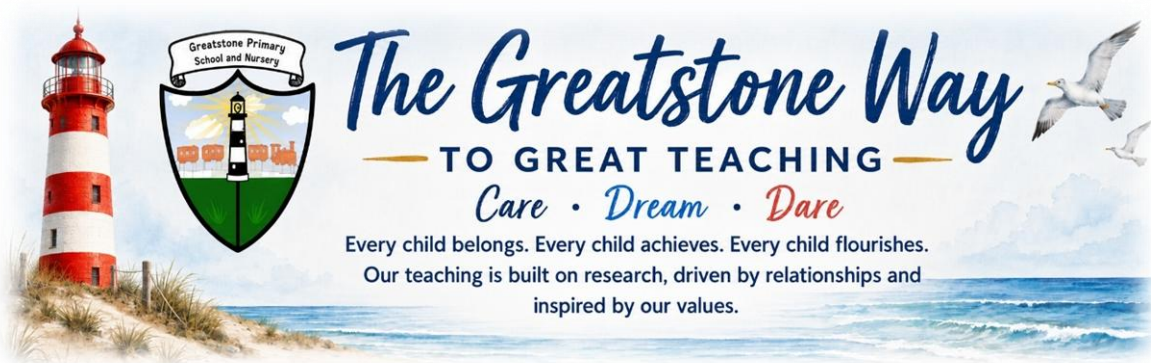




Computing: The Greatstone Way Curriculum

Curriculum Intent

At Greatstone Primary School, we believe that computing is an essential part of preparing children for life in an increasingly digital world. Our ambitious computing curriculum enables every child to become a confident, creative and responsible user of technology by developing the knowledge, skills and understanding needed to thrive both now and in the future. Through carefully sequenced learning based on the **Teach Computing** curriculum, pupils develop computational thinking, digital literacy and information technology skills that enable them to solve problems, communicate effectively and create purposeful digital outcomes.

Curriculum Aims

Through our computing curriculum, pupils at Greatstone Primary will:

- become confident, responsible and creative users of technology;
- understand how computer systems and digital networks work;
- develop computational thinking through problem-solving, logical reasoning and programming;
- create purposeful digital content for a range of authentic audiences;
- communicate safely, respectfully and responsibly online;
- evaluate digital information critically and make informed decisions;
- apply computing skills across the wider curriculum and in real-life contexts;
- develop resilience by testing, debugging and improving digital solutions;
- understand the importance of technology within their local community and the wider world;
- leave Greatstone equipped with the digital knowledge and skills needed for secondary education and future careers.

The Three Strands of Computing

Our curriculum is carefully sequenced around the three strands identified within the National Curriculum and Teach Computing.

Strand	Purpose
Computer Science	Pupils learn how computers work by developing algorithms, programming skills and computational thinking. They learn to design, create, test and debug programs while understanding how digital systems process information.
Information Technology	Pupils learn to use technology purposefully to create, organise, analyse and communicate information through a range of digital media including documents, photographs, animations, websites, videos, spreadsheets and databases.
Digital Literacy	Pupils develop the knowledge and understanding to use technology safely, respectfully and responsibly. They learn to protect themselves online, evaluate digital information critically and become confident digital citizens.

Strand	How it develops across Greatstone
Computational Thinking	Children learn to decompose problems, recognise patterns, create algorithms, debug and evaluate solutions.
Digital Creativity	Children increasingly create artwork, music, photography, animation, websites, games and multimedia.
Digital Communication	Children communicate appropriately using technology with increasing confidence and purpose.
Online Safety	Children learn to protect themselves and others while becoming responsible digital citizens.
Problem Solving	Children develop resilience by testing, refining and improving digital solutions.

Computing and The Greatstone Way

Our computing curriculum reflects the principles of **The Greatstone Way**, ensuring that technology is used with purpose, creativity and responsibility.

Greatstone Way Theme	Computing in Action
ROOTS – Belonging	Children develop confidence using technology within their school and local community while understanding how digital systems help people work together.
SURVIVORS – High Expectations	Children develop resilience by debugging programs, solving problems and persevering when digital solutions do not work first time.
EXPLORERS – Adaptive Teaching	Children investigate new technologies, ask questions, experiment with digital tools and develop curiosity about how computer systems work.
INVENTORS – Inclusion	Children create digital artwork, animations, websites, games, videos and interactive projects that communicate their ideas creatively.
PROTECTORS – Community	Children learn how technology helps protect people, communities and the environment while becoming responsible digital citizens who understand online safety.
LEGACY – Relationships	Children use technology to collaborate, communicate and create purposeful digital outcomes that positively contribute to the school and wider community.

Computational Thinking

Computational thinking lies at the heart of our computing curriculum and underpins every unit of learning. Children develop strategies that enable them to approach increasingly complex problems logically and systematically, both within computing and across the wider curriculum.

Pupils progressively learn to:

- decompose complex problems into manageable steps;
- recognise patterns and identify similarities;
- use abstraction to focus on important information;
- design and refine algorithms;
- test, debug and improve programs;
- evaluate digital solutions and explain their thinking;
- apply computational thinking across mathematics, science, design technology and real-world contexts.

These skills develop resilience, logical reasoning, creativity and independence, preparing children for future learning and employment.

Progression

The Teach Computing curriculum has been carefully sequenced to ensure knowledge and skills build progressively from Year 1 to Year 6. Each year revisits the three strands of **Computer Science**, **Information Technology** and **Digital Literacy**, enabling children to deepen their understanding whilst making meaningful connections between previous and new learning.

Learning moves from simple digital exploration in Key Stage 1 to increasingly sophisticated programming, data analysis, web design, digital communication and physical computing by the end of Key Stage 2.

Opportunities for retrieval, application and reflection ensure children retain key knowledge and confidently apply their understanding across the wider curriculum.

Assessment Principles

At Greatstone Primary, assessment in computing is continuous, formative and purposeful. It is used to identify misconceptions, celebrate achievement and inform future teaching. Pupils are assessed against the agreed end points for knowledge, computational thinking and digital skills rather than solely against completed digital products.

Assessment opportunities include:

- teacher observation during practical activities;
- skilled questioning and discussion;
- retrieval practice and low-stakes quizzes;
- evaluation of digital outcomes;
- self and peer assessment;
- debugging and problem-solving activities;
- authentic outcomes and curriculum showcases.

Assessment information is used to ensure children make secure progress through the computing curriculum and are ready for the next stage of learning.

Authentic Outcomes

Children are given regular opportunities to apply their computing knowledge in meaningful contexts by creating digital outcomes for real audiences and genuine purposes. Throughout the curriculum, pupils produce:

- digital artwork and animations;
- photographs, podcasts and videos;
- interactive games and quizzes;
- websites and multimedia presentations;
- databases and spreadsheets;
- digital publications and information leaflets;
- physical computing projects using programmable devices.

Learning is celebrated through exhibitions, showcases, curriculum events and collaborations with families, governors and the wider community. Wherever possible, outcomes are linked to Beach School, local environmental projects and community partnerships, ensuring that computing is purposeful, relevant and firmly rooted within **The Greatstone Way**.

Safeguarding

Online safety is woven throughout every aspect of our computing curriculum rather than taught as a standalone unit. Children develop the knowledge and confidence to navigate the digital world safely, respectfully and responsibly. They learn to evaluate online information critically, protect their personal information, understand their digital footprint and communicate positively with others. These principles reflect our school values of **Care, Dream and Dare**, ensuring that pupils leave Greatstone as thoughtful, responsible and ethical digital citizens.

Throughout their computing journey, children are given regular opportunities to investigate, create, collaborate, evaluate and improve. Learning is practical, purposeful and progressive, culminating in authentic outcomes that celebrate children's achievements with families, governors and the wider community. By the end of Year 6, every pupil will have developed the confidence, creativity and computational thinking needed to embrace future technologies and become lifelong learners in an ever-changing digital world.

Greatstone Primary Computing Progression (EYFS–Year 6)

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Exploring Everyday Technology	Digital Creativity	Technology Past & Present	Exploring Technology	Technology & Our World	Sharing Learning with Technology
Reception	Exploring Everyday Technology Safely	Digital Creativity & Communication	Technology Past & Present	Programming & Investigation	Digital Observation & Recording	Sharing & Communicating Learning
Year 1	Unit 1.1 Technology Around Us	Unit 1.2 Digital Painting	Unit 1.3 Moving a Robot	Unit 1.4 Grouping Data	Unit 1.5 Digital Writing	Unit 1.6 Programming Animations
Year 2	Unit 2.1 IT Around Us	Unit 2.2 Digital Photography	Unit 2.3 Robot Algorithms	Unit 2.4 Pictograms	Unit 2.5 Digital Music	Unit 2.6 Programming Quizzes
Year 3	Unit 3.1 Connecting Computers	Stop-frame Animation (Pivot)	Unit 3.3 Sequencing Sounds	Unit 3.4 Branching Databases	Unit 3.5 Desktop Publishing	Unit 3.6 Events and Actions in Programs
Year 4	Unit 4.1 The Internet	Unit 4.2 Audio Production	Unit 4.3 Repetition in Shapes	Unit 4.4 Data Logging	Unit 4.5 Photo Editing	Unit 4.6 Repetition in Games
Year 5	Unit 5.1 Systems and Searching	Unit 5.2 Video Production	Unit 5.3 Selection in Physical Computing	Unit 5.4 Flat-file Databases	Unit 5.5 Vector Drawings	Unit 5.6 Selection in Quizzes
Year 6	Unit 6.1 Computing Systems and Networks	Unit 6.2 Webpage Creation	Unit 6.3 Games in Scratch	Unit 6.4 Spreadsheets	Unit 6.5 3D Modelling	Unit 6.6 Sensing Movement (Micro:Bits)

Progression of Knowledge and Skills

Strand	EYFS (Nursery & Reception)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing Systems & Networks	Recognise everyday technology, explore digital devices and understand that technology helps people at home, school and in the community.	Recognise technology and use devices safely (1.1)	Understand how IT is used in everyday life (2.1)	Understand how computers connect through networks (3.1)	Explain how the internet works (4.1)	Understand computer systems and searching (5.1)	Understand communication, collaboration and cloud technologies (6.1)
Creating Media	Create digital artwork, photographs, videos, music and simple digital stories using age-appropriate technology.	Digital Painting (1.2), Digital Writing (1.5)	Photography (2.2), Digital Music (2.5)	Stop-frame Animation, Desktop Publishing (3.5)	Audio Production (4.2), Photo Editing (4.5)	Video Production (5.2), Vector Drawings (5.5)	Webpage Creation (6.2), 3D Modelling (6.5)

Programming	Explore programmable toys, follow and give simple instructions, predict what will happen and begin to debug simple sequences.	Moving a Robot (1.3), Programming Animations (1.6)	Robot Algorithms (2.3), Programming Quizzes (2.6)	Sequencing Sounds (3.3), Events & Actions (3.6)	Repetition in Shapes (4.3), Repetition in Games (4.6)	Selection in Physical Computing (5.3), Selection in Quizzes (5.6)	Games in Scratch (6.3), Sensing Movement (6.6)
Data & Information	Sort, group and classify objects and begin to use technology to record observations and simple information.	Grouping Data (1.4)	Pictograms (2.4)	Branching Databases (3.4)	Data Logging (4.4)	Flat-file Databases (5.4)	Spreadsheets (6.4)
Online Safety & Digital Citizenship	Begin to understand how to use technology safely, ask trusted adults for help and treat devices respectfully.	Safe use of technology and personal information	Responsible digital behaviour and respectful communication	Safe searching and evaluating online content	Understanding online identity and reliability	Responsible collaboration and digital footprint	Ethical technology use, online reputation and digital responsibility

EYFS - Understanding the World – Technology - Nursery

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS Theme	All About Me	Sparkle and Shine	Years Gone By	Growing and Changing	Our Wider World	The Next Chapter
Greatstone Way Theme	ROOTS	SURVIVORS	EXPLORERS	INVENTORS	PROTECTORS	LEGACY
Big Question	How do we use technology in our everyday lives?	How can technology help us celebrate and create?	How has technology changed over time?	How can technology help us explore and discover?	How does technology help us understand and care for our world?	How can we use technology to share our learning?
Technology Focus	Exploring everyday technology	Digital creativity	Technology past and present	Technology for investigation	Technology in the wider world	Technology for communication and reflection
Knowledge	Recognise familiar technology at home and school. Understand that technology helps people complete everyday tasks.	Know that technology can create pictures, sounds and celebrations. Recognise simple cause and effect when pressing buttons.	Recognise that technology has changed over time and compare familiar modern devices with older objects.	Understand that technology helps people explore, investigate and solve problems.	Know that technology helps people learn about weather, nature and the environment.	Know that technology can be used to communicate, remember experiences and celebrate learning.
Skills	Press buttons, swipe, drag and explore age-appropriate devices. Begin to use interactive technology independently.	Use simple digital tools to draw, create music or take photographs with adult support.	Talk about different technologies and notice similarities and differences. Use simple programmable toys.	Explore programmable toys, interactive games and digital microscopes. Follow simple instructions using technology.	Use tablets or cameras to record observations. Take photographs and videos with increasing independence.	Select simple technology independently, talk about favourite learning and share digital creations with others.
Vocabulary	technology, computer, tablet, camera, screen, button, click, photograph, listen, play	picture, photograph, camera, draw, colour, music, sound, record, create, celebrate	old, new, past, present, telephone, camera, computer, change, compare	robot, program, forwards, backwards, explore, investigate, discover, instruction	weather, photograph, video, map, nature, environment, record, observe	share, create, record, photograph, video, technology, memory, communicate, celebrate
Cross-Curricular Links	PSED: Using technology responsibly. Communication & Language: Talking about technology. Understanding the World: Exploring familiar devices.	Expressive Arts & Design: Creating digital artwork and music. Literacy: Listening to digital stories. Mathematics: Recognising patterns.	Understanding the World: Comparing past and present. History: Old and new technology. Communication & Language: Describing differences.	Science: Exploring living things using digital tools. Mathematics: Following sequences and instructions. Physical Development: Fine motor control when using devices.	Understanding the World: Recording seasonal change and wildlife. Geography: Exploring the local environment. Expressive Arts: Nature photography.	Literacy: Sharing stories digitally. Expressive Arts: Creating digital memories. PSED: Celebrating achievements and transition.
Beach School & Greatstone Connections	Explore technology around school and identify where it is used in everyday life. Take simple photographs of favourite places during Beach School.	Use tablets or cameras to capture colours, textures and celebrations found on the beach.	Compare modern cameras and telephones with historical objects linked to Greatstone and family memories.	Explore simple programmable toys outdoors and investigate natural objects using digital tools.	Photograph seasonal changes, wildlife and beach discoveries. Begin recording observations of the natural world.	Create a digital memory book celebrating Nursery learning, Beach School adventures and favourite Greatstone experiences to share with families.
Memorable Hook	Technology Treasure Basket – Explore a collection of everyday technology and discover what each item does.	Lights, Sounds and Celebration! – Explore exciting digital lights, music and photography.	Then and Now – Investigate old telephones, cameras and technology from the past.	Robot Explorers – Meet a programmable toy and discover how it follows instructions.	Nature Photographer – Become wildlife photographers during Beach School.	Memory Makers – Revisit favourite photographs and videos before creating a class digital memory book.
Authentic Outcome / Showcase	Create a class display of technology found at home and school.	Digital celebration gallery of photographs and artwork.	"Technology Then and Now" display for families.	Demonstrate programmable toys during Stay and Play.	Greatstone Nature Photography Exhibition.	Nursery Digital Memory Book shared during the Greatstone Legacy Celebration.

EYFS - Understanding the World – Technology - Reception

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS Theme	All About Me	Sparkle and Shine	Long Ago	Ready, Steady, Grow	On the Beach	Around the World
Greatstone Way Theme	ROOTS	SURVIVORS	EXPLORERS	INVENTORS	PROTECTORS	LEGACY
Big Question	How does technology help us every day?	How can technology help us celebrate and create?	How has technology changed over time?	How can technology help us investigate and solve problems?	How can technology help us care for our coast?	How can technology connect us with the wider world?
Technology Focus	Exploring everyday technology safely	Digital creativity and communication	Technology past and present	Programming and investigation	Digital observation and recording	Sharing and communicating learning digitally
Knowledge	Know that technology is used in many places at home, school and within the community. Understand that different devices have different purposes.	Know that technology allows us to create artwork, photographs, music and digital stories. Understand that digital work can be saved and shared.	Know that technology has changed over time and compare modern devices with those used in the past.	Know that programmable devices follow instructions and that changing instructions changes the outcome.	Know that technology helps people observe, record and care for the natural environment.	Know that technology allows people to communicate and share information across the world.
Skills	Use tablets, interactive whiteboards and computers confidently. Log in with increasing independence and use simple applications safely.	Create digital artwork, photographs, music and simple stories using a range of age-appropriate software.	Compare old and new technology. Use simple programmable toys to follow and create instructions.	Program Bee-Bots and other programmable toys, predicting outcomes and debugging simple mistakes. Use digital microscopes and cameras to investigate the natural world.	Independently use cameras and tablets to photograph, film and record Beach School learning. Organise and talk about digital evidence collected.	Select appropriate technology independently to communicate learning, create digital books and share achievements with others.
Vocabulary	technology, computer, laptop, tablet, keyboard, mouse, screen, login, password, app, click, save, digital	camera, photograph, record, video, artwork, paint, music, create, edit, share, microphone, sound	old, new, past, present, compare, technology, telephone, camera, computer, change, history	robot, Bee-Bot, program, instruction, algorithm, forwards, backwards, turn, sequence, debug, predict	photograph, video, record, observe, investigate, environment, wildlife, weather, habitat, coast	communicate, internet, share, email, message, digital book, presentation, celebrate, world, community
Cross-Curricular Links	PSED: Responsible use of technology. Communication & Language: Talking about how technology helps us. Literacy: Listening to digital stories. Understanding the World: Exploring familiar technology.	Expressive Arts & Design: Digital art, music and storytelling. Literacy: Creating digital stories. Mathematics: Patterns and shape using digital tools.	Understanding the World: Comparing past and present. History: Changes in technology over time. Communication & Language: Asking and answering questions.	Mathematics: Sequencing and positional language. Science: Observing living things using digital tools. DT: Solving problems through programming.	Understanding the World: Recording seasonal changes and wildlife. Geography: Exploring the local environment. Science: Observing habitats and living things.	Literacy: Creating digital books and presentations. Expressive Arts: Multimedia storytelling. PSED: Reflecting on learning and preparing for Year 1.
Beach School & Greatstone Connections	Identify technology used around school and Greatstone, discussing how the RNLI, Coastguard, Visitor Centre and local businesses use technology to help people. Photograph favourite places around the school grounds.	Capture seasonal changes, celebrations and creative artwork inspired by Greatstone Beach. Use photography to record outdoor learning and create digital displays celebrating the local environment.	Compare modern technology with historical photographs and artefacts linked to Greatstone and local history. Explore how technology has changed the way people live and work.	Use Bee-Bots outdoors to navigate simple maps and routes around the Beach School area. Use digital microscopes and cameras to investigate plants, insects and natural materials collected outdoors.	Record wildlife, habitats, weather and seasonal change using photographs and videos. Discuss how technology helps scientists and conservation groups care for Greatstone's coastline and environment.	Create digital books, presentations or memory videos celebrating Beach School, favourite learning experiences and life at Greatstone before transitioning to Year 1.
Memorable Hook	Technology Explorers – Discover a mystery collection of digital devices and investigate how each one helps people.	Creative Computing Studio – Become digital artists, photographers and musicians using exciting technology.	Technology Through Time Museum – Explore historical technology and compare it with modern devices.	Bee-Bot Adventure – Help programmable robots complete exciting outdoor missions and treasure hunts.	Nature Documentary Team – Become wildlife photographers and filmmakers exploring Greatstone Beach.	Our Greatstone Story – Revisit photographs and videos from Reception before creating a digital celebration of the year.
Authentic Outcome / Showcase	Technology Around Us Exhibition – Children demonstrate technology used in everyday life to families.	Reception Digital Arts Showcase – Display digital artwork, music and photography inspired by Beach School and celebrations.	Technology Through Time Museum – Share comparisons of historical and modern technology with visitors.	Programming Challenge Afternoon – Demonstrate Bee-Bot and programmable toy challenges to parents and younger children.	Greatstone Nature Gallery – Present digital photographs, videos and observations celebrating the local environment.	Reception Digital Memory Book & Celebration Assembly – Share digital books, presentations and videos with families as children celebrate their journey into Year 1.

Transition into Year 1

By the end of Reception, children will be ready to access **Year 1 Teach Computing** by confidently:

- recognising technology in everyday life;
- using computers, tablets and interactive devices independently;
- logging in and navigating simple software;
- using a mouse, keyboard and touchscreen appropriately;
- creating and saving simple digital work;
- taking photographs and recording observations;
- following and creating simple algorithms using programmable toys;
- understanding basic online safety rules;
- talking confidently about how technology helps people at home, school and in the wider community.

This ensures a seamless progression into **Year 1 Unit 1.1 – Technology Around Us** and provides a strong foundation for the three strands of **Computer Science, Information Technology and Digital Literacy** that underpin the Teach Computing curriculum.

Year 1 - Computing Curriculum Overview						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Teach Computing Unit	Unit 1.1 Technology Around Us	Unit 1.2 Digital Painting	Unit 1.3 Moving a Robot	Unit 1.4 Grouping Data	Unit 1.5 Digital Writing	Unit 1.6 Programming Animations
Greatstone Way Theme	ROOTS Belonging	ROOTS Belonging	SURVIVORS High Expectations	SURVIVORS High Expectations	EXPLORERS Adaptive Teaching	EXPLORERS Adaptive Teaching
Whole-School Big Question	Who are we and where do we belong?	Who are we and where do we belong?	How do people overcome challenges and adapt?	How do people overcome challenges and adapt?	How does curiosity help us discover more?	How does curiosity help us discover more?
Computing Big Question	What technology helps us every day?	How can we create pictures using technology?	How do computers follow instructions?	How can computers organise information?	How can technology help us communicate our ideas?	How can we make pictures move using code?
Curriculum Rationale	Children identify everyday technology and begin using digital devices safely and confidently.	Children explore creativity through digital artwork and understand that technology can be used to create and express ideas.	Children discover that computers follow instructions called algorithms and begin to think like programmers.	Children learn that information can be grouped, sorted and organised to answer questions and solve problems.	Children use technology to create, edit and improve digital writing for different purposes.	Children combine creativity and programming to design simple animations, developing logical thinking and problem-solving skills.
National Curriculum	Recognise common uses of technology; use technology purposefully; use technology safely and respectfully.	Create digital content using technology purposefully.	Understand what algorithms are; create and debug simple programs.	Organise, store and retrieve digital content.	Create, organise, store and manipulate digital content.	Create and debug simple programs using logical reasoning.
Knowledge	Know technology is used in school, home and the wider community. Understand computers help people complete tasks.	Know digital artwork can be created, edited and improved using different tools.	Know computers only follow precise instructions given by people.	Know objects and information can be grouped in different ways to answer questions.	Know text can be typed, edited, formatted and saved digitally.	Know animations are created using a sequence of images and programmed instructions.
Skills	Log on, use a mouse and keyboard, open and close programs confidently.	Use drawing tools, select colours, create and save digital artwork.	Create, test and debug simple algorithms using programmable devices.	Sort, classify and organise data using digital tools.	Type, edit, format and save digital writing independently.	Create, test, debug and improve a simple animated program.
Key Vocabulary	technology, computer, laptop, tablet, keyboard, mouse, screen, login, password, click, digital, device, program	paint, brush, fill, erase, shape, line, colour, palette, undo, save, artwork, digital painting	algorithm, instruction, command, sequence, robot, program, debug, predict, forwards, backwards, turn	data, information, group, sort, classify, object, property, label, compare, organise	keyboard, typing, cursor, word, sentence, text, font, spacebar, delete, backspace, save, edit	animation, sprite, sequence, command, program, algorithm, movement, background, design, debug
Cross-Curricular Links	PSHE: Online safety and responsible technology use. Science: Identifying technology in everyday life. English: Speaking and listening to explain ideas. Geography: Exploring technology used in the local environment.	Art & Design: Colour, pattern, line and shape through digital media. English: Describing artwork using subject vocabulary. Maths: Recognising shapes and repeating patterns.	Maths: Sequencing and positional language. DT: Following and creating instructions. English: Giving clear verbal instructions. PE: Direction and movement.	Maths: Sorting, classifying and interpreting information. Science: Grouping materials, plants and animals by observable features. Geography: Organising information gathered during fieldwork.	English: Sentence construction, punctuation, spelling and publishing writing. History: Comparing writing today with writing in the past. Phonics: Applying spelling knowledge when typing.	English: Storytelling and sequencing events. Art: Designing characters and backgrounds. Maths: Logical thinking and sequencing. DT: Designing, testing and improving outcomes.
Beach School & Greatstone Connections	Explore the school grounds and Greatstone to identify technology used in everyday life. Photograph technology around school and discuss how local organisations such as the RNLI, Coastguard, Visitor Centre and local businesses use technology to support the community.	Collect colours, textures and patterns from Greatstone Beach to inspire digital artwork. Photograph natural objects during Beach School and compare natural and digital representations while celebrating the local coastline.	Use programmable toys to navigate routes around the outdoor learning area and Beach School site. Explore how precise instructions are essential for lifeboat crews, emergency services and other local workers.	Collect shells, pebbles, leaves and natural materials during Beach School before using digital tools to sort, classify and organise findings. Discuss how local conservation groups collect information to protect wildlife and habitats.	Record observations from Beach School using digital writing. Produce captions, labels or simple information texts about Greatstone's wildlife, habitats or seasonal changes.	Create animations inspired by Greatstone Beach, coastal wildlife or environmental messages that encourage others to care for the local environment and celebrate the Greatstone community.
Memorable Hook	Technology Treasure Hunt – Children become technology detectives, exploring school to discover different types of technology and how they help us every day.	Digital Artist for a Day – Explore a mystery digital artwork before learning how to create original artwork using computing tools.	Robot Rescue Challenge – Children become programmers, helping a floor robot complete a rescue mission through accurate instructions.	Nature Detectives – Investigate mystery collections of natural objects and discover different ways they can be organised.	A Letter from the Lighthouse Keeper – Children receive a digital message asking them to create and publish important information using a computer.	Lights, Camera, Animate! – Watch a favourite animation before discovering how programmers make characters move on screen.
Authentic Outcome / Showcase	Technology Museum – Children demonstrate and explain different technologies to families and visitors, becoming technology experts.	Greatstone Digital Art Gallery – Display printed and digital artwork inspired by Beach School and the local coastline.	Robot Challenge Afternoon – Demonstrate successful algorithms by programming robots to complete a series of increasingly difficult routes.	Beach School Data Exhibition – Present grouped data collected during outdoor learning and explain how information has been organised.	Young Authors Publishing Event – Produce a digital class book or information leaflet about Greatstone to share with Reception, parents and the school library.	Greatstone Animation Festival – Showcase animated stories celebrating the coast, local wildlife or environmental protection to families, governors and the wider school community.
Assessment End Point	Confidently identify technology and use digital devices safely and purposefully.	Create, edit and save original digital artwork independently.	Create, test and debug a simple algorithm.	Organise and classify information accurately using digital tools.	Produce and edit digital writing independently.	Design, create and improve a simple programmed animation while explaining how it works.

Year 2 Computing Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Teach Computing Unit	Unit 2.1 IT Around Us	Unit 2.2 Digital Photography	Unit 2.3 Robot Algorithms	Unit 2.4 Pictograms	Unit 2.5 Digital Music	Unit 2.6 Programming Quizzes
Greatstone Way Theme	ROOTS Belonging	ROOTS Belonging	SURVIVORS High Expectations	SURVIVORS High Expectations	EXPLORERS Adaptive Teaching	EXPLORERS Adaptive Teaching
Whole-School Big Question	Who are we and where do we belong?	Who are we and where do we belong?	How do people overcome challenges and adapt?	How do people overcome challenges and adapt?	How does curiosity help us discover more?	How does curiosity help us discover more?
Computing Big Question	How does information technology improve our lives?	How can photographs tell a story?	How do we design better algorithms?	How can data help us answer questions?	How can music be created using technology?	How can programming make learning fun?
Curriculum Rationale	Children develop a deeper understanding of how information technology supports communication, learning and everyday life.	Children learn that digital photographs can be captured, improved and used to communicate ideas effectively.	Children develop computational thinking by designing, testing and debugging increasingly complex algorithms.	Children learn how information can be collected, organised and represented using pictograms to answer questions.	Children discover how technology can be used creatively to compose, edit and evaluate music.	Children combine programming skills with creativity to design interactive quizzes using sequences and events.
National Curriculum	Understand common uses of information technology; use technology purposefully and safely.	Create, organise and manipulate digital content.	Understand algorithms, create and debug programs using logical reasoning.	Use technology to organise, store and retrieve data.	Create digital content using a range of software.	Design, write and debug programs that accomplish specific goals.
Knowledge	Know that information technology helps people communicate, work and learn.	Know photographs can be captured, edited and improved for different purposes.	Know algorithms need to be accurate and can be improved through debugging.	Know data can be collected, represented and interpreted using pictograms.	Know digital sounds can be combined to create music.	Know programs can respond to user input using events and sequences.
Skills	Identify different forms of IT, explain their purpose and use technology responsibly.	Capture, select, edit and evaluate digital photographs.	Design, create, test and debug robot algorithms.	Collect data, create pictograms and answer questions using information presented.	Compose, edit and improve simple digital music using appropriate software.	Design, program, test and evaluate an interactive quiz.
Key Vocabulary	information technology, computer, device, barcode, scanner, technology, digital, communication, input, output, network, responsible	photograph, image, portrait, landscape, zoom, focus, light, angle, edit, crop, filter, digital	algorithm, command, sequence, debug, predict, test, robot, route, program, repetition, instruction	data, pictogram, chart, tally, information, compare, question, organise, collect, represent, interpret	music, sound, rhythm, beat, tempo, compose, edit, digital, instrument, volume, pattern	quiz, event, sequence, program, sprite, button, block, algorithm, debug, outcome, input
Cross-Curricular Links	PSHE: Responsible technology use and digital citizenship. English: Speaking and listening when explaining how technology helps people. Geography: Identifying technology within the local community. History: Comparing technology used today with the past.	Art & Design: Composition, colour and viewpoint. English: Using photographs to inspire descriptive writing. Geography: Photographing local landmarks and environments. Science: Observing living things and habitats.	Maths: Sequencing and logical reasoning. DT: Designing and evaluating solutions. PE: Following directional instructions. English: Giving clear spoken instructions.	Maths: Statistics, tally charts and interpreting data. Science: Collecting and presenting investigation results. Geography: Fieldwork data collection and comparison.	Music: Pulse, rhythm and composition. English: Creating sound effects for storytelling. Art: Responding creatively through music.	Maths: Logical reasoning and problem solving. English: Writing effective quiz questions. Science: Creating quizzes based on scientific learning.
Beach School & Greatstone Connections	Explore how technology supports Greatstone's community, including the Visitor Centre, local businesses, RNLI and Coastguard. Identify digital devices used around school and discuss their purpose.	Photograph Greatstone Beach, local landmarks, coastal wildlife and seasonal changes during Beach School. Compare photographs and discuss how images communicate information about the local environment.	Create robot routes based on simple maps of Greatstone or the Beach School area. Discuss how algorithms are used by emergency services, transport and navigation systems.	Collect information during Beach School, such as types of shells, plants or litter collected, before presenting findings using pictograms. Explore how local environmental organisations use data to care for the coastline.	Record sounds from the beach, including waves, birds and wind, before using digital tools to create music inspired by the local environment.	Create quizzes about Greatstone, coastal habitats, local history or Beach School learning to share with younger pupils and families.
Memorable Hook	Mission IT! – Children investigate a mystery box of technology and discover how different digital devices help people in everyday life.	Photography Challenge – Become official photographers and capture the best images to tell the story of Greatstone.	Robot Delivery Mission – Program a robot to safely deliver important supplies across an obstacle course.	Data Detectives – Investigate mystery collections and use information to solve a real-life problem.	Beach Sound Studio – Listen to mystery sounds before creating original digital music inspired by nature.	Game Show Challenge – Take part in a digital quiz before becoming quiz designers themselves.
Authentic Outcome / Showcase	Technology Expo – Children demonstrate different examples of information technology and explain how they improve our lives.	Greatstone Photography Exhibition – Display digital photographs celebrating the local environment alongside pupils' explanations of photographic techniques.	Robot Algorithm Challenge – Demonstrate successful programs by completing increasingly complex robot missions.	Greatstone Data Display – Present pictograms created from Beach School investigations and explain findings to visitors.	Coastal Soundtrack Performance – Share original digital music inspired by Greatstone Beach and the local environment.	Greatstone Quiz Afternoon – Pupils showcase interactive quizzes to Reception, Year 1, parents or governors as digital learning ambassadors.
Assessment End Point	Explain how information technology supports everyday life and use it responsibly.	Capture, edit and evaluate high-quality digital photographs.	Design, test and debug effective algorithms for programmable devices.	Collect, represent and interpret data using pictograms confidently.	Compose and improve simple pieces of digital music.	Create and evaluate an interactive programmed quiz using sequences and events.

Year 3 Computing Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Teach Computing Unit	Unit 3.1 Connecting Computers	Stop-frame Animation (Pivot)	Unit 3.3 Sequencing Sounds	Unit 3.4 Branching Databases	Unit 3.5 Desktop Publishing	Unit 3.6 Events and Actions in Programs
Greatstone Way Theme	ROOTS Belonging	ROOTS Belonging	SURVIVORS High Expectations	SURVIVORS High Expectations	EXPLORERS Adaptive Teaching	EXPLORERS Adaptive Teaching
Whole-School Big Question	Who are we and where do we belong?	Who are we and where do we belong?	How do people overcome challenges and adapt?	How do people overcome challenges and adapt?	How does curiosity help us discover more?	How does curiosity help us discover more?
Computing Big Question	How do computers communicate with each other?	How can still images tell an exciting story?	How can computers create music?	How can databases help us organise information?	How can digital publishing make information more effective?	How can events make computer programs interactive?
Curriculum Rationale	Children develop their understanding of computer networks, learning how computers communicate and share information safely.	Children explore animation techniques, learning how a sequence of images creates the illusion of movement.	Children discover how programming can be used to compose and sequence music while developing logical thinking.	Children organise information using branching databases and learn how technology helps people make decisions.	Children develop publishing skills by combining text, images and layout to communicate effectively for different audiences.	Children deepen their programming knowledge by creating interactive programs that respond to user actions using events and commands.
National Curriculum	Understand computer networks, including the internet; use technology safely and responsibly.	Select, use and combine software to create digital content.	Design, write and debug programs that accomplish specific goals.	Collect, analyse and present data using digital systems.	Select and combine software to create high-quality digital publications.	Use sequence, selection and events in programs; detect and correct errors using logical reasoning.
Knowledge	Know that computers connect together through networks to share information and resources.	Know that animation is created by displaying a sequence of images quickly.	Know that digital sounds can be programmed into repeating sequences and patterns.	Know that databases organise information using questions and categories.	Know that layout, images and text work together to communicate clearly.	Know that events allow programs to respond automatically to user actions.
Skills	Identify networked devices, explain how networks work and use online systems responsibly.	Capture, edit and sequence images to create a stop-frame animation.	Create programmed musical sequences and evaluate digital compositions.	Create and use branching databases to classify and retrieve information.	Design professional digital documents using text, images and formatting tools.	Program interactive projects using events, sequencing and debugging techniques.
Key Vocabulary	network, server, internet, router, switch, connection, wireless, wired, website, browser, digital, communication, device	animation, frame, sequence, onion skin, capture, playback, timeline, edit, motion, storyboard, stop-frame	sequence, sound, rhythm, loop, repetition, compose, algorithm, block, code, tempo, pattern, debug	database, branch, question, attribute, criteria, classify, identify, search, record, information, data	publisher, layout, font, heading, textbox, image, orientation, template, alignment, page, design	event, action, sprite, program, block, sequence, trigger, debug, algorithm, output, input, interaction
Cross-Curricular Links	Science: Exploring electrical devices and communication systems. Geography: Understanding global communication networks. PSHE: Online safety and responsible digital communication. English: Explaining technical processes using appropriate vocabulary.	English: Story planning and sequencing narratives. Art & Design: Composition, photography and visual storytelling. History: Creating historical animations linked to <i>Invasion</i> or <i>Dynamic Dynasties</i> .	Music: Rhythm, pulse, tempo and composition. Maths: Recognising repeating patterns and sequences. English: Composing music to accompany stories and performances.	Science: Classifying rocks, plants or animals. Geography: Organising fieldwork information. Maths: Sorting and categorising information logically.	English: Publishing reports and non-fiction texts. History: Producing information leaflets about historical projects. Geography: Designing informative travel or fieldwork guides.	Maths: Logical reasoning and problem solving. Science: Creating interactive quizzes and simulations. English: Designing interactive stories with user choices.
Beach School & Greatstone Connections	Explore how computers and communication technologies support Greatstone, including the RNLI, Coastguard, weather stations and Visitor Centre. Discuss how networks help communities stay connected and safe.	Capture photographs during Beach School to create stop-frame animations showing coastal processes, wildlife or historical events linked to Greatstone.	Record natural sounds from the beach, including waves, birds and wind, before composing digital soundtracks inspired by the local environment.	Collect and classify Beach School observations, including plants, shells, habitats or wildlife, creating branching databases to identify local species and environmental features.	Produce professionally designed digital leaflets promoting Greatstone Beach, local history, coastal wildlife or Beach School activities to inform visitors and families.	Create interactive Scratch projects teaching others about Greatstone's coastline, local wildlife or beach safety to share with younger pupils and the wider community.
Memorable Hook	Connected World Challenge – Children discover how a message travels across a computer network using a whole-class communication game.	Movie Makers Studio – Explore a professional stop-motion animation before creating a short animated scene.	Become a Digital Composer – Listen to famous video game music before recreating and composing original digital melodies.	Mystery Detective Challenge – Solve a mystery by asking yes/no questions before discovering how computers use branching databases.	Publishing House Challenge – Children become graphic designers, improving a poorly designed leaflet ready for publication.	Scratch Arcade – Explore interactive games before discovering how events make programs respond to players.
Authentic Outcome / Showcase	Digital Networks Exhibition – Pupils explain how networks connect people and technology, demonstrating their understanding through interactive displays.	Greatstone Animation Festival – Showcase stop-frame animations inspired by local history, coastal habitats or class topics.	Coastal Soundtrack Performance – Present digital compositions inspired by Greatstone Beach, accompanied by explanations of programming techniques used.	Greatstone Nature Database – Create and present branching databases identifying local wildlife and habitats collected during Beach School.	Greatstone Visitor Information Centre – Publish professional brochures, posters or digital leaflets promoting the local area or curriculum projects.	Scratch Computing Expo – Children present interactive programs and games to parents, governors and younger pupils, explaining how events and actions control their projects.
Assessment End Point	Explain how computer networks allow devices to communicate and use connected technologies responsibly.	Plan, create and evaluate an effective stop-frame animation.	Program and improve digital musical compositions using sequencing.	Create and use a branching database to organise and retrieve information accurately.	Produce a well-designed digital publication suitable for its intended audience.	Design, create and debug an interactive program using events and actions confidently.

Year 4 Computing Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Teach Computing Unit	Unit 4.1 The Internet	Unit 4.2 Audio Production	Unit 4.3 Repetition in Shapes	Unit 4.4 Data Logging	Unit 4.5 Photo Editing	Unit 4.6 Repetition in Games
Greatstone Way Theme	ROOTS Belonging	ROOTS Belonging	SURVIVORS High Expectations	SURVIVORS High Expectations	EXPLORERS Adaptive Teaching	EXPLORERS Adaptive Teaching
Whole-School Big Question	Who are we and where do we belong?	Who are we and where do we belong?	How do people overcome challenges and adapt?	How do people overcome challenges and adapt?	How does curiosity help us discover more?	How does curiosity help us discover more?
Computing Big Question	How does the internet connect the world?	How can audio communicate ideas and emotions?	How can repetition make programs more efficient?	How can technology help us collect and understand data?	How can photographs be transformed to communicate a message?	How can repetition improve computer games?
Curriculum Rationale	Children develop an understanding of how the internet connects people and devices across the world, learning how information is shared safely and responsibly.	Children use digital technologies creatively to record, edit and publish audio, developing communication and presentation skills.	Children deepen their programming knowledge by using repetition to create geometric shapes efficiently and accurately.	Children explore how digital sensors collect information and how data logging helps scientists and geographers investigate the world around them.	Children learn how digital images can be edited responsibly to improve communication and visual impact.	Children apply programming knowledge to design increasingly complex games using repetition and logical thinking.
National Curriculum	Understand computer networks, including the internet and online services; use technology safely and responsibly.	Select and combine software to create digital content.	Design, write and debug programs using repetition.	Collect, analyse and present data using digital devices.	Select and combine software to create digital media.	Design, write and debug programs using repetition and logical reasoning.
Knowledge	Know that the internet is a global network connecting computers and devices.	Know that audio can be recorded, edited and improved digitally for different audiences.	Know that loops repeat instructions automatically, making programs shorter and more efficient.	Know that data loggers automatically collect information over time using sensors.	Know that photographs can be edited to improve quality or communicate different messages.	Know that repetition makes games more efficient, reliable and easier to program.
Skills	Explain how the internet works, search responsibly and evaluate online information.	Record, edit, combine and publish high-quality audio recordings.	Create programs using repetition to draw increasingly complex shapes.	Use data loggers to collect, interpret and present information accurately.	Edit digital photographs using a range of enhancement tools.	Design, create, debug and evaluate games using repetition and logical thinking.
Key Vocabulary	internet, website, webpage, browser, router, server, network, world wide web, search, hyperlink, URL, online, connection	audio, microphone, record, playback, edit, podcast, soundtrack, volume, fade, trim, narration, export	loop, repetition, sequence, algorithm, code, pattern, debug, command, repeat, sprite, angle, shape	data logger, sensor, temperature, light, sound, record, data, graph, measure, monitor, analyse	edit, crop, rotate, filter, brightness, contrast, clone, resize, enhance, image, composition	game, loop, repeat, sprite, variable, sequence, score, program, debug, algorithm, repetition
Cross-Curricular Links	Geography: Global communication and mapping the internet. PSHE: Online safety, digital identity and responsible internet use. English: Research skills and evaluating online information. History: Comparing communication past and present.	English: Performance, speaking and listening, podcast creation. Music: Recording and editing sound. History: Recording historical narratives. Geography: Creating audio guides for places studied.	Maths: Geometry, angles and repeated patterns. Art & Design: Creating geometric artwork. DT: Designing and improving solutions through testing.	Science: Investigating temperature, light and sound. Geography: Fieldwork data collection and environmental monitoring. Maths: Interpreting graphs and presenting data.	Art & Design: Composition, colour and visual communication. English: Designing informative digital media. Geography: Editing landscape photographs from fieldwork.	Maths: Logical reasoning and problem solving. English: Story-based games and interactive narratives. DT: Designing, testing and evaluating digital products.
Beach School & Greatstone Connections	Explore how the internet supports communication within Greatstone, including the RNLI, Coastguard, Visitor Centre and weather monitoring services. Investigate how digital technologies help keep coastal communities safe.	Record audio during Beach School, including waves, birds, wind and interviews, before producing podcasts celebrating Greatstone and its coastal environment.	Use programming to create repeating coastal patterns inspired by shells, waves and natural forms collected during Beach School. Explore geometric patterns found in nature.	Use digital data loggers to measure temperature, light, wind or sound during Beach School investigations. Compare seasonal data and discuss how environmental organisations use technology to monitor the coastline.	Capture and edit photographs of Greatstone Beach, coastal habitats and local wildlife, considering how editing can improve communication while remaining truthful and ethical.	Design interactive games based on coastal safety, local wildlife or environmental conservation to teach younger pupils about caring for Greatstone's coastline.
Memorable Hook	Internet Detective Challenge – Children investigate how a message travels around the world using a practical networking activity.	Become a Podcaster – Listen to a professional podcast before creating a class radio programme.	Programming Artist – Explore geometric digital artwork before discovering how loops make designs easier to create.	CSI: Greatstone – Become environmental scientists investigating mystery data collected from the Beach School site.	Photo Forensics – Examine edited photographs and investigate how digital images can be changed.	Arcade Designer – Explore classic computer games before becoming game developers themselves.
Authentic Outcome / Showcase	Digital Connections Exhibition – Pupils demonstrate how the internet works using interactive models and presentations for families and governors.	Greatstone Podcast Series – Publish audio guides or podcasts celebrating the school, Beach School and the local community.	Digital Pattern Gallery – Exhibit programmed geometric artwork inspired by the natural environment of Greatstone.	Greatstone Environmental Data Report – Present findings from Beach School investigations using graphs, digital data and scientific explanations.	Greatstone Digital Photography Exhibition – Display edited photographs celebrating the local environment with explanations of editing techniques used.	Greatstone Arcade Expo – Showcase interactive educational games to younger pupils, families and governors, promoting local knowledge and environmental awareness.
Assessment End Point	Explain how the internet connects computers and evaluate online information safely and responsibly.	Record, edit and publish a high-quality audio product for a chosen audience.	Create efficient programs using repetition to generate complex shapes and patterns.	Collect, analyse and present environmental data accurately using digital data loggers.	Edit photographs purposefully while understanding the ethical use of digital images.	Design, create and debug an interactive game using repetition confidently and effectively.

Year 5 Computing Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Teach Computing Unit	Unit 5.1 Systems and Searching	Unit 5.2 Video Production	Unit 5.3 Selection in Physical Computing	Unit 5.4 Flat-file Databases	Unit 5.5 Vector Drawings	Unit 5.6 Selection in Quizzes
Greatstone Way Theme	ROOTS Belonging	ROOTS Belonging	SURVIVORS High Expectations	SURVIVORS High Expectations	EXPLORERS Adaptive Teaching	EXPLORERS Adaptive Teaching
Whole-School Big Question	Who are we and where do we belong?	Who are we and where do we belong?	How do people overcome challenges and adapt?	How do people overcome challenges and adapt?	How does curiosity help us discover more?	How does curiosity help us discover more?
Computing Big Question	How do computer systems help us find information?	How can video influence and inform an audience?	How can computers interact with the real world?	How can databases help us solve problems?	How can digital design communicate ideas effectively?	How can programs make intelligent decisions?
Curriculum Rationale	Children explore how computer systems work together and how search engines organise and retrieve information efficiently. They develop critical thinking by evaluating the reliability of online sources.	Children learn how digital video is planned, filmed, edited and published to communicate ideas clearly to different audiences.	Children explore physical computing using Micro:Bits, learning how programs interact with real-world inputs and outputs through selection and decision-making.	Children investigate how databases store, search and filter large amounts of information, developing logical thinking and data analysis skills.	Children develop graphic design skills by creating scalable vector artwork using precision and creativity.	Children deepen their understanding of programming by creating interactive quizzes that use selection, variables and logical reasoning to respond intelligently to user input.
National Curriculum	Understand computer systems and networks; use search technologies effectively; evaluate digital content critically.	Select, use and combine software to create digital media.	Design, write and debug programs that use selection and physical computing.	Collect, analyse and present data using digital systems.	Create digital content using a range of software.	Design, write and debug programs using sequence, selection and variables.
Knowledge	Know that search engines use algorithms to organise information and that search results should be evaluated critically.	Know that videos require planning, recording, editing and publishing to communicate effectively.	Know that physical computing allows digital systems to respond to sensors and user inputs.	Know that databases can search, filter and organise large collections of information.	Know that vector graphics are created using shapes rather than pixels and can be resized without losing quality.	Know that programs use selection and variables to make decisions based on user input.
Skills	Search effectively, compare sources and explain how computer systems work together.	Plan, film, edit and evaluate high-quality videos for different audiences.	Program Micro:Bits using inputs, outputs, sensors and selection statements.	Create, search and analyse flat-file databases using multiple criteria.	Design and create accurate vector illustrations using layers, shapes and alignment tools.	Design, program, test and evaluate interactive quizzes using variables and selection.
Key Vocabulary	system, search engine, browser, algorithm, keyword, network, server, index, results, website, reliability, source, filter	video, storyboard, timeline, transition, clip, footage, camera angle, editing, soundtrack, narration, publish, audience	Micro:Bit, input, output, sensor, selection, condition, button, LED, variable, physical computing, program, debug	database, record, field, search, filter, sort, criteria, query, data, information, spreadsheet, analyse	vector, shape, layer, alignment, anchor point, duplicate, resize, rotate, group, icon, design, precision	selection, variable, input, output, condition, operator, Boolean, program, debug, algorithm, quiz, evaluate
Cross-Curricular Links	English: Researching and evaluating information from multiple sources. History: Investigating historical evidence digitally. Geography: Researching countries and environmental issues. PSHE: Evaluating online information and recognising misinformation.	English: Script writing, presentation and persuasive communication. History & Geography: Producing documentaries linked to curriculum projects. Drama: Performance and storytelling through film. Art: Composition and visual communication.	Science: Electricity, forces and data collection using sensors. DT: Designing and testing electronic products. Maths: Logical reasoning and problem solving. Engineering: Understanding automated systems.	Maths: Sorting, filtering and analysing information. Science: Recording investigation results. Geography: Analysing fieldwork data. History: Organising historical evidence.	Art & Design: Graphic design and illustration. DT: Product branding and packaging. English: Designing information graphics and posters. Business: Logos and branding.	Maths: Logical reasoning and Boolean thinking. Science: Creating revision quizzes. English: Writing purposeful questions and feedback. PSHE: Designing quizzes promoting online safety and wellbeing.
Beach School & Greatstone Connections	Investigate how technology supports coastal communities, including weather forecasting, search and rescue systems, mapping technologies and environmental monitoring used around Greatstone. Evaluate digital sources about coastal conservation and local history.	Plan and produce promotional videos showcasing Greatstone Beach, Beach School, local wildlife or historical landmarks. Interview members of the local community or school staff to create authentic digital media.	Use Micro:Bits outdoors to investigate environmental conditions such as light or temperature during Beach School sessions. Explore how technology helps scientists monitor coastal environments and climate change.	Build databases using information collected during Beach School, including biodiversity surveys, litter studies or habitat observations. Compare findings with local conservation initiatives and environmental organisations.	Design digital logos, icons, infographics or visitor guides promoting Greatstone, Beach School, sustainability projects or local events using vector graphics.	Create interactive quizzes teaching others about Greatstone's coastline, wildlife, history or environmental responsibility. Share them with younger pupils, families and visitors during curriculum showcase events.
Memorable Hook	Search Challenge – Children compete to solve a mystery using different search strategies, discovering how search engines rank information.	Film Festival Launch – Watch award-winning short films before becoming production teams planning their own documentary.	Mission Micro:Bit – Receive coded messages from a Micro:Bit before discovering how physical computing connects digital and real-world systems.	Data Investigation – Become digital investigators solving a mystery using large databases and search tools.	Design Studio – Explore famous logos and digital branding before becoming professional graphic designers.	Ultimate Quiz Show – Compete in an interactive digital quiz before designing intelligent quizzes of their own.
Authentic Outcome / Showcase	Digital Research Conference – Pupils present reliable research explaining how technology supports communities and protects the environment.	Greatstone Film Festival – Premiere documentaries celebrating the coastline, local history, Beach School or environmental projects for families and governors.	Innovation Expo – Demonstrate Micro:Bit projects solving real-world problems linked to Greatstone or sustainability.	Greatstone Environmental Database – Present searchable databases based on Beach School investigations and explain how digital systems help scientists analyse information.	Greatstone Digital Design Exhibition – Showcase professionally designed logos, infographics and promotional materials celebrating the school and local community.	Interactive Learning Fair – Present programmed quizzes about curriculum learning and Greatstone to younger pupils, parents and governors, demonstrating advanced programming and computational thinking.
Assessment End Point	Explain how computer systems and search technologies work while evaluating digital information critically.	Plan, create and edit a high-quality video suitable for its intended audience.	Design and program a Micro:Bit project using inputs, outputs and selection confidently.	Create, search and analyse a flat-file database using multiple criteria effectively.	Produce accurate and professional vector graphics using appropriate design principles.	Design, create and evaluate an interactive quiz using selection, variables and logical reasoning independently.

Year 6 Computing Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Teach Computing Unit	Unit 6.1 Computing Systems and Networks	Unit 6.2 Webpage Creation	Unit 6.3 Programming – Games in Scratch	Unit 6.4 Spreadsheets	Unit 6.5 3D Modelling	Unit 6.6 Sensing Movement (Micro:Bits)
Greatstone Way Theme	ROOTS Belonging	ROOTS Belonging	SURVIVORS High Expectations	SURVIVORS High Expectations	EXPLORERS Adaptive Teaching	EXPLORERS Adaptive Teaching
Whole-School Big Question	Who are we and where do we belong?	Who are we and where do we belong?	How do people overcome challenges and adapt?	How do people overcome challenges and adapt?	How does curiosity help us discover more?	How does curiosity help us discover more?
Computing Big Question	How do digital systems connect people across the world?	How can websites communicate information effectively?	How do programmers create engaging computer games?	How can spreadsheets help us solve real-world problems?	How can 3D design improve the world around us?	How can technology sense and respond to the world?
Curriculum Rationale	Children deepen their understanding of digital communication, collaboration and cloud technologies, recognising how computer systems connect people and information globally.	Children learn how websites are planned, designed and created using HTML principles, considering audience, accessibility and effective communication.	Children apply advanced programming skills to design, build and debug interactive games using variables, events, selection and repetition in Scratch.	Children learn how spreadsheets can model real-life situations, perform calculations automatically and support informed decision-making.	Children develop spatial awareness and design skills by creating accurate three-dimensional digital models for real-world purposes.	Children explore physical computing by programming Micro:Bits to respond to movement and environmental inputs, preparing them for future computing and engineering opportunities.
National Curriculum	Understand computer networks and digital communication; use technology safely, respectfully and responsibly.	Select, use and combine software to create digital content for specific audiences.	Design, write and debug programs using sequence, selection, repetition and variables.	Collect, analyse, evaluate and present data using digital technologies.	Create digital content using a range of software confidently.	Design, write and debug programs controlling physical systems and sensors.
Knowledge	Know how digital systems communicate using networks and cloud technologies. Understand how online collaboration supports people worldwide.	Know that websites are created using code and designed to meet the needs of different users.	Know that games combine programming structures including variables, selection, repetition and events.	Know spreadsheets use formulas and functions to calculate, model and analyse information automatically.	Know that 3D models are created digitally to solve real-world design problems before products are manufactured.	Know sensors collect information from the environment and allow digital systems to respond automatically.
Skills	Explain how networks, cloud computing and collaboration tools work while evaluating online communication safely.	Design, code and evaluate multi-page websites using text, images and hyperlinks.	Design, program, debug and improve complex games using advanced programming techniques.	Create spreadsheets using formulas, calculations, graphs and data analysis tools.	Design accurate 3D models using appropriate software and evaluate their effectiveness.	Program Micro:Bits using sensors, variables and selection to solve practical problems.
Key Vocabulary	network, cloud, collaboration, communication, server, client, protocol, encryption, cybersecurity, internet, router, wireless, digital footprint	website, webpage, HTML, hyperlink, navigation, browser, accessibility, layout, multimedia, content, audience, design	variable, selection, repetition, event, operator, Boolean, sprite, broadcast, algorithm, debug, function, procedure	spreadsheet, cell, row, column, formula, function, calculation, graph, chart, data, model, average, SUM	3D model, dimension, vertex, edge, face, extrusion, rotation, perspective, prototype, design, render, CAD	sensor, input, output, Micro:Bit, accelerometer, movement, condition, variable, selection, algorithm, physical computing, debugging
Cross-Curricular Links	Geography: Global communication, trade and international collaboration. History: The impact of technological developments during <i>Maafa</i> and <i>Britain at War</i> . PSHE: Cybersecurity, online identity and responsible digital citizenship. English: Collaborative research and digital communication.	English: Writing for different audiences and publishing online. Art & Design: Page layout and visual communication. Geography: Designing websites promoting places and environments. Business: Marketing and digital communication.	Maths: Variables, logic and problem solving. English: Narrative design and interactive storytelling. Science: Programming scientific simulations. DT: Designing and evaluating digital products.	Maths: Calculations, formulas, graphs and statistics. Science: Recording and analysing investigation results. Geography: Processing fieldwork data and climate information. Enterprise: Budgeting and financial modelling.	DT: Product design and prototyping. Art & Design: Three-dimensional design and modelling. Maths: Shape, measurement and spatial reasoning. Engineering: Designing solutions to real-world problems.	Science: Electricity, forces and data collection. DT: Engineering and automated systems. Maths: Logical reasoning and programming. STEM: Robotics, automation and innovation.
Beach School & Greatstone Connections	Investigate how digital communication supports coastal communities, emergency services and environmental organisations working around Greatstone. Explore how weather monitoring, mapping and satellite technologies help protect the coastline and local residents.	Design and publish websites promoting Greatstone Beach, local history, tourism, Beach School or environmental projects. Consider how digital communication encourages visitors to care for the local environment.	Design Scratch games inspired by Greatstone's coastline, coastal wildlife, historical events or environmental challenges. Encourage younger pupils to learn through interactive gameplay.	Collect and analyse Beach School data, including biodiversity, weather, tides or litter surveys, using spreadsheets to identify trends and support environmental decision-making.	Design 3D models of beach huts, coastal defences, sustainable buildings or environmental improvements inspired by Greatstone and the Romney Marsh area.	Use Micro:Bits to investigate environmental conditions outdoors, including temperature, movement or light levels. Discuss how sensing technology is used locally in flood monitoring, weather forecasting and coastal management.
Memorable Hook	Inside the Internet – Children investigate how information travels around the world using a practical network simulation and collaborative challenge.	Web Designers for Greatstone – Explore professional tourism and conservation websites before receiving a commission to design one for the local community.	Gaming Studio Launch – Explore how professional game designers create engaging experiences before beginning their own development projects.	Business Challenge – Become data analysts solving real-world financial and environmental problems using spreadsheets.	Future Greatstone – Explore innovative 3D designs before receiving a design brief to improve an aspect of the local environment.	Mission Sensor – Investigate mysterious Micro:Bit devices before discovering how sensors allow computers to interact with the physical world.
Authentic Outcome / Showcase	Digital Futures Conference – Pupils present how digital communication, collaboration and cybersecurity shape the modern world and future careers.	Greatstone Community Website Launch – Publish websites promoting Greatstone, Beach School or local environmental projects for families, governors and the wider community.	Greatstone Games Expo – Showcase educational Scratch games inspired by local history, geography or environmental learning to younger pupils and visitors.	Environmental Data Report – Present spreadsheet models analysing Beach School investigations, sustainability projects or local environmental data to governors and Eco Council.	Future Greatstone Design Exhibition – Showcase 3D digital models proposing improvements to the local area, demonstrating creativity, sustainability and innovation.	STEM Innovation Fair – Demonstrate Micro:Bit sensing projects solving real-world problems linked to coastal environments, sustainability or community safety to parents, governors and community partners.
Assessment End Point	Explain how digital systems communicate securely, collaborate responsibly online and evaluate digital technologies critically.	Design, create and evaluate a professional website that meets the needs of a specific audience.	Independently create, debug and evaluate a complex Scratch game using variables, events, selection and repetition.	Use spreadsheets confidently to model, calculate and analyse real-world data using formulas and graphs.	Design and evaluate an accurate 3D digital model that solves a design problem.	Create and program a Micro:Bit project using sensors, variables and selection to respond intelligently to real-world inputs and demonstrate secure computational thinking.

Computing Curriculum Risk Assessment

Hazard / Risk	Potential Harm	Control Measures	Responsibility
Accessing inappropriate online content	Children may view harmful, illegal or age-inappropriate material.	Internet filtering and monitoring systems in place. SafeSearch enabled. Supervised internet use. Staff follow KCSIE, Acceptable Use Policy and Online Safety Policy. Age-appropriate websites selected by teachers.	Headteacher, DSL, Computing Lead, Class Teachers
Online safeguarding risks (grooming, exploitation, radicalisation)	Emotional harm, abuse or exploitation through online activity.	Online safety taught progressively through Teach Computing and PSHE. Staff trained annually in KCSIE. Any concerns reported immediately via safeguarding procedures. DSL monitors concerns.	DSL, All Staff
Cyberbullying	Emotional distress, anxiety, reduced wellbeing.	Clear Behaviour and Anti-Bullying Policies. Children taught respectful online communication and reporting procedures. Incidents investigated promptly with parental involvement where appropriate.	All Staff
Sharing personal information	Identity theft, online exploitation or privacy breaches.	Children explicitly taught not to share personal information, passwords or photographs. Reinforced through Computing and PSHE curriculum. Staff monitor online activity.	Class Teachers
Unsafe communication with unknown individuals	Risk of inappropriate contact or exploitation.	No unsupervised communication platforms used. Approved educational platforms only. Staff monitor online interactions. Parents informed of online learning expectations.	Computing Lead, Teachers
Use of AI and emerging technologies	Misinformation, plagiarism, inappropriate content generation or unsafe use.	AI tools only used where age-appropriate and teacher supervised. Children taught to question digital content critically and understand that AI-generated content may not always be accurate. Staff follow school guidance regarding AI use.	Headteacher, Computing Lead
Data protection (GDPR)	Personal data breaches or accidental sharing of sensitive information.	Staff follow GDPR procedures. Password-protected devices. Secure cloud storage. No personal information shared without consent. Images stored according to school policy.	Headteacher, Data Protection Lead, Staff
Photography and video recording	Unauthorised images or misuse of photographs.	Photography permissions checked before use. School devices only. Images stored securely. No personal devices used unless authorised.	All Staff
Electrical equipment	Electric shock, burns or equipment damage.	PAT-tested equipment. Visual checks before use. Damaged equipment removed immediately. Pupils instructed in safe use of cables and devices.	Site Manager, Staff
Trip hazards from cables and equipment	Slips, trips and falls.	Wireless devices used where possible. Cables secured. Equipment stored safely after use. Good classroom organisation maintained.	Teachers
Manual handling of equipment	Injury through lifting or carrying devices.	Staff move heavy equipment where required. Children shown correct methods for carrying laptops, tablets and monitors safely.	Staff
Device damage	Equipment becoming unsafe or unusable.	Clear expectations for handling equipment. Devices transported carefully using two hands where appropriate. Protective cases used for tablets.	Staff and Pupils
Extended screen time	Eye strain, fatigue and reduced concentration.	Screen time balanced with practical activities, unplugged computing and outdoor learning. Regular movement breaks included. Activities age appropriate.	Teachers
Poor posture and workstation setup	Musculoskeletal discomfort.	Children encouraged to sit correctly. Appropriate furniture used. Regular posture reminders given.	Teachers
Loss of work	Frustration and reduced learning.	Children taught to save work regularly. Automatic cloud saving where available. Staff model good digital organisation.	Teachers
Use of programmable devices (Bee-Bots, Micro:Bits etc.)	Minor injury through misuse or damaged equipment.	Equipment checked regularly. Safe operating instructions provided. Activities supervised at all times. Batteries maintained appropriately.	Teachers
Outdoor computing (Beach School, fieldwork)	Damage to devices, distraction from environmental hazards.	Protective cases used. Devices only used when appropriate. Risk assessment for outdoor learning followed alongside Beach School procedures. Staff maintain supervision.	Teachers, Beach School Lead
Use of headphones	Hygiene concerns or hearing discomfort.	Individual headphones where possible. Shared equipment cleaned regularly. Volume kept at safe levels.	Teachers
Online research	Exposure to misinformation or unreliable sources.	Children explicitly taught to evaluate websites and compare sources. Teachers pre-select websites where appropriate. Critical thinking promoted throughout the curriculum.	Teachers
Software downloads	Malware or unauthorised software installation.	Only staff install software. Devices managed through school IT systems. Downloads restricted by permissions.	IT Support, Computing Lead
Passwords and digital security	Unauthorised access to accounts.	Age-appropriate password education. Passwords stored securely. Staff model secure password practice.	Teachers
Safeguarding disclosures during computing	Child reveals safeguarding concerns while working online.	Staff follow safeguarding procedures immediately. DSL informed without delay. Accurate records completed using school safeguarding systems.	All Staff

Curriculum-Specific Control Measures

Online Safety

- Online safety is embedded throughout every Teach Computing unit rather than taught as a standalone topic.
- Links made to PSHE, Relationships Education and safeguarding.
- Children revisit:
 - privacy
 - passwords
 - respectful communication
 - digital footprints
 - misinformation
 - reporting concerns
 - healthy screen habits.

Beach School & Outdoor Learning

When technology is used outdoors:

- waterproof cases where appropriate
- devices used for a clear learning purpose
- children remain aware of environmental hazards
- technology never replaces active exploration
- photographs comply with school permissions
- equipment returned and checked after use.

Community Learning

When working with visitors:

- visitors supervised at all times
- safeguarding procedures followed
- no exchange of personal information
- school devices only
- photographs comply with consent procedures.

Staff Responsibilities

All staff will:

- follow **Keeping Children Safe in Education (KCSIE)**.
- follow the **Greatstone Child Protection and Safeguarding Policy**.
- follow the **Online Safety Policy**.
- follow the **Acceptable Use Policy**.
- supervise pupils appropriately.
- report safeguarding concerns immediately.
- ensure technology is age appropriate.
- model positive digital citizenship.
- promote respectful online behaviour.
- teach children how to stay safe online.
- follow GDPR requirements for digital information.

Relevant Guidance

This risk assessment should be read alongside:

- Keeping Children Safe in Education (KCSIE)
- Working Together to Safeguard Children
- DfE *Teaching Online Safety in Schools*
- UKCIS *Education for a Connected World*
- UK GDPR and Data Protection Act 2018
- Prevent Duty Guidance
- Greatstone Child Protection & Safeguarding Policy
- Greatstone Online Safety Policy
- Greatstone Acceptable Use Policy
- Greatstone Behaviour Policy
- Greatstone Health & Safety Policy
- Greatstone Educational Visits & Beach School Risk Assessments

Overall Risk Rating

Residual Risk: Low

When the above control measures are consistently implemented, computing activities present a **low level of risk** while providing significant opportunities for creativity, digital literacy, collaboration and safe participation in an increasingly technological world. This approach supports the aims of **The Greatstone Way**, enabling pupils to become confident, responsible and resilient digital citizens who use technology safely, ethically and purposefully.