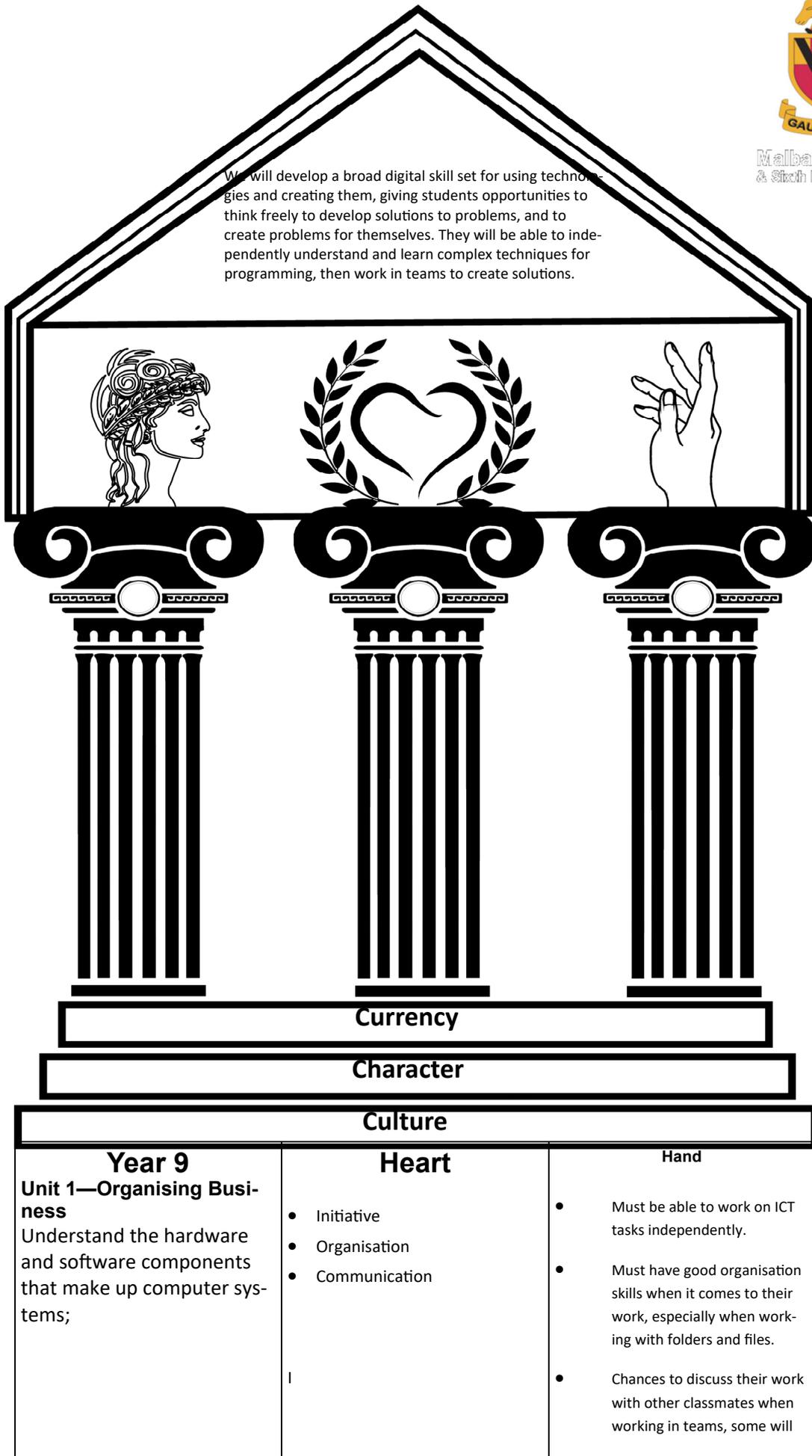# Malbank School Computing Curriculum

We will develop a broad digital skill set for using technologies and creating them, giving students opportunities to think freely to develop solutions to problems, and to create problems for themselves. They will be able to independently understand and learn complex techniques for programming, then work in teams to create solutions.

Currency

Character

Culture

Year 9	Heart	Hand
Unit 1—Organising Business Understand the hardware and software components that make up computer systems;	• Initiative • Organisation • Communication I	• Must be able to work on ICT tasks independently. • Must have good organisation skills when it comes to their work, especially when working with folders and files. • Chances to discuss their work with other classmates when working in teams, some will

Malbank School Computing Curriculum

• Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users; • Create, reuse, revise and repurpose digital artefacts for a given audience with attention to trustworthiness, design and usability.	• Initiative • Resilience • Communication	• Being able to take skills that they learnt last year and apply them to their projects for this year •
Unit 2— Python Profits • Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; • Make appropriate use of data structures, for example, lists, tables or arrays.	• Communication • Initiative • Resilience	
Unit 3— Website Coding • Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users; • Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.	• Initiative • Resilience • Independence • Communication • Organisation • Leadership	
Unit 4— Advanced Data • Understand several key algorithms that reflect computational thinking (for example, ones for sorting and searching); • Use logical reasoning to compare the utility of alternative algorithms for the same problem;		

Malbank School Computing Curriculum

- Understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers (for example, binary addition, and conversion between binary and decimal);

- Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users.

Unit 5— Advanced Data

- Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems;

- Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching];

- Use logical reasoning to compare the utility of alternative algorithms for the same problem;

- Use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems;

- Design and develop modular programs that use procedures or functions.

- Resilience
- Initiative
- Communication

- Resilience
- Leadshership

- Communication
- Self-drive
- Motivation
- Organisation

- Work well with others and use their own initiative to work out ICT related problem.

- Pushing themselves through the tough challenges that will pace them and attempt to try out the coding language.

- Expanding their leadership skills by taking part in small group activities and using their resilience when it comes to problem solving.

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