

Computing Intent



Implementation

Teaching mastery across the curriculum involves employing approaches that help our pupils to develop a deep and secure knowledge and understanding of Computing at each stage of their learning. So that by the end of every school year or Key Stage, pupils will have acquired mastery of the computing skills and concepts they've been exposed to, equipping them to move on confidently and securely to more advanced material.

We aim to equip children with the knowledge and skills necessary to use technology to improve everyday tasks. With an active and practical approach to computing, children can become more fluent and independent when it comes to technology. All teachers are aware that children's computing abilities can differ greatly from one another depending upon their familiarity with the medium they are using. Many children have some access to technology at home, however, it is important to remember that some children will not have the same level of access. We encourage children to work in a variety of ways, independently, paired, small groups and whole class, so that they can learn from each other's experiences. E-Safety sessions run throughout our computing curriculum to ensure that children work safely and respectfully with the technology.

Computing is taught within and alongside many other areas of the school's curriculum. Computing lessons will build upon prior learning and give the children the opportunities to develop and apply their skills and knowledge as they move up through the school. The computing curriculum is an integral part of our Early Years Curriculum, introducing the children to key elements and vocabulary.

There are many different forms of technology that children have access to at school. Hardware such as; laptops, iPads, printers, SMART interactive whiteboards, cameras, headphones, microphones and Beebots. Software such as; Lego Education, word processing and desktop publishing, presentation software, painting and drawing programmes, spreadsheets and a wide variety of apps.

Additional opportunities: Our children also have the opportunity to use technology in assemblies, clubs, therapies and interventions.

Special educational needs and disability (SEND): At Upwell Academy, we teach computing to all children, whatever their ability. Computing forms part of our desire to provide a broad and balanced education to all children and we appreciate that children can have strengths and weaknesses in different areas of the curriculum. For many children with SEND needs, computing allows them to access and express themselves when they previously would have found it difficult (e.g. A.T.T applications). It can also be an area of personal interest for the children; they may have a higher level of enthusiasm and engagement for lessons that involve technology. This could be the one area of our curriculum where they feel confident and can share their knowledge with others, thus aiding their social, emotional, mental health (SEMH) needs.

Impact

Teachers assess children's knowledge and understanding of computing in many ways. From day-to-day aspects to specific lessons, focusing upon one skill. Teachers will gain holistic picture of their technological competency, achieving tasks they have been set and potentials increasing their use of technology for educational purposes outside of school. All of these aspects will inform the teacher's judgement deciding whether a child is working towards, working at or working above age expectations.

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Computing Subject Overview

Keychain Computing & Lego Education

EYFS & KS1

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Ra - Autumn term E-Safety, A cat on a mat, Music algorithms - Kandinsky		Rb - Spring term Coding Blocks & Jam Sandwiches - Algorithms, Sorting, Patterns		Rc - Summer term Martha Monkey, Bees in the Garden, Handling Data	
Lego Education: Coding Express	Beginner First Trip & Train Sound					
Year 1	E-Safety Being safe online	Lego Education See below for projects	Computer Systems and Networks Technology around us	Creating Media Digital Painting	Creating Media Digital writing	Programming A Beebots - Moving a robot
Lego Education: Coding Express	Intermediate O-Shapes Track (Looping), Y-Shaped Track (Conditional Statements), Character (Caterpillar), Music (Animal Concert)					
Year 2	E-Safety Being safe online	Lego Education See below for projects	Computer Systems and Networks Information Technology around us	Creating Media Digital Photography	Creating Media Making Music	Programming B Scratch Jr - Introduction to quizzes
Lego Education: Coding Express	Advanced Journey (Trouble on the Road) & Maths (Distance)					

LKS2

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	E-Safety Think you know	Lego Education Getting Started and Computational Thinking <i>See below for projects</i>	Computer Systems and Networks Connecting computers	Creating Media Animations	Creating Media Desktop publishing	Programming B Scratch - Events and Actions
Lego Education: We Do 2.0	Getting Started Project Part A: Milo the Science Rover, Part B: Milo's Motion Sensor, Part C: Milo's Tilt Sensor, Part D: Collaborate Guided Projects - links with Science Curriculum Pulling (balanced and unbalanced forces) & Speed (investigating factors that make a car go faster) Computational Thinking Moon Base (links to Yr 4 Science) Optional Open Projects links to Science Curriculum Project 9: Predator and Prey & Project 10: Animal Expression					
Year 4	E-Safety Think you know	Lego Education Getting Started and Computational Thinking <i>See below for projects</i>	Computer Systems and Networks The internet	Creating Media Audio editing	Creating Media Photo Editing	Programming B Scratch - Repetition in games
Lego Education: We Do 2.0	Getting Started Project Part A: Milo the Science Rover, Part B: Milo's Motion Sensor, Part C: Milo's Tilt Sensor, Part D: Collaborate Guided Projects links with Science Curriculum Frog's Metamorphosis & Sort to Recycle Computational Thinking Grabbing Objects Optional Open Projects links to Science Curriculum Project 11: Extreme Habitats & Project 12: Space Exploration					

UKS2

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	E-Safety Being safe online	Lego Education Getting Started and Computational Thinking See below for projects	Computer Systems and Networks Sharing information	Data and information Flat-file databases	Creating Media Video Editing	Programming B Scratch - Selection in quizzes
Lego Education: We Do 2.0	Getting Started Project Part A: Milo the Science Rover, Part B: Milo's Motion Sensor, Part C: Milo's Tilt Sensor, Part D: Collaborate Guided Projects links with Science Curriculum Robust Structures (characteristics that make a building earthquake proof) & Prevent Flooding (automatic floodgates) Computational Thinking Send Messages Optional Open Projects links to Science Curriculum Project 13: Hazard Alarm & Cleaning Up the Ocean (revisit Yr 4 Science)					
Year 6	E-Safety Being safe online Computer Systems and Networks Communication	Lego Education Getting Started and Computational Thinking See below for projects	Data and Information Spreadsheets		Creating Media 3D modelling	Programming A Scratch - Variables in games
Lego Education: We Do 2.0	Getting Started Project Part A: Milo the Science Rover, Part B: Milo's Motion Sensor, Part C: Milo's Tilt Sensor, Part D: Collaborate Guided Projects links with Science Curriculum Plants and Pollinators (representation between a pollinator and a flower) & Drop and Rescue (a device to reduce the impact caused by weather-related hazards) Computational Thinking Volcano Alert (links to Yr 5 Science) Optional Open Projects links to Science Curriculum Project 15: Wildlife Crossing & Project 16: Moving Materials					

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Subject Overview - PiXL E-Safety



E-Safety	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sessions PiXL Digital Wellbeing	1. What is a device? 2. What is the internet? 3. Learning new things on the internet 4. All about me 5. Asking for help	1. The internet 2. Exploring the internet 3. Facts and opinions 4. Personal information 5. Trusted adult	1. Enjoying the internet 2. Asking for help 3. Chatting online 4. Being a good friend 5. Top tips for staying safe online	1. Enjoying the internet 2. Being SMART with a heart 3. Communicating online 4. Being a good friend online 5. Online bullying	1. Sharing information online 2. Online gaming 3. Reliability of online information 4. Looking after ourselves online 5. Digital wellbeing review	1. Being SMART online 2. Online friendships 3. Being a good digital citizen 4. Online wellbeing 5. Online scams	1. Online reputation 2. Online gaming 3. Online trust 4. Digital debate 5. Digital dilemmas

In addition to these PiXL sessions; each class will complete an initial E-Safety unit at the start of each academic year.