Computing Curriculum Overview

🎯 Our Curriculum Intent

At Great Arley, our Computing Curriculum is designed to prepare students to thrive in a digital world by developing essential computing skills and understanding.

Our intent is to:

- Foster **confidence**, **safety**, and **effectiveness** in using technology.
- Enable students to apply computing knowledge in **everyday life** and **future careers**.
- Use technology for **learning**, **communication**, and **self-expression**.
- Understand the role of computing in **modern society**, including:
  - Online banking and shopping
  - Social interaction
  - Independent living

🗂️ Curriculum Overview

Semi-Formal Equals Curriculum (Primary Red)

- Pupils explore **basic technology awareness**, such as recognising devices and understanding their purpose (e.g. switches, tablets, interactive boards).
- They engage in **cause-and-effect activities** using simple software and programmable toys to build early computational thinking.
- Pupils develop **early digital skills** through sensory and exploratory play, including using touchscreens and simple apps to make choices and express preferences.

Formal Equals Curriculum (Primary Yellow & Blue)

- Pupils begin to understand **how technology is used in everyday life**, including communication, information, and entertainment.
- They develop **basic coding and control skills** using age-appropriate software (e.g. Bee-Bots, Scratch Jr) to follow and create simple instructions.
- Pupils learn **digital literacy and safety**, including how to use devices responsibly and recognise safe online behaviour.

Key stage 3

This curriculum is aligned with the Primary National Curriculum for Computing and is carefully sequenced to ensure clear progression across this Key stage. It is designed with tailored modules that meet specific learning objectives, regardless of the students' year level. The curriculum focuses on key areas such as **Digital Literacy, Computer Science, Information Technology, Online Safety, and Coding**. Computing is taught as a standalone subject in Key Stages 3 and 4, while cross-curricular support is encouraged to reinforce computing skills in other subjects. Assessment is carried out using progression steps in both **Computing** and **E-safety**, and some students follow personalised goals to support their transition into adulthood.

Key Stage 4 (is an option for pupils to do the two-year course:)

Year **A** focuses on building **foundational skills** in computing and **digital literacy**. Students begin with **online safety**, learning essential principles for staying secure online. They then explore fundamental programming constructs using **Scratch**, followed by hands-on experience with physical computing through **micro:bit** projects. The year also covers data modelling using **spreadsheets,** introduces mobile app development, and concludes with an introduction to **cyber security**, ensuring students develop both practical skills and an understanding of digital safety.

Year **B** continues to develop students' digital competencies, starting again with **online safety**. Learners engage with programming using **Indis** and **Sphero's** and explore the role of IT in the world of work, emphasizing effective use of digital tools. The curriculum introduces **data science** and **artificial intelligence**, focusing on their safe and effective application. Students further their programming skills with **Sphero's** and **Lego Spike Motion** and finish the year by

studying **computer networks** and **data transmission**, deepening their understanding of how technology connects the world.

🛠️ Skills and Knowledge Students Development

- **Skill Acquisition**:
    - Understand how programs follow **sequences of instructions**.
    - Use **logical reasoning** to predict outcomes and solve problems.
    - Manage and interpret **data across various digital formats**.
    - Communicate **safely and respectfully online**.
    - Protect **personal information** and understand digital privacy.
    - Use a range of **software tools confidently and effectively**.
- **Progression to Key Stage 4**:
    - Pupils work towards recognised qualifications, such as:
        - **Entry Level Certificates**
        - **Vocational computing courses**
    - Curriculum prepares students for:
        - **Further education**
        - **Employment**
        - **Independent living**

🌍 Careers and Cross-Curricular Connections

Pupils explore careers in the computing sector and understand the importance of digital literacy across job roles. Curriculum leaders are encouraged to integrate computing skills into other subjects, enhancing cross-curricular learning. Every classroom is equipped with a networked computer and interactive whiteboard, supported by mobile laptops and iPads. Comptech ensures reliable access to hardware and software, supporting effective teaching and learning across the school.

Cross-Curricular Links

- **Maths:** Applying measurement, estimation, scale, geometry, and calculation when working with data, algorithms, and coding in computing.
- **Science:** Using simulations, data logging, and modelling software to explore forces, materials, nutrition, heat transfer, and sustainability.
- **Art and Design:** Creating digital aesthetics, sketching, colour theory, and visual communication using graphic design software or CAD tools.
- **Computing:** Supporting research, digital design, and effective presentation of ideas through various digital platforms and tools.
- **PSHE and Life Skills:** Using technology for food preparation planning, risk assessment, hygiene tracking, budgeting tools, and teamwork, reinforcing digital literacy in everyday contexts.