The Archway Federation

Vane Road Computing progression

Computing yearly overview	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
EYFS	E-safety Handling Technology	E-safety Sorting and Grouping Information **Aut A/B grouped together**	E-safety Beebots moving forwards, backwards, left and right Resilience	E-safety Virtual Reality, insect app Resilience	E-safety Preparing for Year 1 – logging in Kindness Respect	E-safety Preparing for Year 1 – introduction to typing Kindness Respect
Year 1	**Technology Around Us** Respect	**Digital Painting** Ambition	**Digital Writing** Ambition	**Grouping Data**	**Moving a Robot** Resilience	**Programming animations** Resilience
Year 2	**Computer systems and networks** Kindness Respect	**Office = Typing** With 1 lesson data handling	**Making Music** Ambition	**Robot Algorithms** Resilience	**Programming quizzes** Resilience	**Google Earth** Ambition Respect
Year 3	**Connecting computers** Kindness Respect	**Virtual Reality**	**Sequencing sounds**	**Events and actions in programmes** With 1 lesson in data Resilience	**Desktop publishing** Ambition	**Stop Frame Animation** Ambition

Year 4	**The Internet** Kindness Respect	**Photo Editing** Ambition	**Databases** Resilience	**Repetition in shapes** Resilience	**Repetition in games** Resilience	**Audio Editing** Ambition
Year 5	**Sharing Information** Kindness Respect Inclusivity	**Flat-file databases**	**Selection in physical computing and quizzes** Resilience	**Video Editing** Ambition Respect	**Office 365** Respect Inclusivity	**Vector Drawing** Ambition
Year 6	**Communication** Kindness Respect Inclusivity	**3D Modelling** Ambition Resilience	**Variables in Games AND Sensing**	**Web Page Creation** Ambition Resilience Respect	**Office 365** Respect Inclusivity	**Introduction to Spreadsheets**

Computing Curriculum

Respect **Ambition** **Kindness** **Resilience** **Inclusivity**

Our school values play a key role in our computing curriculum. In particular the values of respect and kindness when looking at e-safety and how to treat people online. We see computing as a form of problem solving so we build up children's resilience to help them tackle these problems. We also show children how technology is used in the word around us and encourage them to be ambitious with how they use technology both in school, and as they grow up, in the wider working world.

Intent

E- safety is at the heart of our computing curriculum. We know that technology is the future and we want our children to know how to utilise technology to the best of its ability but also for them to know how to use it safely. We hope that with this knowledge, they can share how best to use technology with older generations. Computing is also about problem solving -we want our pupils to become the problem solvers of the future. Through our computing curriculum, we aim to develop computational thinking (the ability to think about solving using a computer). We don't say: 'It doesn't work!' Instead we say: 'Let's debug it!' All children at Vane Road Primary School have the right to a high-quality computing education which equips them with the life-skills that will enable them to embrace and utilise new technology in a responsible and safe way. We want children to become independent users of computing technologies, gaining confidence and enjoyment from their activities.

We want children:

- To know how to stay safe online
- To use technology effectively
- To solve problems

All of the areas of computing within Vane Road are linked to a key concept

- Internet Safety
- Computer Science
- Digital Literacy

Substantive knowledge – what our pupils will know by the end of each enquiry

Disciplinary knowledge – the subject skills and techniques our pupils will master and apply in order to understand the significance of what they know

KS1 disciplinary knowledge

Recognise, choose, explain, explore, use, identify, create, capture

LKS2 disciplinary knowledge

As above and editing, connecting, publishing, logging, sequencing, programming, design

UKS2 disciplinary knowledge

As above and selecting, communicating, drawing, exploring variables, modelling, answering

Key concepts

E-safety

Pupils are taught how to live knowledgeably, responsibly and safely in a digital world.

Computer Science

Pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

Digital Literacy

Pupils are 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.

EYFS Autumn Term	Handling Technology & Grouping Data	**Key concepts** E-safety Digital Literacy
Knowledge **Substantive Knowledge** **What do they know and can recall?** • I know how to hold an ipad with two hands. • I know that objects can be sorted into groups • I know how to show what a group is	**E-safety knowledge** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology •	**Disciplinary Knowledge** • To know that an Ipad is a piece of technology • To know that a computer is a piece of technology • To know that objects can be grouped together.
Vocabulary **Sorting, Grouping, iPad, apps, QR codes**	**National Curriculum Links** •	**Useful Links**

EYFS Spring Term	Beebots and VR	Key concepts **E-safety** **Computer Science**
Knowledge **Substantive Knowledge** **What do they know and can recall?** • **I know what a Beebot is** • **I know what forward means** • **I know what backward means** • **I know that an arrow points in different directions** • **I know what an app is**	**E-safety knowledge** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology •	**Disciplinary Knowledge** • To begin to recognise the difference between real life and virtual reality • **To experiment listing commands whicb can be used on a given device.** •
Vocabulary **Forward, Back, Arrow, Left, Right, Beebot, Stranger Danger**	**National Curriculum Links** •	**Useful Links**

EYFS Summer Term	Preparing for Year 1	**Key concepts** Digital Literacy E-safety
Knowledge **Substantive Knowledge** **What do they know and can recall?** • **I can press keys on a keyboard** • **I can type my name on the keyboard** • **I can open a laptop safely**	**E-safety knowledge** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology • I know that the work I create belongs to me	**Disciplinary Knowledge** • To know that an Ipad is a piece of technology • To know that a computer is a piece of technology • To know that a login is personal to you
Vocabulary **, Mouse, Keypad skills, Login, clear, trackpad**	**National Curriculum Links** •	**Useful Links**

Year 1 Autumn Term A	Technology Around Us	Key concepts Digital Literacy E-safety
Knowledge **Substantive Knowledge** **What do they know and can recall?** • **I know what 'technology' means** • **.•I can classify what is and what is not technology** • **•I can identify the main parts of a computer (screen, keyboard, mouse)** • **•I can type my name on a keyboard** • •I know rules for using technology responsibly (logging and logging out of shared devices)	**E-safety knowledge** **Health, well-being and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology • I can give some simple examples **Copyright and ownership** • I know that the work I create belongs to me • **I can name my work so that others know it belongs to me**	**Disciplinary Knowledge** • To identify examples of technology • To recognise that a computer is an example of technology • To recognise that choices are made when using technology • To explain that technology is something that can help us
Vocabulary Technology, computer, keyboard, responsibly, mouse	**National Curriculum Links** • Recognise common uses of information technology beyond school • Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi **Note:** This lesson has been planned using desktop computers and the (free) program paintz.app, however, it can be taught with laptops. If you are using laptops for this unit, consider spending more time practising and discussing the trackpad.

Year 1 Autumn Term B	Digital Painting	Key concepts Digital Literacy E-safety

Knowledge • **I can use the shape tool** • **I can use the line tool** • **I can make dots of colour on the page** • **I can change the brush sizes** • **I know the difference between the painting on a computer and on paper**	**E-safety knowledge** **Copyright and ownership** • I know that the work I create belongs to me • I can name my work so that others know it belongs to me	**Disciplinary Knowledge** • To use a wider variety of tools to create images • To recognise that tools can be changed to create different outcomes • To choose options to achieve a desired effect. • To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.
Vocabulary Digital painting, tools, lines, dots, undo, brush size, compare, artist, paper	**National Curriculum Links** • Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 1 Spring Term A	**Digital Writing**	**Key concepts** Digital Literacy E safety
Knowledge • **I can open a word document by double clicking** • **I can use letter, number, and space keys** • **I can use back space to remove text** • **I can type capital letters** • **I can change the font, use bold, italic, and underline**	**E-safety knowledge** **Privacy and security** • I can give reasons why I should only share information with people I choose to and can trust.	**Disciplinary Knowledge** • To use a wider variety of tools to create • To recognise that tools can be changed to create different outcomes • To choose options to achieve a desired effect. • To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.
Vocabulary Keyboard, word processor, keys, text, space, backspace, number, letter, tool bar, bold, italic, underline, clicking, double click, dragging, capital letter, font, undo	**National Curriculum Links** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Use technology safely and respectfully, keeping personal information private	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 1 Spring term B	**Grouping Data**	**Key concepts** Digital Literacy

Knowledge •I can describe objects using labels •I can group objects •I can describe a property of an object •I can count how many objects share a property •I can decide how to group objects to answer a question	**E-safety knowledge** **Copyright and ownership** • I know that work I create belongs to me • I can name my work so that others know it belongs to me	**Disciplinary Knowledge** • To recognise that information can be presented in different ways • To identify that objects can be counted • To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.
Vocabulary Objects, labels, groups, properties, similar, different, compare,	**National Curriculum Links** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Use technology safely and respectfully	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

Year 1 Summer Term A	**Moving a Robot**	**Key concepts** **Computer Science**
Knowledge • I can show what will happen to the beebot (or equipment) when I press a button. • **I can give directions (forwards, backwards, left, right, turn).** • **I can predict the outcome of a sequence involving up to four commands.** • **I can debug my program (say what the problem is).** • **I can use two different programs to get to the same place (how many different ways can you get to the same place).**	**E-safety knowledge** • I know that work I create belongs to me.	**Disciplinary Knowledge** • **To list which commands can be used on a given device.** • To understand that a program is a set of commands a computer can run. • To recall that a series of instructions can be issued before they are enacted.
Vocabulary Buttons, outcome, command, device, memory, programs, direction, instructions, forwards, backwards, sequence, predict, start, robot, debug, plan, solution, route	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

	• Use logical reasoning to predict the behaviour of simple programs • Recognise common uses of information technology beyond school.	

Year 1 Summer Term B	**Programming animations**	**Key concepts** Computer Science

Knowledge **When I am using Scratch Junior I can** • **I can use commands to move a sprite** • **I can use a Start block in a program** • **I can find blocks that have numbers and say what happens when I change the value.** • **I can delete a sprite** • **I can create an algorithm for each sprite and I can test the programs I have created**	**E-safety knowledge** • I know that work I create belongs to me	**Disciplinary Knowledge** • To list which commands can be used on a given device • To understand that a program is a set of commands a computer can run • To recall that a series of instructions can be issued before they are enacted
Vocabulary Scratch, sprite, commands, programming tools, start block, run, backgrounds, deleting, numbers, value, blocks, algorithm, test	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi **All the lessons in this unit require access to Scratch Jr.** Download ScratchJr App for tablets (iPad or Android), or install ScratchJr for computers (https://jfo8000.github.io/ScratchJr-Desktop/) before the lesson

Year 2 Autumn Term A	Computer systems and networks	Key concepts Digital Literacy E safety
Knowledge • I can describe some uses of computers. • **I can open a file.** • **I can move and resize images.** • I can demonstrate how information technology is used in a shop. • **I can explain simple guidance for using information technology in different environments and settings.**	**E-safety knowledge** **Health, well-being and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology. • I can give some simple examples.	**Disciplinary Knowledge** • **To identify examples of technology** • To recognise that choices are made when using technology • To recognise different digital devices can change the way we work.
Vocabulary Computers, technology, information technology (IT), file, resize, image, compare, environments, connected, rules, guidance	**National Curriculum Links** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Recognise common uses of information technology 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.	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 2 Autumn Term B	**Office**	**Key concepts** Digital Literacy E safety
Knowledge • **I can type with accuracy and speed** • **I know how to view data in a different format on a computer.** • **I present information in a different way on a computer.**	**E-safety knowledge** **Health, wellbeing and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology • I can give some simple examples **Privacy and Security**	**Disciplinary Knowledge** • To use a computer program to present information in different ways • To give simple examples of why some information should not be shared • To explain that we can present information using a computer

	• **I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location)** • I can describe the people I can trust and can share this with; I can explain why I can trust them • **I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school)**	
Vocabulary Data, tally, chart, more than, less than, pictogram, format, compare, sharing information, font, layout, insert	**National Curriculum Links** • use technology purposefully to create, organise, store, manipulate and retrieve digital content • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 2 Spring Term A	**Making Music**	**Key concepts** Digital Literacy
Knowledge • **I can describe how music makes me feel,e.g. happy or sad** • **I can explain that music is created and played by humans** • **I can use a computer to experiment with pitch and duration** • **I can use a computer to create a musical pattern using three notes**	**E-safety knowledge** **Copyright and ownership** • I know that work I create belongs to me.	**Disciplinary Knowledge** • To use a computer to create a piece of music • To review and refine our computer work • To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.

Vocabulary Music, emotions, rhythm, patterns, humans, pitch, images, sounds, sequence, notes, pattern, refine, retrieve, review, improvements	**National Curriculum Links** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 2 Spring Term B	**Robot Algorithms**	**Key concepts** **Computer Science**
Knowledge • **I can give clear and unambiguous instructions** • **I can use an algorithm to program a sequence on a floor robot(beebot)** • **I can predict the outcome of a sequence** • **I can create an algorithm to meet my goal** • **I can test and debug each part of the program**	**E-safety knowledge** • I know that work I create belongs to me	**Disciplinary Knowledge** • To describe that a series of instructions is a sequence • To use logical reasoning to predict the outcome of a program
Vocabulary Language, instructions, precise, clear, sequence, unambiguous, algorithms, commands, order, program, predict, outcome, compare, decomposition, debug, debugging	**National Curriculum Links** • 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 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.	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 2 Summer Term A	**Programming quizzes**	**Key concepts** Computer Science

Knowledge

When I am using Scratch Junior I can

- **I can identify the start of a sequence**
- **I can change the outcome of a sequence of commands**
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- **I can build the sequences of blocks I need**
- **I can choose the images for my own design**
- **I can create an algorithm**

E-safety knowledge

- I know that work I create belongs to me

Disciplinary Knowledge

- To describe that a series of instructions is a sequence
- To use logical reasoning to predict the outcome of a program

Vocabulary

Scratch, full screen, green flag, run , program, predict, outcome, sequence, commands, blocks, design, animation, sprite, background, character, questions, artwork, algorithms, debug, improvements

National Curriculum Links

- 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

Useful Links

NCCE Teach computing
Education for a connected world
Raspberry Pi
Scratch Jr.

Year 2 Summer Term B

Digital Photography And Google Earth

Key concepts

Digital Literacy
E saferty

Knowledge

- I can recognise what devices can be used to take photographs and talk about how to take a photograph.
- **I can take photos in both landscape and portrait format.**
- **I can explore the effect that light has on a photo.**
- **I can use a tool to achieve a desired effect (for example, apply a filter).**
- **I can use Google Earth to view photos of different places.**

E-safety knowledge

- **To understand that permission is needed to share images.**

Disciplinary Knowledge

- To recognise that some digital devices can capture images using a camera
- **To recognise that people around me can view my screen to see my photos**
- To recognise that photos can be changed through editing
- To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.

Vocabulary Photograph, digital photo, capture, device, portrait, landscape, format, lighting, artificial light, flash, autofocus, tool, colour, adjust, edit, Google Earth	**National Curriculum Links** • Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • Recognise common uses of information technology 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi This unit uses screenshots from the website https://pixlr.com/x/, but you could also use the Pixlr app if you're using tablets or any other editing software.

Year 3 Autumn Term A	**Connecting Computers**	**Key concepts**
Knowledge • **I can explain that digital devices accept inputs and produce outputs** • **I can recognise similarities between using digital devices and non-digital tools** • **I can explain how messages are passed through multiple connections** • **I can explain the role of a switch, server, and wireless access point in a network**	**E-safety knowledge** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology	**Disciplinary Knowledge** • To recognise that a digital device is made of several parts • To recognise that computers can be connected to each other • **To identify the benefits of computer networks**
Vocabulary Digital device, inputs, outputs, tools, compare, contrast, digital, non-digital, wires, wifi, connections, computers, smartphones, networks, server, wireless, access point, switch	**National Curriculum Links** • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output • 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 • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

	given goals, including collecting, analysing, evaluating and presenting data and information	
Year 3 Autumn Term B	**Virtual Reality**	**Key concepts** Digital Literacy
Knowledge • **I can select shapes appropriate for my task** • **I can change size and rotation of the shapes** • **I can alter the colours and materials of objects in my creation** • **I can explain my design choices** •	**E-safety knowledge** • **I know that work I create belongs to me** •	**Disciplinary Knowledge** • To recognise that virtual reality can be used for real life purposes • **To know the difference between real life and virtual reality**

Vocabulary Reality composer, 2D, 3D, virtual reality, materials, dimensions, shape,	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi To use reality composer or similar app
Year 3 Spring Term A	**Sequencing Sounds**	**Key concepts** Computer Science
Knowledge **When I am using Scratch I can** • I can recognise that commands in Scratch are represented as blocks • I can identify that each sprite is controlled by the commands I choose • **I can create a sequence of connected commands** • **I can combine sound commands** • I can relate a task description to a design	**E-safety knowledge** • **I know that work I create belongs to me**	**Disciplinary Knowledge** • To recognise that sequences can have an order • **To create a sequence of commands to produce a given outcome** • **To order commands in a program**
Vocabulary Scratch, project, sprite, backdrop, commands, blocks, on-screen, action, design, outcome, code, sequencing, respond, commands, connected, motion, sounds, algorithm	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Scratch

	• 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	
Year 3 Spring Term B	**Events and actions in programs**	**Key concepts** Computer science
Knowledge • I can choose which keys to use for actions and explain my choices • **I can choose a suitable size for a character in a maze.** • I can program movement. • **I can match a piece of code to an outcome.** • **I can enter data onto a computer.** • I can choose the most appropriate way of presenting data.	**E-safety knowledge** • I know that work I create belongs to me	**Disciplinary Knowledge** • To recognise that sequences can have an order • **To create a sequence of commands to produce a given outcome** • **To order commands in a program** • To use a computer program to present information in different ways
Vocabulary Sprite, events, action, keys, project, program, character, size, maze, up, down, left, right, code, duplicating, modifying, pen block, additional features, commands, outcome, design, edit, evaluate, design choices, debugging Tally, pictogram, data	**National Curriculum Links** • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting,	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

	analysing, evaluating and presenting data and information	

Year 3 Summer Term A	**Desktop Publishing**	**Key concepts** Digital Literacy E safety

Knowledge • **I can explain what 'page orientation' means** • **I can paste text and images to create a magazine cover** • **I can choose a suitable layout for a given purpose**	**E-safety knowledge** **Managing online information** • **I can use key phrases in search engines** • I can use search technologies effectively **Copyright and ownership** • **When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it** • I can demonstrate the use of search tools to find and access online content which can be reused by others	**Disciplinary Knowledge** • To recognise how text and images can be used together to convey information • To recognise how different font styles and effects are used for particular purposes • To consider the benefits of using a DTP application
Vocabulary Text, image, communicate, advantages, disadvantages, messages, font, style, size, colour, return, backspace, edit, template, orientation, placeholder, copy & paste, layout, publishing	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Adobe Spark http://www.pixabay.com

Year 3 Summer Term B	Stop frame animation	Key concepts Digital Literacy

Knowledge

- **I can draw a sequence of pictures (make a flip book)**
- I can create an effective stop-frame animation
- **I can create a storyboard**
- **I can improve my animation based on feedback**

E-safety knowledge

Managing online information

- I can use key phrases in search engines.
- I can use search technologies effectively.

Copyright and ownership

- I can explain why copying someone else's work from the internet without permission can cause problems.
- I can give examples of what those problems might be.
- When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.
- I can give some simple examples.
- I can give examples of content that is permitted to be reused.
- I can demonstrate the use of search tools to find and access online content which can be reused by others.

Disciplinary Knowledge

- To recognise that an animation is made up of a sequence of images.
- **To recognise that a capturing device needs to be in a fixed position**
- **To know how to fix mistakes in captured images**

Vocabulary

Flip books, animation, sequence, frame, stop-frame, storyboard, story, character, setting, events, onion skinning, evaluate, feedback, media, music, text

National Curriculum Links

- 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

Useful Links

NCCE Teach computing
Education for a connected world
Raspberry Pi
iMotion on iPads

	a range of ways to report concerns about content and contact.	
Year 4 Autumn Term A	**The Internet**	**Key concepts** E-safety Digital Literacy
Knowledge • **I know that the World Wide Web is the part of the internet that contains websites and web pages** • I can explain the types of media that can be shared on the World Wide Web (WWW) • **I know that I can add content to the WWW** • **I can explain that websites and their content are created by people** • **I can explain that not everything on the World Wide Web is true.**	**E-safety knowledge** **Managing online information** • **I can use key phrases in search engines.** • I can use search technologies effectively. • I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.	**Disciplinary Knowledge** • To describe how networks connect to other networks • To recognise the need for security on the internet • evaluate the reliability of content and the consequences of unreliable content • To know how to access the World Wide Web
Vocabulary Network, messages, internet, shared, routers, safe, world wide web, web pages, websites, media, stored, uploaded, offline, online, principles of ownership, unreliable	**National Curriculum Links** • 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,	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

	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 4 Autumn Term B	**Photo Editing**	**Key concepts** **Digital Literacy** **E safety**
Knowledge • **I can change the composition of an image by selecting parts of it.** • **I can give examples of positive and negative effects that retouching can have on an image.** • **I can choose appropriate tools to retouch an image (for example filters, photoshop).** • **I can sort images into 'fake' or 'real' and explain my choices.**	**E-safety knowledge** **Self-image and identity** • **I know different ways in which people might make themselves look different online.** **Copyright and ownership** • When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.	**Disciplinary Knowledge** • To recognise that digital images can be manipulated. • To use the most appropriate tool for a particular purpose. • To choose options to achieve a desired effect. • **To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.**
Vocabulary Online editor, tools, composition, images, real life, editing, crop, search, save, copyright, colours, filters, retouching, positive, negative, fake, real, alter, digital, text, shapes, borders	**National Curriculum Links** • Use search technologies effectively • 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.	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

Year 4 Spring Term A	Databases	Key concepts Digital Literacy
Knowledge • **I can make up a yes/no question about a collection of objects.** • **I can arrange objects into a tree structure.** • **I can select objects to arrange in a branching database.** • **I know what a branching database tells me.** • **I can use a computer to collect data.**	**E-safety knowledge** • I know that work I create belongs to me.	**Disciplinary Knowledge** • To use a digital device to collect data automatically. • **To know that a sensor can be used as an input device for data collection.** • To explain that data can be used to answer questions. • To identify the object attributes needed to collect relevant data. • To decide what data needs to be collected to answer a specific question.
Vocabulary Data, collection, computers, sensors, input devices, download, data file, import, sort, interpret, conclusion, evaluate, benefits, Questions, attribute, groups, separate, tree structure, branching database. Structure, theme, compare, presenting information	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Google Science Journal/ Arduino SJ

Year 4 Spring Term B	Repetition in shapes	Key concepts Computer science
Knowledge • **I can program a computer by typing commands.** • **I can use a template to draw what I want my program to do.** • **I can use a count-controlled loop to produce a given outcome.**	**E-safety knowledge** • I know that work I create belongs to me.	**Disciplinary Knowledge** • **To identify a loop within a program.** • To explain the importance of instruction order in a loop. • To recognise that not all tools enable more than one process to be run at once.

- I can design a program that includes count-controlled loop.

Vocabulary
Programming, logo, typing, commands, value, code snippet, code, template, debug, repetition, patterns, sequence, loop, outcome, algorithm, repeated, shapes, symbols, predict, count-controlled loop, values, decomposition, procedure, design, debugging

National Curriculum Links
- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Useful Links
NCCE Teach computing
Education for a connected world
Raspberry Pi

Turtle Academy online
atturtleacademy.com/playground
romfmslogo.sourceforge.net

Year 4 Summer Term A

Repetition in games

Key concepts
Computer science

Knowledge

When using Scratch I can:
- **I can predict the outcome of a snippet of code**
- **I can modify loops to produce a given outcome**
- **I can re-use existing code snippets on new sprites**
- **I can build a program that follows my design**

E-safety knowledge
- I know that work I create belongs to me

Disciplinary Knowledge
- To identify a loop within a program
- To explain the importance of instruction order in a loop
- To recognise that not all tools enable more than one process to be run at once

Vocabulary	**National Curriculum Links**	**Useful Links**
Scratch, count-controlled loops, blocks, value, code, modify, predicting, output, run, snippet, repetition, infinite loops, process, animations, event block, green flag, sequence, program, games, designs, model, evaluate, showcase	• Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output • Use logical reasoning to explain how some simple algorithms work, and to detect and correct errors in algorithms and programs • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	NCCE Teach computing Education for a connected world Raspberry Pi Scratch (scratch.mit.edu)

Year 4 Summer Term B	**Audio Editing**	**Key concepts** **Digital Literacy**

Knowledge	**E-safety knowledge**	**Disciplinary Knowledge**
• **I can use a device to record audio and play back sound** • **I can save a digital recording as a file** • **I can open a digital recording from a file** • **I can edit sections of an audio recording**	• **I can explain why copying someone else's work from the internet without permission can cause problems** • I can give examples of what those problems might be • When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it • I can give some simple examples	• To recognise that sound can be digitally recorded. • **To know that some digital devices have microphones** • To recognise that audio can be edited and altered.

Vocabulary	National Curriculum Links	Useful Links
Digital devices, recording, playing, sound, audio, inputs, outputs, microphones, headphones, speakers, copyright, ownership, play back, podcasts, file, save, editing, volume, fade out/in, sound defects, background music, audio file, digital recording, exported, share	• 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	NCCE Teach computing Education for a connected world Raspberry Pi

Year 5 Autumn Term A	Sharing Information	Key concepts Digital Literacy E Safety

Knowledge	E-safety knowledge	Disciplinary Knowledge
• **I can recall that a computer system features inputs, processes, and outputs.** • **I know the human elements of a computer system.** • **I can explain that networked digital devices have unique addresses.** • **I can send information over the internet in different ways (for example, email).**	• I can assess and justify when it is acceptable to use the work of others • **I can give examples of content that is permitted to be reused**	• To understand that computers can be connected together to form systems • To recognise the role of computer systems in our lives • To explain that the internet lets people in different places work together • To recognise that internet collaborations can be public or private

Vocabulary	National Curriculum Links	Useful Links
system, components, physical, electronic, connections, inputs, outputs, processes, devices, computers, communication, internet, IP addresses, networks, packets, share files, stored online, media, collaborative project, modifying	• 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	NCCE Teach computing Education for a connected world Raspberry Pi

	• 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 • 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 5 Autumn Term B	**Flat file Databases**	**Key concepts** Digital literacy
<u>Knowledge</u> • **I can recall the different ways of recording and presenting data.** • **I can navigate a flat-file database to compare different views of information.** • **I can explain what a 'field' and a 'record' is in a database.** • **I can select an appropriate chart to visually compare data.** • **I can refine a chart by selecting a particular filter.**	**<u>E-safety knowledge</u>** • I know that work I create belongs to me	**<u>Disciplinary Knowledge</u>** • To explain that a computer program can be used to organise data. • To explain that we present information to communicate a message. • **To know that tools can be used to select data to answer questions.**

Vocabulary Data, sort, group, recorded, database, records, fields, grouping, combining, refine, value, criteria, charts, compare, search	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi
Year 5 Spring Term A	**Selection in physical computing and quizzes**	**Key concepts** Computer Science
Knowledge **You will need a micro controller (crumble controller)** • **I can build a simple circuit to connect a microcontroller to a computer** • **I can connect more than one output device to a microcontroller** • **I can explain that a condition is something that can be either true or false (eg. whether a value is more than 10, or whether a button has been pressed)** • **I can program a microcontroller to respond to an input** • **I can write an algorithm to control lights and a motor** • **I can test my program** • I can identify the setup code I need in my program	**E-safety knowledge** • I know that work I create belongs to me	**Disciplinary Knowledge** • To explain that instructions in a program will produce specific outcomes • To create a count- or event-controlled loop • To understand that errors in code are human errors and need debugging

Vocabulary
Crumble controller, components, circuit, LED, motor, repetition, infinite loop, conditions, statements, loop, input, output, process, sequence, algorithms, programs, action, flow,

National Curriculum Links
- 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
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- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Useful Links
NCCE Teach computing
Education for a connected world
Raspberry Pi
Scratch

Year 5 Spring Term B

Video Editing

Key concepts
Digital Literacy
E safety

Knowledge
- **I can name digital devices that can record video and sound.**
- **I can safely handle devices.**
- **I can store, retrieve, and export my recording to a computer.**
- **I can explain why lighting and angle are important in creating an effective video.**
- **I can select the correct tools to make edits to my video.**

E-safety knowledge

Self-image and Identity
- I can explain how I can represent myself in different ways online
- Knowing this, I can describe the right decisions about how I interact with others and how others perceive me.

Online relationships
- I can recognise some ways in which the internet can be used to communicate.

Disciplinary Knowledge
- To recognise that some digital devices can capture video using a camera and a microphone.
- To explain that work on a computer can be saved and stored and can be retrieved to be edited and resaved.
- To consider the results of the choices I have made.

	• I can give examples of how to be respectful to others online. **Online reputation** • I can search for information about an individual online and create a summary report of the information I find • I can explain ways that some of the information about me online could have been created, copied, or shared by others **Managing online information** • I can evaluate digital content (and can explain how I make choices from search results)	
Vocabulary Moving images, video, audio, storyboard, devices, apps, record, on/off button, record button (start/stop), volume, camera lens, zoom, angle, movement (pan), retrieve, export, reshoot, edit	**National Curriculum Links** • 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. **Internet safety** • Recognise inappropriate content, contact, and conduct and know how to report concerns • Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour • Identify a range of ways to report concerns about content and contact	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi

Year 5 Summer Term A	Office 365 and Scratch	Key concepts Digital Literacy E safety
Knowledge • **I know my office 365 login and username.** • **I know how to log into Microsoft teams.** • **I can compose and send an email.** • **I can check my inbox for relevant messages.** **When using Scratch I can:** • **Create an account and keep it safe** • **I can create a program with different outcomes using selection** • **I can design the flow of a program which contains 'if... then... else...'**	**E-safety knowledge** **Privacy and Security** • I can explain what a strong password is and demonstrate how to create one • I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). • I know that work I create is my own.	**Disciplinary Knowledge** • To understand the importance of having a secure password • To understand that Microsoft Office is a way of communicating with other people 'online' • To use Microsoft office to complete independent tasks at home • To explain the importance of instruction order in 'if... then... else...' statements
Vocabulary Email, login, username, password, Microsoft office, Microsoft teams, email, inbox, outbox, sent, junk, spam, filtered, flag, Selection, conditions, scratch, modify, program, outcomes, infinite loop, flow, branch, algorithm, test, share, set up code, extend	**National Curriculum Links** • 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Useful Links** Microsoft Teams Microsoft Office 365 Scratch
Year 5 Summer Term B	**Vector Drawing**	**Key concepts** **Digital Literacy**

Knowledge	E-safety knowledge	Disciplinary Knowledge
• **I can move, resize, and rotate objects I have duplicated.** • **I can use the zoom tool to help me add detail to my drawings.** • **I can change the order of layers in a vector drawing.** • **I can copy part of a drawing by duplicating several objects.**	• **I can explain why copying someone else's work from the internet without permission can cause problems.**	• To choose options to achieve a desired effect • To recognise that tools can be changed to produce different outcome
Vocabulary Vector drawings, lines, shapes, drawing tools, object, moving, resizing, rotating, changing colour, selection, duplicate, how alignment grids, resize handle, zoom, layers, modify, copy, paste, pixels	**National Curriculum Links** • 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.	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Google Drawings

Year 6 Autumn Term A	Communication – The internet	Key concepts Digital literacy E safety

Knowledge	E-safety knowledge	Disciplinary Knowledge
• **I can complete a web search to find specific information.** • **I can refine my search.** • **I can recall some of the ways that search results can be influenced.** • **I can explain that communication on the internet may not be private.**	• I can describe and assess the benefits and the potential risks of sharing information online. • I can use various additional tools to refine my searches (e.g. search filters: size, type, usage rights etc.). • I can explain how to use search effectively and use examples from my own practice to illustrate this. • I can explain how search engine rankings are returned and can explain how they can be influenced (e.g. commerce, sponsored results).	• To recognise that there are a number of search engines. • To explain why search engines exist. • **To know that search results are ordered, and this is known as ranking.** • To recognise that some information is not searchable.

Vocabulary	**National Curriculum Links**	**Useful Links**
Search engines, refine, compare, address bar, web crawlers, index, ordered, ranked, key words, influenced, optimise, money, communication, share, security, private, sponsored, commerce	• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • 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	NCCE Teach computing Education for a connected world Raspberry Pi

Year 6 Autumn Term B	**3D Modelling**	**Key concepts** Digital literacy

Knowledge	**E-safety knowledge**	**Disciplinary Knowledge**
You will be using this websitehttps://www.tinkercad.com)Children will need accounts to save work and it is recommended teachers also have an account. • **I can select, move, and delete a digital 3D shape** • **I can resize a 3D object** • **I can change the colour of a 3D object** • **I can rotate a 3Dobject**	• I can describe strategies for keeping my personal information private, depending on context	• To recognise the similarities and differences between real-life 3D and virtual 3D

• **I can position 3D objects in relation to each other I can select and duplicate multiple 3D objects**		
Vocabulary 3D, 2D, modelling, digital objects, move, delete, graphical object, resize, modify, rotate, reposition, select, duplicate, multiply, placeholder, model, rotate, dimensions,	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Tinkercad (https://www.tinkercad.com). Class Code: https://tinkercad.zendesk.com/hc/en-us/articles/360026236693-Tinkercad-Classrooms.
Year 6 Spring Term A	**Variables in games and Sensing**	**Key concepts** Computer Science
Knowledge When using Scratch I can: • I can identify that variables can hold numbers or letters. • I can decide where in a program to change a variable. • **I can choose the artwork for my project.** • **I can choose a name that identifies the role of a variable.** • **I can test my program on an emulator.** • **I can transfer my program to a controllable device.** • **I can use a variable in an if, then, else statement to select the flow of a program.** • I can use a condition to change a variable.	**E-safety knowledge** • I know that work I create belongs to me	**Disciplinary Knowledge** • To explain that a variable has a name and a value. • To explain that if you change the value of a variable, you cannot access the previous value (cannot undo). • To explain that the name of a variable needs to be unique. • To explain that computers deal with different data types in different ways. • To explain that formulas can be used to produce calculated data. • To choose suitable ways to represent data.

• I can use an operand (e.g. <>=) in an if, then statement. ●		
Vocabulary Scratch, variable, changeable, strings, numbers, name, value, placeholder, predict, event, value, artwork, algorithm, design, game, share micro:bit, programming, algorithms, device, controllable device, test, emulator, selection, flow of a program, condition, variable, accelerometer, updated, response, input, value, step counter, technology, project, test, design, evaluate	**National Curriculum Links** • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Scratch
Year 6 Spring Term B	**Web page creation**	**Key concepts** Digital literacy E safety
Knowledge You will need to use Google Sites • **I know that websites are written in HTML** • **I can add content to my own web page** • **I can find copyright-free images** • **I can make multiple web pages and link them using hyperlinks**	**E-safety knowledge** **Online relationships** • **I can use the internet with adult support to communicate with people I know**. **Managing information online** • I can navigate online content, websites, or social media feeds using more sophisticated tools to get to the information I want (e.g. menus, sitemaps, breadcrumb-trails, site search functions). (11-14)	**Disciplinary Knowledge** • To recognise the relationship between HTML and visual display • To recognise the need to preview pages (different screens / devices) • To recognise the implications of linking to content owned by others. • To consider the ownership and use of images (copyright)To recognise the

	Copyright and ownership • I can explain why copying someone else's work from the internet without permission can cause problems. • I can give examples of what those problems might be. • When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. • I can give some simple examples. • I can assess and justify when it is acceptable to use the work of others. • I can give examples of content that is permitted to be reused. • I can demonstrate the use of search tools to find and access online content which can be reused by others. • I can demonstrate how to make references to and acknowledge sources I have used from the internet. • I can explain the principles of fair use and apply this to case studies. (11-14)	
Vocabulary Websites, content, HTML, layout, media, fair use, copyright, preview, web page, devices, navigation path, links, hyperlinks, user experience	**National Curriculum Links** • 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.	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Google sites

Year 6 Summer Term A	Office 365	**Key concepts** Digital Literacy E-safety

Knowledge

- **I can complete a task set on a shared platform.**
- **I can create a notebook on teams.**
- **I can share information with people via teams.**
- **I can use class chat in a respectful and appropriate way.**
- **I can participate in an online lesson, adjusting video and sound settings.**

E-safety knowledge

Privacy and Security

- **I can explain what a strong password is and demonstrate how to create one**
- I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser).

Disciplinary Knowledge

- To know how to use notebook effectively for different purposes
- To understand that some information can be shared privately and publicly and know which settings to use appropriately.
- To use online systems such as Microsoft teams to complete group projects virtually.

Vocabulary

Microsoft, teams, notebook, sharing, communication, class chat, shared area/platform, online lesson, camera setting, audio setting, microphone

National Curriculum Links

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

Useful Links

Microsoft Teams
Microsoft Office 365

Year 6 Summer Term B	Introduction to spread sheets	**Key concepts** Digital literacy

Knowledge

- **I can apply appropriate number format to a cell**
- **I can build a data set in a spread sheet application**
- **I can construct a formula in a spread sheet**

E-safety knowledge

Managing information online

- I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites)
- I can use different search technologies

Disciplinary Knowledge

- To explain that computers deal with different data types in different ways
- To explain that formulas can be used to produce calculated data
- To choose suitable ways to represent data

• **I can create a formula which includes a range of cells** • **I can apply a formula to calculate the data I need to answer questions** • **I can produce a graph**	• I can evaluate digital content and can explain how I make choices from search results	
Vocabulary Spread sheet, analyse, store, organise, data, table, headings, number formats, cells, formulas, input, output, calculation, duplicating, multiple cells, graph	**National Curriculum Links** • 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	**Useful Links** NCCE Teach computing Education for a connected world Raspberry Pi Excel