *Features* *visual media format* *digital video recording* *device* *filming techniques* *scenes* *reshooting* *editing* **Data and information** **– Flat-file databases** *database* *flat-file database* *grouping* *sorting* *refine data selection* *filter* **Creating media –** **Introduction to** **vector graphics** *vector drawings* *element* *alignment* *layers* *duplicating* *group and ungroup*	*WWW and unreliable sources by looking at how search engines work and how they rank results.* *This leads to Year 6 when they build on their knowledge of search engines and ranking results by learning about web addresses and how computer systems allow us to communicate with other people remotely.* **Creating Media** *This builds on Year 4 by continuing to develop the effective use of editing tools and applying the knowledge of audio and photo editing to video editing and vector graphics.* *This leads to Year 6 where they apply these creative media skills to make webpages and develop from 2D picture editing, to 3D Modelling.* **Programming** *This builds on Year 4 by using knowledge of loops and applying that to physical computing using micro controllers and Crumbles. Having developed the use of repetition, children are now expected to create a program that uses selection.* *This leads to Year 6 as they apply skills learnt to design their own project and improve games using variables. Knowledge acquired throughout KS2 about inputs and outputs as they use a micro:bit to design and develop a program.* **Data and Information**	-I can recognise the role of computer systems in our lives -I can experiment with search engines -I can describe how search engines select results -I can explain how search results are ranked -I can recognise why the order of results is important, and to whom **Creating media - Video production** -I can explain what makes a video effective -I can identify digital devices that can record video -I can capture video using a range of techniques -I can create a storyboard -I can identify that video can be improved through reshooting and editing -I can consider the impact of the choices made when making and sharing a video **Programming A – Selection in physical computing** -I can control a simple circuit connected to a computer -I can write a program that includes count-controlled loops -I can explain that a loop can stop when a condition is met -I can explain that a loop can be used to repeatedly check whether a condition has been met -I can design a physical project that includes selection -I can create a program that controls a physical computing project **Data and information – Flat-file databases** -I can use a form to record information

		Programming B – Selection in quizzes *conditions in a program* *selection* *infinite* *program flow* *algorithm* *design format*	*This builds on Year 4 by developing those data and information skills. Children understand how data is collected and that questions can be formed and answered. This builds in Year 5 as they develop knowledge of how data can be sorted in order to select the information you need.* *This leads to Year 6 as their acquired knowledge about databases, reading and selecting data and using databases is put in real life practice as they create data using a spreadsheet and develop their use of formulas to produce data.*	-I can compare paper and computer-based databases -I can outline how you can answer questions by grouping and then sorting data -I can explain that tools can be used to select specific data -I can explain that computer programs can be used to compare data visually -I can use a real-world database to answer questions **Creating media – Introduction to vector graphics** -I can identify that drawing tools can be used to produce different outcomes -I can create a vector drawing by combining shapes -I can use tools to achieve a desired effect -I can recognise that vector drawings consist of layers -I can group objects to make them easier to work with -I can apply what I have learned about vector drawings **Programming B – Selection in quizzes** -I can explain how selection is used in computer programs -I can relate that a conditional statement connects a condition to an outcome -I can explain how selection directs the flow of a program -I can design a program which uses selection -I can create a program which uses selection -I can evaluate my program
Year	Unit of Work	Vocabulary	Progression	Skills
6	Computing systems and networks - Communication and collaboration	**Computing systems and networks -**	**Computing Systems and Networks**	**Computing systems and networks - Communication and collaboration**

	Creating media – Web page creation Programming A – Variables in games Data and information – Spreadsheets Creating media – 3D Modelling Programming B - Sensing movement	**Communication and collaboration** *websites* *agreed methods* *data packet* *effective collaboration* *public* *private* **Creating media – Web page creation** *HTML* *web page layout* *'fair use'* *copyright-free* *navigation* *hyperlinks* **Programming A – Variables in games** *program variable* *placeholder* *event in a program* *value of a variable* *algorithms* *design choices* **Data and information – Spreadsheets** *spreadsheet* *structure data* *appropriate format* *formula in a spreadsheet* *changing inputs* **Creating media – 3D Modelling** *Children know all vocabulary needed.*	*This builds on year 5 by focusing more specifically on the use of the internet for communication and collaboration. It allows children to understand how data is shared online and to use the knowledge they have to consider different methods critically.* *This leads to Year 7 where children will begin to consider factors which can affect the performance of a network. They will expand their knowledge of networks to a broader range of components.* **Creating Media** *This builds on year 5 by allowing the children to progress from a 2D to a 3D workspace for creating media. It further develops children's ability to create media 'for purpose' and to plan and evaluate their work based on this.* *This leads to Year 7 where children will apply a range of skills learned through KS2 to specific problem solving tasks.* **Programming** *This builds on year 5 by providing children with opportunities to include variables in their programs. All four elements of programming across KS2 are brought together (sequence, repetition, selection and variables). Children use these concepts in a different but still familiar environment – micro:bit.* *This leads to Year 7 by providing a the foundation of programming skills which they will expand on. They will make programs more efficient through iteration*	-I can explain the importance of internet addresses -I can recognise how data is transferred across the internet -I can explain how sharing information online can help people to work together -I can evaluate different ways of working together online -I can recognise how we communicate using technology -I can evaluate different methods of online communication **Creating media – Web page creation** -I can review an existing website and consider its structure -I can plan the features of a web page -I can consider the ownership and use of images (copyright) -I can recognise the need to preview pages -I can outline the need for a navigation path -I can recognise the implications of linking to content owned by other people **Programming A – Variables in games** -I can define a 'variable' as something that is changeable -I can explain why a variable is used in a program -I can choose how to improve a game by using variables -I can design a project that builds on a given example -I can use my design to create a project -I can evaluate my project **Data and information – Spreadsheets** -I can create a data set in a spreadsheet -I can build a data set in a spreadsheet

| | | **Programming B - Sensing movement**
emulator
controllable device
flow of a program
variable
physical inputs | *and apply programming skills to solve problems.*

Data and Information
This builds on year 5 by giving children the skills needed to manipulate and organise data using spreadsheets. Their solid understanding of what databases are will allow them to see the benefits of using a spreadsheet in order to complete data handling tasks.

This leads to Year 7 where children will expand on their spreadsheet skills in order to collect, analyse and manipulate data to produce a range of graphs and charts. | -I can explain that formulas can be used to produce calculated data
-I can apply formulas to data
-I can create a spreadsheet to plan an event
-I can choose suitable ways to present data

Creating media – 3D Modelling
-I can recognise that you can work in three dimensions on a computer
-I can identify that digital 3D objects can be modified
-I can recognise that objects can be combined in a 3D model
-I can create a 3D model for a given purpose
-I can plan my own 3D model
-I can create my own digital 3D model

Programming B - Sensing movement
-I can create a program to run on a controllable device
-I can explain that selection can control the flow of a program
-I can update a variable with a user input
-I can use a conditional statement to compare a variable to a value
-I can design a project that uses inputs and outputs on a controllable device
- I can develop a program to use inputs and outputs on a controllable device |