

Cavendish Close Infant and Nursery School

Our STAR Curriculum for Computing

Early Years Foundation Stage: Specific Area of Learning: Understanding the World

Our Intent for Computing

At Cavendish Close Infant and Nursery School, our children will use technology in a range of learning experiences that are underpinned by our key intentions for learning in Computing.

Our intention is for our children to:

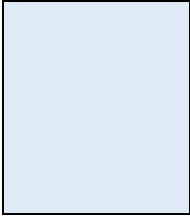
| | |
|----------|---|
| 1 | Master our 10 Learning Values . |
| 2 | Become responsible, confident and creative users of information and communication technology . |
| 3 | Become digitally literate . |
| 4 | To use information technology to create programs and solve problems. |
| 5 | Develop an emerging understanding of the principles and concepts of computer science . |
| 6 | Build knowledge as set out in our Computing Curriculum. |
| 7 | Build vocabulary as set out in our Computing Curriculum. |
| 8 | Use our enabling environment to support our Computing Curriculum. This includes: → 'Technology Zones' in classrooms |
| 9 | Enjoy reading high quality books to support learning in Computing. |

Our 10 Learning Values

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| Flexible Flo | We think of good ideas. We think of different ways to do things. | Curious Ash | We enjoy finding out and exploring. We ask clever questions. |
| Brave Astrid | We are confident to try new challenges. We learn from mistakes | Sparks the Cat | We ask for help when we need it. We are happy to teach our friends. |
| Determined Dexter | We always try our best. We are resilient, we keep on trying. | | |

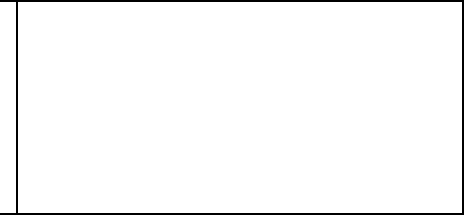
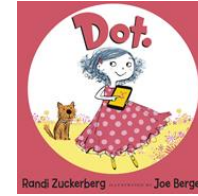
Nursery

| Department for Education Educational Programme Development Matters (Non-statutory) Nursery Year | | Our School Personal, Social and Emotional Development Curriculum | |
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| | | What? | When? |
| Algorithms (Maths) <ul style="list-style-type: none"> → I know position through words alone – → I know how to describe a familiar route. → I know how to discuss routes and locations, using words like ‘in front of’ and ‘behind’. → I know how to talk about and identify the patterns around me. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’, etc. → I know how to extend and create ABAB patterns – stick, leaf, stick, leaf. → I know how to notice and correct an error in a repeating pattern. Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’ | <p>Engage children in following and inventing movement and music patterns, such as clap, clap, and stamp.</p> <p>‘Just Like Me’ unit-White Rose Maths</p> <p>Maths through story-Nick Sharrat; My Mum and Dad Make Me Laugh, Pants, Press Here</p> <p>Talk about patterns of events, in cooking, gardening, sewing or getting dressed.</p> <p>Suggestions: ‘First’, ‘then’, ‘after’, ‘before’</p> <p>Talk about the sequence of events in stories.</p> <p>Maths through story linked to the Gingerbread man Rosie’s Walk story.</p> <p>Block area in the environment.</p> <p>Shape sorters added to environment.</p> <p>Modelled language during play inside and outside.</p> <p>Core book-We’re Going on a Bear Hunt</p> | <p>Ongoing daily</p> <p>Autumn1 – This is Me! 3 Billy Goats gruff story. Visit to the library- create maps.</p> <p>Summer 2 - You Can’t Catch Me!</p> <p>Autumn1 Daily maths session</p> <p>‘Just Like Me’ unit-White Rose Maths</p> <p>Summer 1 – What is a Rainbow?</p> | |
| Using technology (UTW and Physical) <ul style="list-style-type: none"> → I know how things work. → I know how to use my developing physical skills in tasks and activities in the setting. | <p>Provide mechanical equipment for children to play with and investigate. Suggestions: wind-up toys, pulleys, sets of cogs with pegs and boards.</p> <p>Technology Zone exploration using cause and consequence resources;</p> <p>Torches, cameras, real mobile phones which no longer work, keyboards, remote control toys, sound boxes and buttons</p> <p>Lift the flap books</p> <p>Cog set</p> <p>Pulleys in outdoor learning</p> | <p>Ongoing</p> | |
| Online Safety (PSED) <ul style="list-style-type: none"> → I know how to follow rules, understanding why they are important → I know rules without an adult reminding me. → I know how to select activities and resources, with help when needed. This helps them to achieve a goal they have chosen, or one which is suggested to them | <p>Explain why we have rules and display a small number of necessary rules visually as reminders.</p> <p>Behaviour values</p> <p>Sharing books about computing and internet;</p> <p>Chicken Clicking</p> <p>Dot</p> <p>Vocabulary: tap, swipe, share, rules, happy, sad.</p> <p>Respond to children’s increasing independence and sense of responsibility.</p> | <p>Ongoing</p> <p>Internet Safety day</p> | |



Core book:



Dot – The book highlights the importance of exploring the world both on and offline.



Reception

| Department for Education Educational Programme Development Matters (Non-statutory) Reception Year Early Learning Goals (Statutory) End of Reception Cavendish Close Infant and Nursery School Objectives | | Our School Personal, Social and Emotional Development Curriculum | |
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| | | What? | When? |
| Algorithms | → I know how to follow simple oral instructions. → I know the reasons for rules, I know right from wrong and try to behave accordingly. | Follow the daily routine and adult requests. Clear adult modelling – differentiating first and next strategy. Explain why we have rules and display a small number of necessary rules visually as reminders. Behaviour values Learning values Classroom rules and expectations. Vocabulary: instruction, rules, first, next. | Ongoing – establish clear classroom rules and expectations. Ongoing |
| Programmes | → I know how to sequence simple familiar tasks. → I know how to input a simple sequence of demands to control a digital device with support. → I know how to spot simple patterns, such as similarities and differences. | Daily routine Introduce BeeBots – exploring what they can do. Discuss its' features. Vocabulary: command, forwards, backwards, left, right, go, clear, move. Children to discuss what happens when they press a short sequence of buttons. Allow consolidation of learning through the 'Technology Zone' in continuous provision. Apps: Scratch j2e – JIT Turtle – Programme a route for the big bad wolf Power Maths: Unit 13 – Exploring Patterns Unit 16 – Numerical Patterns | Ongoing Autumn 2 – What is up above? Continuous Provision – Technology Zone Spring 1 – Who is there to help me? Spring 2 – Who lives in a place like this? Summer 1 – What is underneath? |
| Using technology | → I know how to explore, use and refine a variety of artistic effects to express my ideas and feelings. | Provide opportunities to work together to develop and realise creative ideas. Technology Zone exploration: iPad – j2e software: JIT Paint – explore paint and brush tools: Self portrait Draw an animal that might visit the vet. Draw their favourite farm animal. Draw a minibeast. | Ongoing Ongoing Autumn 1 Spring 1 Spring 2 Summer 1 |

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| | <p>→ I know how to scan a QR code.</p> <p>→ I know how to play on a touch screen game and use technology during my role play experiences.</p> <p>→ I know common uses of information technology beyond school with support.</p> | <p>Camera: Take photographs Interactive Whiteboard – Notebook to freely express creative ideas. Resources: microphones, writing tablet, camera, torches, real mobile phones which no longer work. Apps: ChatterPix Kids, Pic Collage, j2e, camera Vocabulary: device, digital, image, move, paint, record, photograph, microphone. Adult modelling. Use iPad to listen to a core book in the Technology Zone. Provide resources: iPad, interactive whiteboard, QR Codes, writing tablet Apps: Numbots, Education City, Scratch, Teach Monster, ChatterPix Kids, PhonicsPlay, j2e. Provide technology resources in continuous provision: keyboard, mouse, camera, real mobile phones which no longer work, torches. Science walk to Chaddesden Park – look for information technology along the way and record by taking a picture. Focus: traffic lights, cars, speed cameras, lamp posts. Share KMe PowerPoint on jobs which use technology. Project Evolve – Managing Information Online</p> | <p>Introduce Autumn 1 – What makes me a me? Ongoing. Ongoing – Technology Zone Continuous Provision</p> <p>Spring term</p> <p>Summer term – Maths Day Spring 1 – Who is there to help me?</p> |
| <p>Online Safety</p> | <p>→ I know how to be resilient and persevere in the face of challenge.</p> <p>→ I know and talk about the different factors that support my overall health and wellbeing: - Including sensible amounts of 'screen time'</p> | <p>Provide opportunities for children to tell each other about their work and play. Weekly R Time session Daily and weekly celebration of children's achievements. Help children to develop problem-solving skills by talking through how they, you and others resolved a problem or difficulty. Show that mistakes are an important part of learning and going back is trial and error not failure. Adult modelling Learning values Use picture books and other resources to explain the importance of the different aspects of a healthy lifestyle. E-Safety Day to explore; Safer Internet Day activities Visit from the Digital PCSO Learn about Smartie the Penguin.</p> | <p>Ongoing</p> <p>Ongoing</p> <p>Spring 1 – Who is there to help me? Internet Safety Day</p> |

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| | | <p>Time for Us - How to stay safe online, who to speak to if I feel unsafe, dangers of being online, how I can stay healthy on and offline.</p> <p>Engage with Project Evolve activities and stimulus: Self-Image and Identity Online Relationships Online Bullying Managing Online Information Health, Well-being and Lifestyle</p> <p>Online Reputation Copyright and Ownership Privacy and Security</p> <p>Vocabulary: online, offline, communicate, internet, information, feelings.</p> | <p>Time 4 Us - 3 week rotation</p> <p>Ongoing – What do children need? Autumn 1 –What makes me a me? Autumn 2 – What is up above?</p> <p>Spring 1–Who is there to help me? Spring 2 – Who lives in a place like this? Summer 1 – What is underneath? Summer 2 – Where would you like to go?</p> |
| | | <p>Core books:</p> <p>Webster’s Email – The book explores sharing content online. Discussions should focus on being kind online, the taking and sharing of personal photographs, meeting strangers online and how to use technology responsibly.</p> <p>Once Upon a time... ONLINE – The book explores how to shop safely on the internet using popular fairy tale characters. Discussions should focus on who to speak to if they are unsure about something that pops up, for their game.</p> |   |

Year 1 Computing

| Department for Education Statutory Guidance | | Our School Relationships and Health Education Curriculum | |
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| | | What? | When? |
| Algorithms | <p>→ I know what algorithms are.</p> <p>→ I know algorithms are implemented as programmes on digital devices.</p> <p>I know that programs execute by following precise and unambiguous instructions.</p> | <p>Introduce algorithms using 'Baby Shark' lesson. The aim is to sequence the song in the correct order.</p> <p>Recap the BeeBot features and what they do. Input instructions on a BeeBot – using forward, backwards, left, right. Exploration in the Technology Zone: BeeBot, Computer, Camera, iPads. Access apps: J2E software – JIT Turtle Scratch Kodable</p> <p>Vocabulary: algorithm, sequence, precise, fix</p> | <p>Spring 1 What's inside the castle walls?</p> <p>Spring 1 What's inside the castle walls?</p> <p>Ongoing</p> |
| Programmes | <p>→ I know how to create and debug simple programs.</p> <p>→ I know how to use logical reasoning to predict the behaviour of simple programs.</p> | <p>Children will explore the BeeBot and give instructions to a partner verbally. Use j2e software to give instructions on a programme – JIT Turtle</p> <p>Vocabulary: program, code, bug, order</p> | <p>Summer 1 Where in the universe would you like to explore?</p> <p>Ongoing</p> |
| Using technology | <p>→ I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> | <p>Apps: Camera – Access Christmas and Core book QR Codes</p> <p>Take a picture of my model using a camera. Add a caption using j2e software. Take a picture of trees using a camera. Add a caption using j2e software. Record a film in groups, acting out a story.</p> <p>J2E Paint – Create a picture using paint, write a label or caption of your creation. J2E Pictogram – Create whole class pictogram around a chosen question. J2E Animate – Create a simple animation of a dragon.</p> <p>Google – Research Penguins and find 3D image.</p> | <p>Autumn 2 What makes our world wonderful?</p> <p>Spring 1 What's inside the castle walls?</p> <p>Summer 2 Would you like to live next door to a pirate?</p> <p>Ongoing – link to topic</p> <p>Link with Maths in Summer Term D&T - Favourite food</p> <p>Spring 1 What's inside the castle walls?</p> <p>Autumn 2 What makes our world wonderful?</p> |

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| | <p>→ I know common uses of information technology beyond school.</p> | <p>Research castles and explore their location on google maps.</p> <p>Sketch a song – Create a sequence of sounds in the style of .Medieval music.</p> <p>Augmented Reality – Bring Pudsey Bear to life.</p> <p>Pic Collage, ChatterPix Kids, Scratch, Teach Monster, Voice Memos, Numbots, Education City.</p> <p>Resources: Microphone - Children to dictate sentences into a microphone and share with a partner.</p> <p>Explore Technology Zone resources: iPads, computer, camera, writing tablets, microphones, BeeBot, till, calculator</p> <p>Vocabulary: keyboard, space bar, enter, return, backspace, create</p> <p>Home learning challenge - scavenger hunt: what technology do you have at home?</p> <p>Share KMe PowerPoint on jobs which use technology.</p> | <p>Spring 1 - What's inside the castle walls?</p> <p>Spring 1 What's inside the castle walls?</p> <p>Autumn 2 What makes our world wonderful?</p> <p>Ongoing</p> <p>Spring 1 - What's inside the castle walls?</p> <p>Summer term - Maths day</p> |
| <p>Online Safety</p> | <p>→ I know how to use technology safely and respectfully.</p> <p>→ I know about the dangers online.</p> <p>→ I know how to keep personal information private.</p> <p>→ I know where to go for help and support when I have concerns about content or contact on the internet or other online technologies.</p> | <p>E-Safety Day to explore; Safer Internet Day activities Visit from the Digital PCSO</p> <p>Time for Us - How to stay safe online, who to speak to if I feel unsafe.</p> <p>Engage with Project Evolve activities and stimulus: Self-Image and Identity Online Reputation Online Bullying Online Relationships Privacy and Security Managing Online Information</p> <p>Copyright and Ownership</p> <p>Health, Well-Being and Lifestyle</p> <p>Vocabulary: safe, danger, private, help, support, technology</p> | <p>Spring 1 Internet Safety Day</p> <p>Time for Us 3 week rotation.</p> <p>Ongoing – what do children need?</p> <p>Autumn 1 Autumn 2 - What makes our world wonderful?</p> <p>Spring 1 - What's inside the castle walls?</p> <p>Spring 2 – How does your garden grow?</p> <p>Summer 1 - Where in the universe would you like to explore?</p> <p>Summer 2 – Would you like to live next door to a pirate?</p> |

Core books:

Webster's Friend – The book explores the idea of making a new friend online. Discussions should focus on meeting stranger's online, gaming, reliability, who children trust to speak to and how to use technology responsibly.

#Goldilocks – The book explores the importance of thinking about the information we share on the internet. Discussions should focus on who can access this information online, reliability, and the need for parents to be aware of what children are accessing and sharing.



Year 2 Computing

| Department for Education Statutory Guidance | | Our School Relationships and Health Education Curriculum | |
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| | | What? | When? |
| Algorithms | → I know what algorithms are. | Re-visit learning from Year 1 (instructions and symbols). | Ongoing |
| | → I know algorithms are implemented as programmes on digital devices. | Create a BeeBot map to the Fire Station. Use j2e turtle. Write instructions using vocabulary ; first, then, next, after that, right turn, left turn, half turn, forward, backwards, quarter turn, 90 degree turn, 180 degree turn. | Autumn 1 What makes a Hero? |
| | → I know that programs execute by following precise and unambiguous instructions. | Input the instructions from the Start to the Fire Station. School trip to Birds the Bakery. Use j2e turtle. Recreate a map in groups, and write the instructions on how to get there. Use j2e turtle. | Autumn 1 What makes a Hero? |
| | | Draw the forest and accurately programme the BeeBot through it – Challenge Board activity. Use j2e paint and j2e animate. | Summer 1 Would you feel lonely living in a tin forest? |
| | | Access Technology Zone digital devices: BeeBots, iPad apps – j2e Turtle, Scratch, Kodable Vocabulary: reason, detail, breakdown, decomposition | Ongoing |
| Programmes | → I know how to create and debug simple programs. | Children will programme the BeeBot to check instructions. They will rectify and debug any mistakes (Fire Station Map and Birds Bakery). | Autumn 1 What Makes a Hero? |
| | → I know how to use logical reasoning to predict the behaviour of simple programs. | Children will make a prediction based on their instructions and share with a friend. Apps: J2E Turtle | Summer 2 – What's inside the egg? |
| | | Vocabulary: logical reasoning, prediction, debug | |
| Using technology | → I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. | Apps: Camera – Access Dinosaur QR Codes | Ongoing |
| | | Take a picture using a camera, write a caption to describe it. | Summer 2 What's inside the egg? |
| | | J2E Paint – Create a picture using paint, write a label or caption of your creation. | Autumn 1 What makes a Hero? |
| | | J2E Mix – Create a story about a dinosaur, using images and text. | Ongoing |
| | | | Summer 2 What's inside the Egg? |

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| | <p>→ I know common uses of information technology beyond school.</p> | <p>J2E Animate – Create a simple animation of an Indian animal.</p> <p>J2E Pictogram</p> <p>J2E Branch</p> <p>J2E Write</p> <p>Google – Research facts around chosen topic. Challenge board activity.</p> <p>Augmented Reality – Dinosaurs.</p> <p>Pic Collage, ChatterPix Kids, Scratch, Teach Monster, Voice Memos, Numbots, Education City, Sketch a Song, J2E Software. Explore Technology Zone resources: iPads, computer, camera, writing tablets, BeeBots, microphones, torches.</p> <p>Vocabulary: effects, voice labels, layout, format, insert.</p> <p>Identify uses of Technology in Birds (till, card machine, cooker)</p> <p>Share KMe PowerPoint on jobs which use technology.</p> | <p>Spring 1 Where did the birds go?</p> <p>Spring 1 Where did the birds go?</p> <p>Spring 1 Where did the birds go?</p> <p>Ongoing</p> <p>Summer 2 What's inside the Egg?</p> <p>Ongoing</p> <p>Autumn 1 What makes a Hero?</p> <p>Summer term - Maths day</p> |
| <p>Online Safety</p> | <p>→ I know how to use technology safely and respectfully.</p> <p>→ I know about the dangers online.</p> <p>→ I know how to keep personal information private.</p> <p>→ I know where to go for help and support when I have concerns about content or contact on the internet or other online technologies.</p> | <p>E-Safety Day to explore; Safer Internet Day activities Visit from the Digital PCSO</p> <p>Time for Us - How to stay safe online, who to speak to if I feel unsafe.</p> <p>Engage with Project Evolve activities and stimulus: Self-Image and Identity Privacy and Security Online Reputation Online Bullying Online Relationships Managing Online Information Copyright and Ownership</p> <p>Health, Well-Being and Lifestyle</p> <p>Vocabulary: Online gaming, pressure, consent, links, tabs, wellbeing, comments, bullying.</p> | <p>Spring 1 Internet Safety Day</p> <p>Time for Us 3 week rotation.</p> <p>Ongoing Autumn 1 - What makes a Hero?</p> <p>Autumn 2 – What makes a Hero?</p> <p>Spring 1 - Where did the birds go? Spring 2 – How does it grow? Summer 1 – Would you feel lonely living in a tin forest? Summer 2 - What's inside the Egg?</p> |

Core books:

Troll Stinks – The focus is on being kind online, and the taking and sharing of personal photographs.



Webster's Bedtime – The focus is on switching off screens and the internet at bedtime. Discussions should be based around how to use technology safely and the importance of balanced screen time.

