Subject: Computing (Carousel)

Year 8

OVERVIEW

The aim of Mission Compute is to provide learners with a strong foundation in core computing concepts to understand how computers and networks function, how data is processed and transmitted, and the ethical considerations involved. Learners will develop practical knowledge and critical thinking skills needed for digital literacy and responsible use of technology.

Each Carousel

Lesson 1 – Hardware

In this lesson, students will explore the key components that make up computer hardware. They will learn to identify and understand the functions of parts such as the CPU, RAM, hard drive, motherboard, and input/output devices. The lesson will include hands-on activities or visuals to help students grasp how these components work together within a system.

Lesson 2 – Binary

Students will be introduced to the binary number system, which is the foundation of how computers process data. They will learn how to convert between binary and decimal numbers, understand how binary represents data like text and images, and explore how bits and bytes are used in computing.

Lesson 3: Networks

This lesson focuses on how computer networks function, including the difference between LANs (Local Area Networks) and WANs (Wide Area Networks). Students will learn about network hardware such as routers, switches, and servers, as well as how data is transferred between devices. Key terms like IP addresses and bandwidth will also be introduced.

Lesson 4 – The Internet

Students will examine the structure and purpose of the internet, gaining an understanding of how it connects billions of devices worldwide. They will learn how websites are accessed, the role of web browsers and servers, and how data travels using protocols like HTTP. The concept of the World Wide Web will also be clarified.

Lesson 5 – Software

In this lesson, students will learn the difference between system software and application software. They will explore examples such as operating systems, word processors, and media players, and understand how software enables users to perform specific tasks. Discussions may also include how software is installed, updated, and managed.

Lesson 6 – Ethics of Computing

This lesson will encourage students to think critically about the ethical implications of technology use. Topics will include data privacy, copyright, cyberbullying, digital addiction, and the environmental impact of electronic waste. Students will be guided to form opinions and debate the responsibilities of individuals and companies in the digital world.

Lesson 7 – Creating a Website

Students will explore how to convert their PowerPoint presentation into a website using clever techniques such as hyperlinked buttons. These skills are essential for choosing Creative Media as a GCSE option.

Lesson 8 – Whole class feedback

In this lesson students will have the opportunity to close any gaps or misconceptions identified throughout the project. Students will have the opportunity to redraft a piece of work based on teacher feedback.

Assessment:

Students will have their work reviewed and RAG rated based on set criteria. This will inform Lesson 8 whole class feedback.

\

Useful resources for supporting your child at home:

Seneca, BBC Bitesize, Idea

Homework:

Project based in collaboration with other subject areas.