Computing

We believe children should be equipped with the skills they need to participate effectively and safely in a digital world. We aim to facilitate this through a high-quality computing curriculum which will provide children with rich learning experiences that balance all aspects of computing.

Intent

We aim to:

- Develop knowledge, skills and understanding of computing in the 21st century.
- Evaluate and apply information technology, including new or unfamiliar technologies
- Talk openly about online lives and experiences whilst reminding children of how to keep themselves safe.
- Broaden their understanding and use of technological vocabulary.
- Develop critical and creative thinking skills

Implementation

How we achieve our aims:

Ambitious Curriculum for All

Our approach to teaching Computing is underpinned by the
EYFS Statutory Framework
National Curriculum
using the
Teach Computing Scheme ,CAS ES and Project Evolve in line with 'Education in a Connected World',

and by using evidence from
Education Endowment Fund - Collaborative Learning
OFSTED Research Review - Computing

Substantive Knowledge

A spiral approach aligned with the National Curriculum, revisiting key concepts at greater depth as children progress and scaffolded by the Teach Computing curriculum:

- Computer Systems and Networks
- Programming and Algorithms - Design and Development
- Data and Information – Design and Development
- Digital literacy

– impact of technology
- Safety and Security

Disciplinary Knowledge

We develop pupils' ability to

- Understand fundamental principles of computing
- Think analytically
- Evaluate
- Problem solve
- Be responsible, competent, confident and creative users of technology.

Curriculum Links

Technology is used in all areas of the curriculum through use of IWB, Ipads and laptops, to carry out research, present work, support interventions and enable children to access learning.

In addition, Computing links with aspects of specific subjects eg

- Science – data logging
- Art – digital art
- DT - 3D modelling
- PSHE – Online Safety

Understanding of the World (EYFS)

Enrichment

We enhance our Computing curriculum through:

- Use of visitors in school
- Termly enrichment days across the school

Inclusive and Adaptive Teaching

The expectation is that the majority of children will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of children' understanding and their readiness to progress. (National Curriculum)

Support

- Connections to previous learning are made in a clear manner, both verbally and visually
- Activities are adapted to meet need and avoid cognitive overload for all, especially SEND children
- Access to visual aids and vocabulary
- One to one and small group support within lessons
- Clarification and simplification of language and instruction

Challenge

- Higher level questioning throughout lesson which challenges higher order thinking – Why? How?
- Challenged to evaluate and consider next steps in order to further develop a project.
- Work with a partner who is finding the task difficult and using skills to identify errors and explain to a peer.

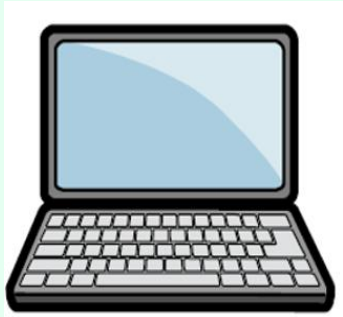
Components of Effective Lessons

- The use of carefully designed screens and images.
- Paired and group work to support exploration and promote oracy and discussion
- Direct teaching which makes clear connections with previous learning
- Practice to embed learning and make progress
- Consolidation through revisiting and evaluation in order to deepen learning
- Teach new concepts by first unpacking complex terms and ideas
- Use physical computing and making activities that offer tactile and sensory experiences to enhance learning
- High quality modelling
- Use project-based learning activities to provide pupils with the opportunity to apply and consolidate their knowledge and understanding
- Challenge misconceptions.
- When teaching programming, focus first on code 'reading' activities,

Assessment

Formative assessment takes place every lesson:

- Questioning and use of retrieval strategies to reflect on prior knowledge
- Assessing if the children are ready to move on at the point of teaching through in-class observation .
- Summative assessment in the form of either a multiple choice quiz (MCQ) or a rubric



Subject Leadership

Resources

- A range of software and hardware
- Carefully designed screens using a range of images
- Practical resources
- Activity task prompts

CPD

CPD ranges from in-house to online training.

Quality Assurance

We quality assure through:

- Pupil book study
- Learning walks
- Staff voice

Impact

Our outcomes:

Children show an enjoyment of and curiosity for the use of technology.

Children use Computing vocabulary effectively.

Children are confident when carrying out Computing tasks and understand the potential risks and how to keep themselves safe.

Teaching teams are confident when teaching Computing.

All children make progress from a range of starting points.