COMPUTING EDUCATION
AT PICKERING COMMUNITY JUNIOR SCHOOL

INTENT:

At Pickering Community Junior School, we aim to equip our pupils for the world ahead and future-proof their learning by ensuring they are competent and creative with technology. Through their work in Computing, children explore and engage with a range of programs and technologies building on their work from Key Stage 1. They will become adept in simple programming and core computing programs as well maintaining a sense of safety and caution when using technology. Our children will understand the potential dangers of technology and will not shy away from safeguarding themselves and others from these. All children will be provided with a broad and balanced curriculum which reflects the equality and diversity policies and practice in our school.

IMPLEMENTATION:

Skills

- Logic: predicting and analysing
- Decomposition: breaking down into parts
- Patterns: spotting and using similarities
- Evaluation: making judgements
- Tinkering: experimenting and playing
- Creating: designing and making

Knowledge and Understanding

Digital Literacy

- Understand the dangers of technology
- Use technology safely, respectfully and responsibly
- Know how to report and block unsafe behaviours

Computer Programming

- Design, write and debug programs
- Use sequence, selection and logical reasoning
- Understand basic algorithms

Information Technology

- Combine software for a specific purpose
- Collect, analyse, evaluate and present data
- Use search technology
- Understand computer networks

IMPACT:

By the end of Year 6, our pupils will be able to find a balanced use of technology between effective education and a healthy lifestyle. Children will be confident users of technology, able to use it to accomplish a wide variety of goals, both at home and in school. They will have a secure and comprehensive knowledge of the implications of technology and digital systems which is important in a society where technologies and trends are rapidly evolving. Our pupils will leave Pickering Community Junior School with a secure understanding of the positive applications and specific risks associated with a broad range of digital technology, with strategies measures to mitigate these risks in their online dealings. They will have a keen interest in the continued learning of this subject.

TOLERANCE OWNERSHIP COMMUNITY ASPIRATION RESILIENCE EMPATHY

COMPUTING EDUCATION PEDAGOGY ON A PAGE

Computing Supporting Aspects

Cultural Capital

- Safer Internet Day
- Response to contextual safeguarding
- Assemblies
- Use of 3D printer
- Visitors to school
- 'Real life' uses of technology, including to support the rest of the curriculum

School/British values and SMSC

- Online safety discussions and being kind online is discussed regularly and when problems arise
- Group work and encouragement of peer support
- Responsibility to 'have a say' in pupil survey/ pupil voice/ choice in presenting software
- Children are responsible for their own passwords
- Carers kept informed, children taught about the legality of online behaviours beyond school

Learning outside the classroom

- Use micro:bits to 'compute' outside of the computing suite
- 3D printer
- RAF workshops
- Off-line lessons to teach underlying principles in different environments.

Computing Lesson structure and pedagogy

Purple Mash 'Knowledge and Skill Recap questions' displayed as children log in.

Vocabulary review, to include key vocabulary for the theme as well as new vocabulary for the lesson. The vocabulary is added to the working wall at this point of the lesson to reinforce learning.

Teaching of the main lesson objective, including demonstrations of the processes to be used by the teacher and making deliberate mistakes to allow children to troubleshoot.

Task set reinforces the problem-solving aspect of computing and encourages making and fixes mistakes.

Purple Mash lessons are supplemented with micro:bit teaching and use of other software where appropriate (TinkerCad, 3D printer, Microsoft Office etc.)

Examples of work completed in the lesson, vocabulary used and the date/ LO are recorded in the big book every lesson.

Core Principles to support the Computing Pedagogy

- Online safety must be at the core of all lessons. It is always the first teaching unit of every year.
- If an online safety issue arises in a computing lesson, or at any other point, it MUST be addressed. Staff use the Purple Mash '2BeSafe' resources to support this.
- Staff model online safety practices frequently and actively discuss them 'why do we all have our own log-in?' 'Why have I turned off the screen while I search here?' etc.
- 'Real life' problems should be encouraged and equipment such as micro:bits and iPads should be used throughout the whole curriculum to support learning in other subjects. Technology should be seen to complement the curriculum and not be 'ring fenced' to computing lessons.
- Computing is ultimately a problem-solving subject. Adaptions should be carefully balanced to avoid a learned incompetence, particularly when it comes to debugging.