

Curriculum Overview - Computing

	 CRADLEY CE PRIMARY SCHOOL 27-28	26-27
Nursery	Traditional Tales 3-4 Years Olds - Knows how to operate simple equipment - Children use simple tools such as torches, CD players or story buttons to explore Traditional Tales, strengthening their confidence with basic technology. Shows an interest in technological toys with knobs or pulleys - Story-themed small-world toys (castles with drawbridges, pulleys for lifting “bricks”, knobs to open cottage doors) encourage children to explore how mechanisms work within a playful story context. Transport and Travel 2-3 Years Olds - • Shows interest in toys with buttons, flaps and simple mechanisms - Travel-themed toys such as buses with opening doors, cars with buttons, trains with switches or garages with lifts encourage children to explore early technology. They press, twist, lift and slide mechanisms to see what happens, building curiosity and cause-and-effect understanding. 3-4 Years Olds - • Knows that information can be retrieved from the internet - Children begin to understand that adults use phones or tablets to check travel information—maps, bus times, weather for a journey, or photos of places. They see that digital tools help people plan and find out where to go. Wild Animals 2-3 Years Olds - • Seeks to acquire basic skills in turning on and operating some digital equipment - Simple wild-animal apps, sound buttons or electronic animal toys motivate children to press switches, tap screens or activate sounds, helping them develop early digital awareness in a purposeful	All About Me 2-3 Years Olds - • Anticipates repeated sounds, sights and actions - Anticipation shows children making connections based on their own experiences. This helps them understand routines, predict what comes next, and feel secure in their environment—key elements of developing a sense of self. 3-4 Years Olds - • Knows how to operate simple equipment - Using simple technology helps children understand what they can do, building confidence and independence as part of their developing identity. • Shows an interest in technological toys with knobs or pulleys - Exploring how things work helps children understand their own abilities, preferences and problem-solving skills, all of which contribute to their sense of self. On The Farm 3-4 Years Olds - • Knows that information can be retrieved from the internet - Children learn that they can look up farm animals, tractor videos or live farm webcams online, helping them understand that digital tools can provide information about the world around them. People Who Help Us 2-3 Years Olds - • Seeks to acquire basic skills in turning on and operating some digital equipment - Children press buttons to hear ambulance sirens, tap screens to view pictures of helpers or operate simple role-play “radios,” showing early digital curiosity linked to real-world tools. 3-4 Years Olds - • Plays with a range of materials to learn cause and effect - Children

context.

Growing and Measuring

2-3 Years Olds -

- **Operates mechanical toys** - Children use simple tools and mechanisms such as watering cans, spray bottles, wind-up garden toys or child-safe diggers. These experiences help them understand cause and effect while practising early technological skills.

3-4 Years Olds -

Completes a simple program on a device - Children use simple digital tools—such as plant-growth apps, digital timers or interactive stories—to track growth, explore plant life cycles or follow step-by-step planting instructions, strengthening early technological understanding.

Knights and Castles

2-3 Years Olds -

- **Plays with the water to investigate low technology** - Water play becomes castle-themed as children pour water into “moats,” watch it flow under bridges or fill buckets to “put out dragon fires,” supporting early scientific exploration of movement, flow and cause-and-effect.

3-4 Years Olds -

- **Uses ICT hardware to interact with age appropriate computer software** - Children use tablets or computers to explore simple castle-themed apps, view images of real castles, or complete drag-and-drop building games, developing confidence with digital tools.

Can create content such as a video recording - Children record short videos of their castle models, knight role play or storytelling, learning how to capture and share digital content with growing independence.

Under the Sea

3-4 Years Olds -

- **Develops digital literacy skills by being able to access, understand and interact with a range of technologies** - Children use simple digital tools to explore ocean content—viewing pictures of sea creatures, watching short underwater clips or using apps to build coral reefs. In transition-to-school routines, they practise using classroom technologies such as interactive screens, digital storybooks or simple learning apps.

explore how things work by using torches like police officers, hoses in water play like firefighters, or medical tools in role-play, discovering how actions lead to outcomes just like real helpers do.

Dinosaurs

2-3 Years Olds -

- **Operates mechanical toys** - Dinosaur-themed mechanical toys — wind-up dinosaurs, push-along models, simple cause-and-effect buttons that make dinosaurs *roar* or *move* — help children explore how technology works through hands-on play.

3-4 Years Olds -

- **Completes a simple program on a device** - Dinosaur-themed apps, simple coding toys or interactive stories allow children to complete basic programs — pressing buttons to make a dinosaur move, selecting images to reveal facts, or following steps to “hatch” a dinosaur egg — supporting early digital literacy.

Space & Planets

3-4 Years Olds -

- **Uses ICT hardware to interact with age appropriate computer software** - Children use tablets or computers to explore simple space apps, move rockets across screens, complete planet-matching games, or take photos of their space models. They learn to tap, drag and select with increasing control.
- **Can create content such as a video recording** - Children enjoy recording short “space missions” on tablets—filming their rocket launches, narrating a journey to a planet, or creating a message from an astronaut. They begin to understand how to start, stop and replay their recordings.

Around the World

3-4 Years Olds -

- **Develops digital literacy skills by being able to access, understand and interact with a range of technologies** - Children use simple digital tools to explore the world—viewing photos of different countries, listening to greetings in other languages, or watching short clips of celebrations. In transition to school, they practise using classroom

	• Can use the internet with adult supervision - With an adult, children safely explore age-appropriate online content such as ocean photos, maps or short videos. In transition-to-school contexts, they learn that technology in school must be used safely, with grown-ups guiding searches and helping them access information.	technologies such as interactive screens or digital storybooks. • Can use the internet with adult supervision - Children safely explore age-appropriate online content with an adult—looking at maps, listening to world music, or viewing images of animals and landmarks. During transition activities, they learn that technology at school must be used safely and with a grown-up.
Class 1	Computing systems and networks 1: Using a computer The main parts of a computer, how to use the keyboard and mouse and logging in and out. Programming 1: All about instructions The children learn to receive and give instructions and understand the importance of precise instructions. Computing systems and networks 2: Exploring hardware Tinkering and exploring and learning to operate a camera. Programming 2: Programming Bee-Bots Children learn about directions, experiment with programming and Bee-bot/Blue-bot and tinker with hardware. Data handling: Introduction to data Children sort and categorise data and are introduced to branching databases and pictograms.	Computing systems and networks 1: Using a computer The main parts of a computer, how to use the keyboard and mouse and logging in and out. Programming 1: All about instructions The children learn to receive and give instructions and understand the importance of precise instructions. Computing systems and networks 2: Exploring hardware Tinkering and exploring and learning to operate a camera. Programming 2: Programming Bee-Bots Children learn about directions, experiment with programming and Bee-bot/Blue-bot and tinker with hardware. Data handling: Introduction to data Children sort and categorise data and are introduced to branching databases and pictograms.
Class 2	Programming 2: Bee-Bot (Option 1) Exploring programming by giving clear instructions to a Bee-Bot and explaining how it works. Creating media: Digital imagery Developing photography and image editing skills to capture photos to create an adventure story. Data handling Introduction to data Learning what data is, why it is useful and the different ways that it can be gathered and recorded both by humans and computers. Stop motion- Option 1: Using tablets Creating simple animations, storyboarding creative ideas and decomposing a story into small parts of action. Data handling: International Space Station Learning how astronauts survive on the ISS, including identifying	Computing systems and networks: Improving mouse skills Developing mouse skills by learning how to log in and navigate around a computer while creating digital artwork. Programming 1: Commands unplugged Developing and understanding of commands and instructions in programming through unplugged activities. Skills Showcase: Rocket to the moon Developing keyboard and mouse skills by designing rockets, creating digital materials lists, using drawing software and recording data. Programming 1: Algorithms and debugging Developing an understanding of what algorithms are, how to program them and how they can be developed to be more efficient through a range of unplugged and plugged-in activities. Computing systems and networks 2: Word processing

	necessary items, designing sensor displays and exploring habitable planets. Online safety: Year 2	Exploring word-processing software by using keyboard shortcuts, importing images and applying simple editing tools such as bold, italics, underlining and font colour. Online safety: Year 1
Class 3	Computing systems and networks 1: Networks Introduction to the concept of networks, learning how devices communicate. From identifying components, learn how information is shared and deepen this understanding by exploring examples of real-world networks. Data handling: Comparison cards databases By learning about records, fields and data, the children further explore the concepts of sorting and filtering. Computing systems and networks 3: Journey inside a computer Assuming the role of computer parts and creating paper versions of computers helps to consolidate an understanding of how a computer works, as well as identifying similarities and differences between various models. Microsoft Office 365: Computing systems and networks: Collaborative learning Using a range of tools to work collaboratively in a responsible and considerate way Data handling Investigating weather Researching and storing data using spreadsheets, designing a weather station which gathers and records data and learning how weather forecasts are made. Children use tablets or digital cameras to present a weather forecast. Online safety: Year 4	Microsoft Office 365: Computing systems and networks 2: Emailing Learning how to send and edit emails, add attachments and how to be a responsible digital citizen by thinking about the contents of what is sent. Programming: Scratch Exploring Scratch by programming an animation and improving it through testing and debugging. Video trailers – Option 2: Using iPads Developing filming and editing video skills through the storyboarding and creating of trailers. Microsoft Office 365: Creating media: Website Developing their research, word processing, and collaborative working skills whilst learning how web pages and web sites are created, exploring how to change layouts, embed images and videos and link between pages. Computational thinking Exploring computational thinking through unplugged activities and applying these to programming. Online safety: Year 3

Class 4**Programming 1: Music**

Applying programming skills to create a soundtrack for a particular genre.

Stop-motion animation; Option 1: Stop Motion Studio

Storyboarding ideas, taking photographs and editing to create a video animation.

Computer systems and networks: Search engines

Understanding how search engines work and developing searching skills to find relevant and accurate information online.

Data handling 1: Big Data 1

Understanding the use of big data including barcodes, QR codes, infrared and RFID technologies.

Programming: Intro to Python

Learning the fundamentals of the programming language of Python, they will test, change and explain what their program does. Children use loops and explain what repeats and what the parts of the loop do while recognizing that computers choose random numbers and decompose the program into an algorithm.

Online Safety: Year 6**Programming 2: BBC micro:bit**

Exploring how to program the BBC micro:bit, creating interactive projects with sensors, variables and conditional statements.

Data handling: Mars Rover 1

Identifying how the Mars Rover collects different types of data and transmits this back to Earth using binary code.

Skills showcase: Mars Rover 2

Learning about pixels and binary, creating a pixel picture and saving a JPEG as a bitmap to understand the transfer of image data. Children will learn about the 'fetch, decode, execute' cycle and its real-world applications while beginning to use 3D design tools.

Computing systems and networks: Exploring AI

Exploring what AI is and how it generates text, images and code, as well as learning about creating and refining prompts to improve AI responses while also considering the ethical implications of AI and its potential to replace human roles.

Skills showcase: Inventing a product

Designing a new electronic product and using CAD software to design appropriate housing for it. Developing skills in website design, video editing, and persuasive language to promote their product. Evaluating and adapting existing code, debugging programs, and searching for accurate information online.

Online safety: Year 5