Computing Policy

This policy outlines the teaching, organisation and management of computing taught and learnt at Tonacliffe Primary School.

Intent

Our vision

At Tonacliffe Primary School we aim to provide an enjoyable and stimulating environment, enabling children to reach their full potential through the development of a desire for lifelong learning. Through teaching computing, we equip children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. We enable them to find, explore, analyse, exchange and present information and use technologies to communicate, collaborate and express ideas and create digital content. At Tonacliffe Primary School we recognise that pupils require a broad and balanced computing education with a structured, progressive approach to the learning of how a computer system works, the use of IT and the skills necessary to become digitally literate and participate fully in the modern world. We believe that computing skills are a major factor in enabling children to be confident, creative and independent learners.

Rationale

Why should our pupils learn about Computing?

- Pupils need to recognise the power of computing in the world around them;
- It can enhance the learning process across the curriculum and support co-operative learning, active learning, collaboration and group work;
- Computing enables pupils to undertake activities which would be difficult to pursue in any other way;
- It motivates pupils because it is fun;
- Pupils need to develop a variety of skills which allow them to harness the power of technology and use it both purposefully and appropriately.

Aims

Our aims and objectives of teaching computing are:

- Children to apply their computing skills to develop their language and communication skills;
- Children to develop computational thinking skills that will benefit them throughout their lives;
- Children will use computing to encourage teamwork;
- Children to explore their attitudes towards computing and its value to them and society in general. For example, to learn about issues of security, confidentiality and accuracy.
- To enhance and enrich learning in other areas of the curriculum using IT and computing;
- To meet the requirements of the national curriculum programmes of study for Computing at Key Stage 1 and 2.

Early Years Foundation Stage

Although Computing is not a statutory part of the EYFS, we will ensure children of reception age receive a broad, play-based experience of computing through the use of technology and in a range of contexts, including off-computer activities and outdoor play. Computing is not just about computers. Early years learning environments should feature IT scenarios based on experience in the real world, such as in role play. Children develop confidence, control and language skills through opportunities. Children identify elements of IT and technology and how they can be used within the real world. Children develop skills when 'programming' each other using directional language to find toys/items in the classroom. Children develop these skills further using Bee Bots within continuous provision and spending time, as part of a topic, using Bee Bots to create Bee Bot maps and use directional language to navigate the Bee Bots. Children create digital artwork using their class interactive whiteboard using digital drawing tools. Children have experience using QR codes, e.g. independently using an iPad or tablet to scan a QR code in their class music book to watch a video of them singing or learning skills in music. Outdoor exploration is an important aspect and is carried out through Forest School sessions where the children can use digital recording and photography devices to take pictures/videos of their learning/findings within the forest.

Key Stage One

By the end of Key Stage One, pupils will be taught to:

- Develop independence on computers and the fine motor skills to independently use a mouse and key board.
- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.
- Create and debug simple programs.
- Use logical reasoning to predict the behavior of simple programs.
- Use technology to create, organise, store and retrieve digital content.
- Recognise common uses of information technology within and beyond school.
- Communicate safely and respectfully online and keeping personal information private.
- Understand where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key Stage Two

By the end of Key Stage Two, pupils will be taught to:

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use sequence, selection, repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs.
- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs.
- Understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration.
- Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
- Select, use and combine a variety of software on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Implementation

Scheme of work

Our school's Computing Curriculum is designed in a way that allows pupils to transfer key knowledge to long-term memory; it is sequenced so that key knowledge and skills build on what has been taught before. Our curriculum is based on the computing curriculum designed by the National Centre for Computing Education. We have adapted and edited this scheme to match the learning needs for our school and children. For example, we have designed and created physical computing units for both Lower and Upper Key Stage Two and Key Stage One start every year with a focus on skills to ensure the children are able to achieve skills such as logging on, opening, editing and saving documents and using a computer mouse and keyboard which supports them in accessing the Computing Curriculum.

Computing is taught as a discrete subject in each class's timetable to ensure a secure subject coverage of key skills but it also seen as a tool to be used as appropriate throughout the whole curriculum to support and enrich children's learning, for example, in literacy, children may use Microsoft Word to present their written work. Within school, computing can be taught as a weekly unit within classes or taught throughout one week as a focused computing week. Teachers can decide this to meet the needs of their children and curriculum mapping.

Use of computing in other curriculum areas

Computing contributes to teaching and learning in all curriculum areas. For example, graphics work links closely with work in art, and work using databases supports work in mathematics, while the internet provides very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way.

Computing is a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They learn how to improve the presentation of their work by using desktop publisher.

Many computing activities build upon the mathematical skills of the children. Children may use computing in mathematics to collect data, make predictions, analyse results and present information graphically.

In Lower and Upper Key Stage Two, we combine Design and Technology, Science and Computing units for physical computing to create night lights and security lights.

Having interactive whiteboards and projectors or interactive screens and laptops in each classroom, allows access to a wide variety of media, from information and images on the internet to video clips and music, which can be used to enhance teaching and learning across the curriculum.

Resources

Computing resources are deployed throughout the school to maximise access, to enhance teaching and learning and to raise attainment. To enable regular and whole class teaching of computing the school has a computing suite which all classes in key stages one and two use to develop their skills. There is also a laptop trolley which holds enough laptops for a full class to use within their class which allows more availability to technology.

To support the cross curricular nature of computing, there is at least one computer and tablet located in each class in the key stage one which the children use regularly.

Assessment and record keeping

Each teacher assess the children's work in line with the whole school assessment policy aided by assessment sheets provided by the schemes of work and the National Curriculum aims. Elements of work produced by the children will be stored as evidence on their personal and class drives and can be accessed by their class teacher and the subject leader. Children have Computing exercise books to record learning, designing and work achieved within their lessons.

Evaluation and monitoring

Evaluation is carried out to enhance teaching and learning of computing and is the responsibility of all staff.

The computing subject leader will:

- Carry out regular evaluation across the curriculum as a whole to keep up to date on matters surrounding computing and to gain an understanding of what needs to be done to progress the school in its computing development.
- Carry out interviews with pupils to help determine how to provide better learning opportunities for our children.
- Carry out lesson drops ins and speak to staff about the teaching of computing.
- Support staff with the teaching and assessment of computing.
- Address and assess staff training needs when completing the annual computing audit and improvement plan.
- Raise the profile of and champion their subject within school and the wider school community.
- Share updates from training and latest guidance on computing.
- Share effective practice.
- Analyse the termly data.
- Review this policy at least every year.

Reporting

Children's progress in computing is reported in line with the school's policy on reporting. Each term a report is completed and sent to the governors to show the current assessment and situation in school in relation to computing.

Special educational needs

In line with our SEN policies throughout school, we ensure that computing is available to all children.

Equal opportunities

Tonacliffe endeavors to provide a computing curriculum which appeals to all children. All pupils should develop a positive attitude towards computing, they should develop an understanding of the potential of ICT and show confidence and enjoyment in its use.

It is the responsibility of all teachers at Tonacliffe Primary School to ensure that children irrespective of ability, race, gender, age, faith, sexual orientation, and disability are given full access to the computing curriculum and make the greatest possible progress and is taught in line with the whole school Equal opportunities policy.

Safety

Our school is aware of and makes provision for the health and safety issues associated with children's use of ICT and Computing in the following ways:

- All fixed electrical appliances in school are tested by an external contractor every twenty-four months.
- All staff should visually check electrical equipment before they use it and take any damaged equipment out of use and report this to a technician and the subject leader who will arrange for repair or disposal.
- Children should be supervised when using technology equipment and using plug sockets.
- Trailing leads should be made safe behind the equipment.
- Liquids must not be taken near the computers or laptops.
- All children and parents sign an Acceptable Use Policy before the children are allowed to use any electrical hardware in school.

Impact

Our school implements a broad balanced and enriched Computing curriculum and as a result:

- Pupils develop detailed knowledge across the computing curriculum and, as a result, achieve well.
- Pupils have the opportunities to revisit concepts and link ideas together.
- Pupils have a love of learning for computing.
- Development of the whole child and gaining a sense of awe and wonder, pupils are happy, engaged learners eager to share their learning with adults, family and class peers.
- Pupils leave Tonacliffe Primary School able to integrate into modern society and have the computational thinking skills, organisation and digital literacy skills to support them to enrich their lives.

Miss Ruth Noble (Computing Lead) September 2024