Corporation Road Community Primary School
Computing LTP

Computing: Year 3/4B

Vision:
Computing in Corporation Road Primary School will be progressive, building children's computing skills in the areas of 'Computer Science', 'Information Technology' and 'Digital Literacy'. We will strive to ensure that all pupils can 'understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation'. That pupils can 'analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. That pupils can 'evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems' as outlined in the National Curriculum. We want children to know the application of computing in the wider world and how this can relate to future employment prospects. Our vision is that all pupils are able to keep themselves and others safe online and know when they need support and who/where to get it from. We want all pupils to understand about their own digital presence (including the use of Social Media) and how nothing that is posted online is never really deleted.

Domains	Key Concepts
Information Technology	Computing Systems & Networks
Computer Science	Programming A and Programming B
Digital Literacy and Creating Media	Audio Media, Visual Media, Combining Audio & Visual Media and Data & Information

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The Internet	Audio Editing	Photo Editing	Data Logging	Repetition in Shapes	Repetition in Games
Domains: - Information Technology	**Domains:** - Digital Literacy and Creating Media	**Domains:** - Digital Literacy and Creating Media	**Domains:** - Digital Literacy and Creating Media	**Domains:** - Computer Science	**Domains:** - Computer Science
Key Concepts: - Computing Systems & Networks	**Key Concepts:** - Audio Media	**Key Concepts:** - Visual Media	**Key Concepts:** - Data & Information	**Key Concepts:** - Programming A	**Key Concepts:** - Programming B

End Point:
Information Technology
Pupils can use technology purposefully to organise, store and retrieve digital content including search technologies, understanding how the results are selected and ranked. They understand how computer networks, the internet and the World Wide Web work and how each of these can provide multiple services. They understand how these forms of networking help people with communication and collaboration. Pupils recognise how information technology is used beyond school, especially how it links to future employment opportunities.

End Point:
Digital Literacy and Creating Media
Pupils use technology safely, respectfully and responsibly. They understand how to keep personal information private and why it is important to do so. They understand the need to be discerning in evaluating digital content. Pupils recognise acceptable/unacceptable behaviour concerning information technology and can identify a range of ways to report their concerns.
Pupils can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

End Point:
Computer Science End Point
Pupils can use a variety of programming language, software and hardware to interact with the real world and solve problems. They can understand and use terms such as programming, coding, algorithm, logic, abstraction, conditions, selection and data to explain how they have solved these problems. They can design, write and debug programmes that interact with hardware and/or to solve a given problem.

- To describe how networks physically connect to the other networks (internet). - To recognise how networked devices make up the internet (World Wide Web). - To outline how website can be shared via the World Wide Web. - To describe how content can be added and accessed on the World Wide Web. - To recognise how the content of the World Wide Web is created by people. - To evaluate the consequences of unreliable content.	- To identify that sound can be digitally recorded. - To use a digital device to record sound. - To explain that a digital recording is stored as a file (plan and write content for a podcast). - To explain that audio can be changed through editing. - To show that different types of audio can be combined and played together. - To evaluate editing choices made (export to share and suggest improvements).	- To explain that digital images can be changed. - To change the composition of an image (change by selecting parts). - To describe how images can be changed for different uses (choose effects to fit a scenario). - To make good choices when selecting different tools (retouching). - To recognise that not all images are real. - To evaluate how changes can improve an image.	- To explain that data gathered over time can be sued to answer questions. - To use a digital device to collect data automatically (sensors are input, use data to answer questions and record data from sensors). - To explain that a data logger collects 'data points' from sensors over time (identify place and intervals to collect data). - To use data collected over a long duration to find information (import a data set, view data in different ways and sort data). - To identify the data needed to answer questions (plan how to use a data logger and use a data logger). - To use collected data to answer questions (interpret data and draw conclusions).	- To identify that accuracy in programming is important (type commands, change a value of a command and create code). - To create a program in a text-based language (use a template to create a design, write an algorithm and test the algorithm). - To explain what 'repeat' means (identify patterns in a sequence and use count-controlled loops). - To modify a count-controlled loop to produce a given outcome (choose which values to change in a loop). - To decompose a program into parts (use a procedure). - To create a program that uses count-controlled loops to produce a given outcome.	- To develop the use of count-controlled loops in a different programming environment (modify a snippet of code). - To explain that in programming there are infinite loops and count controlled loops (choose when to use). - To develop a design that includes two or more loops which run at the same time. - To modify an infinite loop in a given program (re-use existing code snippets on new sprites). - To design a project that includes repetition. - To create a project that includes repetition (refine the algorithm).