



Computer Science (CS)

Computer science covers principles such as data representation, algorithms, data structures and programming. This provides the foundation knowledge required to understand and interpret other areas of the curriculum.

Information Technology (IT)

Information technology provides a context for the use of computers within society. Within IT there is a focus on knowledge of how computers are used within different sectors and describes the methods to create digital artefacts such as videos, animations or 3D models.

Digital Literacy (DL)

Digital literacy is the knowledge and ability to use technology confidently, competently and in a safe way. It covers wide-ranging knowledge from how to operate devices at a mechanical level, searching and selecting information and how to use digital devices safely and responsibly.

Unit overviews

| | Autumn 1 – Computing systems and networks | Autumn 2 – Programming A | Spring – Creating Media | Summer 1 – Data and Information | Summer 2 – Programming B |
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| EYFS | Algorithms, Creating, Collaboration, Decomposition, Tinkering, Persevering Bird feeders Pumpkin Soup Autumn Leaf Labyrinth Leaf garland (Beverly Westwood trip) Electronic devices out to label (preload for Yr 1) | Algorithms, Creating, Collaboration, Decomposition, Tinkering, Persevering Snowmen scarves and patterns (East Park visit) Creating igloos Busy bodies movement algorithms (PE & History links) | Algorithms, Creating, Collaboration, Decomposition, Tinkering, Persevering, Shared programming Junk scarecrow – create a scarecrow whole class project Seed sequencing – How plants grow Rabbit run – Creating a maze Plugged activities Create your own seed packet https://ictgames.com/mobilePage/packetPrinter/index.html | Algorithms, Creating, Collaboration, Decomposition, Tinkering, Persevering, Copy code, Abstraction Summer fun colouring – ordering and grouping images based on colours, sizes, shapes. Teacher instructions with codes to copy. Plugged activities J2E online grouping and ordering activity https://www.j2e.com/jit5#pictogram | Algorithms, Creating, Collaboration, Decomposition, Tinkering, Persevering, Copy code, Abstraction, Debugging Summer fun journey (Humber Bridge, Hornsea, Local walk – take images and record their own map. Retelling the story to others. Build a boat – link to where do we live topic Plugged activities |

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| | | | | Fruit farming game – useful for learning about healthy foods, farming and graphs https://toytheater.com/fruit-fall/ | BeeBots online – preload for Year 1 curriculum https://beebot.terrapi.com |
| Year 1 | Technology around us Recognising technology in school and using it responsibly. | Moving a robot Writing short algorithms and programs for floor robots and predicting program outcomes. | Digital Writing Using a computer to create and format text, before comparing to writing non-digitially | Grouping data Exploring object labels, then using them to sort and group objects by properties. | Programming animations Designing and programming the movement of a character on screen to tell stories. |
| Year 2 | Information technology around us Identifying IT and how its responsible use improves our world in school and beyond. | Robot algorithms Creating and debugging programs and using logical reasoning to make predictions. | Digital photography Capturing and changing digital photographs for different purposes. | Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer. | Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz. |
| Year 3 | Connecting computers Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks. | Sequencing sounds Creating sequences in a block-based programming language to make music. | Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story. | Branching databases Building and using branching databases to group objects using yes/no questions. | Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions. |
| Year 4 | The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content. | Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes. | Photo editing Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled. | Data logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation. | Repetition in games Using a block-based programming language to explore count-controlled and infinite loops when creating a game. |
| Year 5 | Systems and searching Recognising IT systems in the world and how some can enable searching on the internet. | Selection in physical computing Exploring conditions and selection using a programmable microcontroller. | Video production Planning, capturing, and editing video to produce a short film. | Flat-file databases Using a database to order data and create charts to answer questions. | Selection in quizzes Exploring selection in programming to design and code an interactive quiz. |
| Year 6 | Communication and collaboration Exploring how data is transferred by working collaboratively online. | Variables in games Exploring variables when designing and coding a game. | Webpage creation Designing and creating webpages, considering copyright, aesthetics, and navigation. | Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data. | Sensing move ment Designing and coding a project that captures inputs from a physical device |