

**Computing at Chacewater School**

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| **Intent** | At Chacewater School, our computing curriculum is designed to prepare all learners for their future through providing opportunities to gain knowledge and develop skills to become active participants in an ever changing digital world. The curriculum ensures that all children become competent in safely and effectively using range of technology, including a variety of age appropriate hardware and software.Teachers make effective use of technology to enhance and enable teaching and learning across the curriculum in order to engage learners, promote achievement and develop digital literacy skills. |
| **Implementation** | At Chacewater School, we follow the ‘Teach computing’ curriculum from the National Centre for Computing Excellence in  in KS1 and KS2: <https://teachcomputing.org/curriculum> Our curriculum is delivered in KS1 and KS2 through weekly 1 hour discrete computing lessons using a range of hardware and software including Google chromebooks and Apple Ipads.Our computing curriculum is made up of three distinct strands: * **Computer science**- The foundations of understanding computing in which pupils develop computational thinking and learn how digital systems work through programming and algorithms.
* **Information technology**- Pupils learn to use computer systems and networks to creatively and purposefully manipulate a range of digital content.
* **Digital literacy** -Pupils become digitally literate through developing the basic functional skills needed to use technology confidently and effectively.
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| **Impact** | *What do we expect to see?** Positive attitudes towards technology
* Using technology confidently and safely
* Understanding how to use technology to help to achieve a desired outcome

*How is Computing assessed?** Pupil’s work for each unit is evidenced in Google classroom and marked online by teachers
* Formative assessment opportunities take the form of pupil questioning and observation of skills.
* Summative assessment takes place as the end of each unit in the form of either a multiple choice quiz or assessment of the end of unit piece of work.
* The assessment opportunities inform teacher judgements around what a pupil has understood in each computing unit and therefore inform future planning.

*How do we know we have been successful?*Subject leader monitoring following the subject action plan through:* Lesson observations
* Work scrutiny on Google Classroom.
* Pupil conferencing
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**‘L E A P’ Into Computing at Chacewater**

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| **L** ocal  | * Links to other subjects studying locality
* Local links - Cornwall Computing Hub
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| **E** ngaging | * Using floor robots KS1
* Creating animations LKS2,
* Physical computing in UKS2,
* Use of Ipads to interact with the environment
* Making our own: websites, videos, podcasts ad animations.
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| **A** spiring & Ambitious | * High quality examples of podcasts, photography, websites, vlogs, coding,
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| **P** owerful & purposeful | * Quizlets using questions on google classroom
* Using and understanding the world wide web
* Making links to other curriculum areas in computing lessons
* Digital literacy skills practiced in other subjects
* Technology enhanced learning
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| **Chacewater School Computing Curriculum Unit Map** |
|  | **Autumn Term**  | **Spring Term**  | **Summer Term**  |
| **Autumn 1**Computing systems and networks | **Autumn 2**Creating media | **Spring 1**Programming A | **Spring 2**Data and information | **Summer 1**Creating media | **Summer 2**Programming B |
| **EYFS**  | Barefoot computational thinking |
| **Year 1** | Technology around us | Digital painting | Moving a robot | Grouping data | Digital writing | Programming animations |
| **Year 2** | Information technology around us | Digital photography | Robot algorithms | Pictograms | Making music | Programming quizzes |
| **Year 3** | Connecting computers | Stop-frame animation | Sequencing sounds | Branching databases | Desktop publishing | Events and actions in programs |
| **Year 4** | The internet | Audio editing | Repetition in shapes | Data logging | Photo editing | Repetition in games |
| **Year 5** | Sharing information | Video editing | Selection in physical computing | Flat-file databases | Vector drawing | Selection in quizzes |
| **Year 6** | Internet communication | Webpage creation | Variables in games | Introduction to spreadsheets | 3D modelling | Sensing |
| **Computer science***The foundations of understanding computing in which pupils develop computational thinking and learn how digital systems work through programming and algorithms.* | **Information technology***Pupils learn to use computer systems and networks to creatively and purposefully manipulate a range of digital content.* | **Digital literacy***Pupils become digitally literate through developing the basic functional skills needed to use technology confidently and effectively.* A progression of digital literacy skills are embedded within the teaching and learning of every unit, through our E-safety curriculum and rehearsed through the cross curricular use of technology. |



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| **EYFS** |
| **Themes** | **Autumn** All about MeFestivals and celebrations  | **Spring**Amazing animalsCome outside | **Summer**SuperheroesFun at the seaside, pirates and transport  |
| **Barefoot Computing resources** | * Awesome autumn
* Busy bodies
 | * Winter warmers
 | * Boats ahoy
* Summer fun
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| Within the revised EYFS statutory framework, the Technology strand within Understanding the World has been removed. However, there are opportunities within each area of the framework to enable practitioners to effectively prepare children for studying the computing curriculum.Despite computing not being explicitly mentioned within the [Early Years Foundation Stage (EYFS) statutory framework](https://www.gov.uk/government/publications/early-years-foundation-stage-framework--2), we provide many opportunities for young children to use technology to solve problems and produce creative outcomes. In particular, many areas of the framework provide opportunities for pupils to develop their ability to use computational thinking effectively. This is built upon through undertaking projects involving the concepts and approaches suggested by Computing at School’s (CAS) [Barefoot Computing](http://www.barefootcomputing.org/) resources.As the children take part in a variety of tasks with digital devices, they will already be familiar with the device before being asked to undertake tasks related to the key stage one [computing curriculum](https://www.gov.uk/government/publications/national-curriculum-in-england-computing-programmes-of-study), such as writing and testing a simple program. Not only will children be keen to again use a device they had previously enjoyed using, their [cognitive load will also be reduced](http://code-it.co.uk/a-review-of-cognitive-load-theory-lessons-of-teaching-computing/), meaning they are more likely to succeed when undertaking activities linked to the next stage in their learning. |

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| **Year 1** |
|  | **Autumn term** | **Spring term**  | **Summer Term**  |
| **1st half term** | Technology around us | Moving a Robot | Digital writing  |
| **Vocabulary**  | Computer, mouse/trackpad, keyboard, screen, click and drag, draw, input device, shift, space bar, safely, responsibly, computer, technology  | Forwards, backwards, turn, clear, go, commands, instructions directions, left, right, plan, algorithm, program, route, | Word processor, keyboard, keys, letters, numbers, space, backspace, Google docs, text cursor, capital letter, underline, bold, italic, toolbar, font, undo, |
| **Learning objectives and Skills** | * To identify a computer and its main parts
* To use a mouse in different ways
* To use a keyboard to type
* To use the keyboard to edit text
* To create rules for using technology responsibly
 | * To explain what a command will do
* To act out a given word
* To combine forwards and backwards commands to make a sequence
* To combine of our direction commands to make a sequeunce
* To plan a simple program
* To find more than o e solution to a problem
 | * To use a computer to write
* To add and remove text on a computer
* To identify that the look of the text can be changed on a computer
* To make careful choices when changing txt
* To explain why I used the tools that I chose
* To compare writing on a computer with writing on paper
 |
| **Thematic links**  | / | The Potting Shed: The UK(light touch/ link to history George Forest) | World Traveller - type a letter/postcard? |
| **2nd half term** | Digital painting | Grouping data | Programming animation |
| **Vocabulary** | Painting, primary colours, brush, size, shape tool, fill, line, undo, colour | Object, label, group, search, image, property, colour, size, shape, value, more, less, most, least, fewest, the same, data set. | Scratch JR, Bee-bot, command, sprite, compare, programming, block, joining, run, program, area, background, delete, reset, algorithm, predict, effect, change, value, instructions, design. |
| **Skills** | * To describe what the freehand tools do
* To use the shape tool and the line tools
* To make careful choices when painting a digital picture
* To explain why I chose the tools I used
* To use a computer on my own to paint a picture
* To compare painting a picture on a computer and on paper
 | * To label objects
* To identify that objects can be counted
* To describe objects in different ways
* To count objects with the same properties
* To compare groups of objects
* To answer questions about groups of objects
 | * To choose a command for a given purpose
* To show that a series of commands can be joined together
* To identify the effect of changing a value
* To explain that each sprite has its own instructions
* To design the parts of a project
* To use my algorithm to create a program
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| **Thematic links** | The Big Build Local Study Chacewater | The Potting Shed: The UK(light touch/ link to history George Forest) | Hot and Cold places Weather  |
| **KS1 National Curriculum Requirements** |
| **Computer science units:**Co2/1.1    understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructionsCo2/1.2    create and debug simple programsCo2/1.3     use logical reasoning to predict the behaviour of simple programs**Information technology units:**Co2/1.4    use technology purposefully to create, organise, store, manipulate and retrieve digital contentCo2/1.5    recognise common uses of information technology beyond schoolCo2/1.6    use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies |

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| **Year 2** |
|  | **Autumn term** | **Spring term**  | **Summer Term**  |
| **1st half term** | Information technology around us | *Robot algorithms* | *Making music* |
| **Vocabulary**  | Information technology, computer, barcode, scanner/scan,  | Instruction, sequence, clear, unambiguous, algorithm, program, order commands, prediction, program, artwork, design, route, debugging | Music, war, peace, quiet, loud, feelings, emotions, pattern, rhythm, pitch, tempo, notes, create, pulse/beat, open, edit  |
| **Learning objectives and Skills** | * To recognise the uses and features of information technology
* To identify information technology in the home
* To identify information technology beyond school
* To explain how information technology benefits us
* To show how to use information technology safely
* To recognise that choices are made when using information technology
 | * To describe a series of instructions as a sequence
* To explain what happens when we change the order of instructions
* To use logical reasoning to predict the outcome of a program
* To explain that programming projects can have code and artwork
* To design an algorithm
* To create and debug a program that I have written
 | * To say how music can make us feel
* To identify that there are patterns in music
* To describe how music can be used indifferent ways
* To show how music is made from a series of notes
* To create music for a purpose
* To review and refine our computer work
 |
| **Thematic links**  | **What do I need to be me?** | **Wild Cornwall** | **African music & dance?****Links to music**  |
| **2nd half term** | Digital photography | pictograms | An introduction to quizzes |
| **Vocabulary** | Device, camera, photograph, capture, image, digital, landscape, portrait, horizontal, vertical, field of view, narrow, wide, format, framing, focal point, subject matter, field of view, compose, natural lighting, artificial lighting, flash, focus, background, foreground, editing, tools, colour, filter, images, Pixlr, format, lighting, changed, real. | Data, more than, less than, most, least, organise, object, tally chart, votes, total, pictogram, enter, compare, count, explain, more common/least common, attribute, different, conclusion, most/least popular, block diagram, sharing,  | Sequence, command, program, run, start, outcome, predict, blocks, sprite, algorithm, design, modify, change, features, evaluate, match, build, actions, project, compare. |
| **Skills** | * To know what devices can be used to take photographs
* To use a digital device to take a photograph
* To describe what makes a good photograph
* To decide how photographs can be improved
* To use tools to change an image
* To recognise that images can be changed
 | * To recognise that we can count and compare objects using tally charts
* To recognise that objects can be represented as pictures
* To create a pictogram
* To select objects by attribute and make comparisons
* To recognise that people can be describes by attributes
* To explain that we can present information using a computer
 | * To explain that a sequence of commands has a start
* To explain that a sequence of commands has an outcome
* To create a program using a given design
* To change a given design
* To create a program using my own design
* To decide how my project can be improved
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| **Thematic links** | Flying high | Data handling maths?Sowing and growing | What’s your super power? |
| **KS1 National Curriculum Requirements** |
| **Computer science units:**Co2/1.1    understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructionsCo2/1.2    create and debug simple programsCo2/1.3     use logical reasoning to predict the behaviour of simple programs**Information technology units:**Co2/1.4    use technology purposefully to create, organise, store, manipulate and retrieve digital contentCo2/1.5    recognise common uses of information technology beyond schoolCo2/1.6    use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies |

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| **Year 3** |
|  | **Autumn term**  | **Spring term**  | **Summer Term**  |
| **1st half term** | Connecting computers | Sequence in music | Desktop publishing |
| **Vocabulary**  | Digital device, input, output, process, program, connection, network, switch, server, Wireless Access Point (WAP),  | Scratch, programming blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to , glide, event, sequence, task, design, run the code, order, note, chord, algorithm, bug, debug | Text, images, advantages, disadvantages, communicate, font, style, template, landscape, portrait, orientation, placeholder, desktop publishing, copy, paste, layout, purpose, benefits |
| **Learning objectives and Skills** | * To explain how digital devices function
* To identify input and output devices
* To recognise how digital devices can change the way we work
* To explain how a computer network can be used to share information
* To explore how digital devices can be connected
* To recognise the physical components of a network
 | * To explore a new programming environment
* To identify that each sprite is controlled by the commands I choose
* To explain that a program has a start
* T recognise that a sequence of commands can have an order
* To change the appearance of my project
* To create a project from a task description
 | * To recognise how text and images convey information
* To recognise that text and layout can be edited
* To choose appropriate page settings
* To add content to a desktop publishing publication
* To consider how different layouts can suit different purposes
* To consider the benefits of desktop publishing
 |
| **Thematic links**  | What Is inside us? | Where in the world? | Plants and South America |
| **2nd half term** | Stop frame animation | Branching databases | Events and actions |
| **Vocabulary** | Animation, flipbook, stop frame animation, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency delete, evaluation, media, import, transition | Branching database, attribute, value, questions, table, objects, equal, even, separate, compare, order, organise, structure, J2 data, selecting, pictogram information, decision tree | Motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, design, event, actions, debugging, errors, setup, code, test, |
| **Skills** | * To explain that animation is a sequence of drawings of photographs
* To relate animated movement with a. sequence of images
* To plan an animation
* To identify the need to work consistently and carefully
* To review and improve an animation
* To evaluation the impact of adding other media to an animation
 | * To create questions with yes/no answers
* To identify the object attributes needed to collect relevant data
* To create a branching database
* To identify objects using a branching data base
* To explain why it is helpful for a database to be well structured
* To compare the information shown in a pictogram with a branching database
 | * To explain how a sprite moves in an existing project
* To create a program to move a sprite in four directions
* To adapt a program to a new context
* To develop my program by adding features
* To identify and fix bugs in a program
* To design and create a maze-based challenge
 |
| **Thematic links** | Stone age Links to English TT ‘ The beasties’. Making their own story.  | rocks and fossils | Ancient Egypt  |
| **KS2 National Curriculum Requirements** |
| **Computer science units:**Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller partsCo2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and outputCo2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs**Information technology units:**Co2/1.4    understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaborationCo2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital contentCo2/1.6    select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.Co2/1.7    use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact |

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| **Year 4** |
|  | **Autumn term**  | **Spring term**  | **Summer Term**  |
| **1st half term** | The internet | Repetition in shapes | Photo editing  |
| **Vocabulary**  | Internet, network, router, network security, network switch, server wireless access pint (WAP), website, web page, web address, routing, route tracing browser, world wide web, links, files, content, information sharing, accurate honest, adverts. | Program, turtle, Pattern, repeat, repetition, count-controlled loop, algorithm, value, commands, code, snippet, design, debug, Logo commands, trace, decompose, procedure, | Image, edit, arrange, select, digital, crop, undo, save, image, search, save, copyright, composition, pixels, rotate, flip, Image, adjustments, effects, colours, hue/saturation, sepia, version, illustrator, vignette, retouch, clone, recolour, magic wand, select, adjust, sharpen, brighten, , fake, real, composite, cut, copy, paste, alter, background, foreground, publication, elements, original, font style, shapes, border, layer |
| **Learning objectives and Skills** | * To describe how networks physically connect to other networks
* To recognise how networked devices make up the internet
* To outline how websites can be shared via the World Wide Web
* To describe how content can be added and accessed on the World Wide Web
* To recognise how the content of the WWW is created by people
* To evaluate the consequences of unreliable content
 | * To identify that accuracy in programming is important
* To create a program in a text-based language
* To explain what ‘repeat’ means
* To modify a count-controlled loop to produce a given outcome
* To decompose a program into parts
* To create a program that uses count-controlled loops to produce a given outcome
 | * To explain that digital images can be changed
* To change the composition of an image
* To describe how images can be changed for different uses
* To make good choices when selecting different tools
* To recognise that not all images are real
* To evaluate how changes can improve an image
 |
| **Thematic links**  |  | Matths: angle and shape | Living things: animals |
| **2nd half term** | Audio editing | Data logging | Repetition in games  |
| **Vocabulary** | Audio, record, playback, microphone, speaker, headphones, input, output, sound, playback, start, pause, stop, podcast, edit, open, selection, save, file, mixing, tie shift, export, MP3, evaluate, feedback. | Data logger, data, table, layout, input device, sensor, logging, data point, interval, analyse, data set, import, export, logged, collection, analyse, review, conclusion. | Scratch, programming, algorithm, sprite, blocks, code, loop, repeat, value, repeat, forever, infinite loop, count controlled loop, costume, repetition, animate, event block, duplicate, design, modify, refine, evaluate, |
| **Skills** | * To identify that sound can be digitally recorded
* To use a digital device to record sound
* To explain that a digital recording is stored as a file
* To explain that audio can be changed through editing
* To show that different types of audio can be combined and played together
* To evaluate editing choices made
 | * To explain that data gathered over time can be used to answer questions
* To use a digital device to collect data automatically
* To explain that a data logger collects ‘data points’ from sensors over time
* To use data collected over a long duration to find information
* To identify the data needed to answer questions
* To use collected data to answer questions
 | * develop the use of count-controlled loops in a different programming environment
* To explain that in programming there are infinite loops and count controlled loops
* To develop a design which includes two or more loops which run at the same time
* To modify an infinite loop in a given program
* To design a project that includes repetition
* To create a project that includes repetition
 |
| **Thematic links** | Podcasts about the Romans.  | Science: sound. Using a data logger to measure volume in decibels and record data for sound investigations. |  |
| **KS2 National Curriculum Requirements** |
| **Computer science units:**Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller partsCo2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and outputCo2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs**Information technology units:**Co2/1.4    understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaborationCo2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital contentCo2/1.6    select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.Co2/1.7    use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact |

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| **Year 5** |
|  | **Autumn term**  | **Spring term**  | **Summer Term**  |
| **1st half term** | Sharing information | Selection in physical computing | Vector drawing |
| **Vocabulary**  | system, connections, digital, input, process, output, protocol, address, packet, chat, explore, slide deck, reuse, remix, collaboration | Microcontroller, Crumble controller, components, LED, Sparkle, crocodile clips, connect, battery box, program, repetition, infinite loop, output devices, motor, count-controlled loop, condition, true, false, input , selection, action Task, design, algorithm, debug, evaluate | Vector, drawing tools, shapes, object, icons, toolbar, move, resize, colour, rotate, duplicate/copy, organise, zoom, select, rotate, alignment grid, resize, handles, consistency, modify, layers, front, back, order, Copy, paste, group, ungroup, duplicate, vector drawing, reuse, Improvement, evaluate, alternatives, |
| **Learning objectives and Skills** | * To explain that computers can be connected together to form systems
* To recognise the role of computer systems in our lives
* To recognise how information is transferred over the internet
* To explain how sharing information online lets people in different places work together
* To contribute to a shared project online
* To evaluate different ways of working together online
 | * To control a simple circuit connected to a computer
* To write a program that includes count-controlled loops
* To explain that a loop can stop when a condition is met, eg number of times
* To conclude that a loop can be used to repeatedly check whether a condition has been met
* To design a physical project that includes selection
* To create a controllable system that includes selection
 | * To identify that drawing tools can be used to produce different outcomes
* To create a vector drawing by combining shapes
* To use tools to achieve a desired effect
* To recognise that vector drawings consist of layers
* To group objects to make them easier to work with
* To evaluate my vector drawing
 |
| **Thematic links**  | ? | ? | ? |
| **2nd half term** | Video editing | Flat-file databases | Selection in quizzes |
| **Vocabulary** | Video, audio, AV (audio-visual), recording, storyboard, dialogue, capture, tape, digital, save, videographer, lighting, setting, Youtuber, content, soundtrack, retake/reshoot, special effects, title screen, end credits, export, constructive feedback, Video techniques: zoom, pan, tilt, angle | Database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation | Selection, condition, true, false, outcomes, count controlled loop, conditional statement - the linking together of a condition and outcomes-  algorithm, program, debug, questions, answer, implement, design, test, run, setup, share, evaluate, constructive |
| **Skills** | * To identify digital devices that can record video
* To capture video using a digital device
* To recognise the features of an effective video
* To identify that video can be improved through reshooting and editing
* To consider the impact of the choices made when making and sharing a video
 | * To use a form to record information
* To compare paper and computer-based databases
* To outline how grouping and then sorting data allows us to answer questions
* To explain that tools can be used to select specific data
* To explain that computer programs can be used to compare data visually
* To apply my knowledge of a database to ask and answer real-world questions
 | * To explain how selection is used in computer programs
* To relate that a conditional statement connects a condition to an outcome
* To explain how selection directs the flow of a program
* To design a program which uses selection
* To create a program which uses selection
* To evaluate my program
 |
| **Thematic links** | **?** | **?** | **?** |
| **KS2 National Curriculum Requirements** |
| **Computer science units:**Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller partsCo2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and outputCo2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs**Information technology units:**Co2/1.4    understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaborationCo2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital contentCo2/1.6    select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.Co2/1.7    use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact |

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| **Year 6** |
|  | **Autumn term** | **Spring term**  | **Summer Term**  |
| **1st half term** | Communication  | Variable in games  | 3D modelling |
| **Vocabulary**  | Index, crawler, bot, search engine, Ranking, search engine optimisation, links, web crawlers, content creator communication, internet, public, private, one-way, two-way, one-to-one, one-to-many, SMS, email, WhatsApp, blog, Website, web page, browser, media, Hypertext markup Language (HTML) logo, layout, header, media, purpose | Variable, name, value, set, change, design, event, Design, algorithm, code, task, algorithm, artwork, program, project, code, test, debug, Improve, evaluate, share | 2D, 3D, 3D object, 3D space, view, resize, colour, lift, rotate, position, select, duplicate, dimensions, placeholder, hole, group, ungroup, design , modify, evaluate, improve |
| **Learning objectives and Skills** | * To describe how search engines select results
* To explain how search results are ranked
* To recognise why the order of results is important, and to whom
* To recognise how we communicate using technology
* To evaluate different methods of online communication
 | * To define a ‘variable’ as something that is changeable
* To explain why a variable is used in a program
* To choose how to improve a game by using variables
* To design a project that builds on a given example
* To use my design to create a project
* To evaluate my project
 | * To use a computer to create and manipulate three-dimensional (3D) digital objects
* To compare working digitally with 2D and 3D graphics
* To construct a digital 3D model of a physical object
* To identify that physical objects can be broken down into a collection of 3D shapes
* To design a digital model by combining 3D objects
* To develop and improve a digital 3D model
 |
| **Thematic links**  | ? | ? | ? |
| **2nd half term** | Web page creation | Introduction to spreadsheets | Sensing |
| **Vocabulary** | Website, web page, browser, media, Hypertext Markup Language (HTML)logo, layout, header, media, purpose, Copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, Hyperlink, evaluate, implication, external link, embed | Spreadsheet, data, data item, data set, data heading, cells, columns and rows, object, spreadsheet application, format, common attribute, formula, calculation, input, output, cell reference, calculate, operation, formula, range, duplicate, sigma, propose, question, organised graph, chart, evaluate, results, comparison, questions, software, tools | Micro:bit, MakeCode, input, process, output, flashing, USB, Selection, condition, if… then… else, variable, random, variable, sensing, accelerometer, Compass, direction, navigation, Micro:bit, design, task, algorithm, variable, step counter, Plan, create, code, test, debug |
| **Skills** | * To review an existing website and consider its structure
* To plan the features of a web page
* To consider the ownership and use of images (copyright)
* To recognise the need to preview pages
* To outline the need for a navigation path
* To recognise the implications of linking to content owned by other people
 | * To identify questions which can be answered using data
* To explain that objects can be described using data
* To explain that formula can be used to produce calculated data
* To apply formulas to data, including duplicating
* To create a spreadsheet to plan an event
* To choose suitable ways to present data
 | * To create a program to run on a controllable device
* To explain that selection can control the flow of a program
* To update a variable with a user input
* To use an conditional statement to compare a variable to a value
* To design a project that uses inputs and outputs on a controllable device
* To develop a program to use inputs and outputs on a controllable device
 |
| **Thematic links** | ? | ? | ? |
| **KS1 National Curriculum Requirements** |
| **Computer science units:**Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller partsCo2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and outputCo2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs**Information technology units:**Co2/1.4    understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaborationCo2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital contentCo2/1.6    select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.Co2/1.7    use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact |