ICT Policy 2023

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Minet Junior Computing Intent, Implementation and Impact

Intent

At Minet Junior School, it is our intention to provide children a relevant, challenging curriculum to enable them to develop the necessary skills for computing. Our aim is to guide children to respond to new developments in technology by allowing them regular use to different aspects of computing. With the ever-evolving digital era surrounding our children, it is also our utmost duty to demonstrate and instil an understanding of how to use computing safely and responsibly. With such opportunities readily available to children, our desire is that children will leave Minet Junior School with the confidence and capability to use computing throughout their later life.

Implementation

At Minet Junior School, our scheme of work has been adapted from Purple Mash and Teach Computing and is taught on a weekly basis in an ICT suite. We have adapted both schemes primarily to suit the needs of the children as well has ensuring full coverage of the National curriculum. Both schemes are designed by subject experts and are based on the latest pedagogical research. Furthermore, by using Purple Mash, children can access their work at home and further allows them to engage with this platform across other subjects.
In addition to the Computing lessons at school, children at Minet Junior also have individual access to educational platforms such as IXL, Education City and Microsoft Teams.
This allows children to be literate in their usage of technology whilst ensuring the lessons cover the national curriculum.
Children have access to multiple platforms such as IXL, Education City and Microsoft Teams which gives them more tools to support their learning.

Impact

Children at Minet Junior School will be confident users of technology and will be able to use it to accomplish a wide variety of goals, both at home and in school. Through modelling of key vocabulary used within computing, children will have a secure and comprehension knowledge of the implications of technology and digital questions. Ultimately, children will be able to demonstrate a confident and enthusiastic approach to computing and they will leave Minet Junior school with a secure understanding of computational thinking.

Introduction

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, iPads, programmable robots, and digital recording equipment are just some of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate, and present information. At Minet Junior School, we recognise that pupils are entitled to quality hardware and software and a progressive approach to the learning of the skills needed to use them effectively.

What is 'Computing?

The National Curriculum Purpose of Study states that:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Whilst the Computing Curriculum has an increased focus on Computer Science including developing pupils' programming skills and their understanding of what happens 'behind the scenes', it is important that they also continue to develop their Digital Literacy and e-safety capability and our school curriculum us designed to reflect this.

The School's Computing Curriculum

As a school, we embrace the national vision for Computing and appreciate that, to achieve this, pupils must have access to a curriculum which is 'balanced and broadly based'.

Our aim is to produce learners who are confident, discerning and effective users of technology and who also have a good understanding of computers and how computer systems work, and how they are designed and programmed+.

We strive to achieve this aim by:

- supporting all children in using technology with purpose and enjoyment
- Meeting, and building on the minimum requirement set out in the National Curriculum as fully as possible and helping all children to achieve the highest possible standards of achievement
- Helping all children to develop the underlying skills and capability which is essential to developing Computing capability (such as problem solving, perseverance, learning from mistakes) and apply them elsewhere
- helping all children to develop the necessary skills to exploit the potential of technology and to become autonomous and discerning users
- helping all children to evaluate the benefits and risks of technology, its impact on society and how to manage their use of it safely and respectfully.

- using technology to develop partnerships beyond the school
- celebrating success in the use of technology.

At Minet Junior, teachers are encouraged to progressively develop pupils' Computing skills and capability through discrete learning opportunities, and also to exploit this capability as a tool to support objectives in other curriculum areas meaningfully. These links include, but are not limited to, the use of a range digital devices in a wide range of contexts. Both plugged and unplugged learning opportunities are planned to support pupils' understanding of the underlying concepts in Computing. These opportunities may well be presented within other subject areas (e.g. sequencing instructions in English, problems solving in Maths or isolating variables in Science).

In this way Computing and the use of technology become integrated into the curriculum and are used as a truly beneficial tool for learning.

Safeguarding Children: Online Safety

We believe that the use of technology in schools brings great benefits. To live, learn and work successfully in an increasingly complex and information-rich society, our children must be able to use technology effectively. The use of these exciting and innovative technology tools in school and at home has been shown to raise educational standards and promote pupil achievement. Yet at the same time we recognise that the use of these technologies can put young people at risk within and outside the school.

The school has developed a separate policy which details our approach to online safety and safeguarding children and staff when using technology both within and beyond the school. This includes reference to the online safety elements of the National Curriculum for Computing and the statutory Relationships and Health Education curriculum. It takes into account the government's 'Teaching online safety in schools' guidance and 'Education for a Connected World' from the UK Council for Internet Safety.

Teaching and Learning Approaches

When delivering the National Curriculum for Computing, teachers are expected to employ a range of strategies and to use their professional judgement to decide on the most appropriate teaching and learning approach for the class, groups of pupils or individual pupils.

Approaches and strategies used may include:

- an 'unplugged' approach in order to develop their understanding of some of the underlying concepts of Computer Science
- 'plugged' activities which allow pupils to practise and demonstrate their levels of understanding.
- using presentation technology to demonstrate something to a group of pupils or the whole class
- leading a group or class discussion about the benefits and risks of technology
- individual or paired work
- collaborative group work
- pupil led demonstrations / peer mentoring. NB - Where one pupil is used to demonstrate or teach a skill to others, the teacher must feel confident that this is of benefit to all those involved.

- differentiated activities planned to allow different levels of achievement by pupils or to incorporate possibilities for extension work.
- teacher intervention where appropriate to support a pupil, reinforce an idea, teach a new point or challenge pupils' thinking.

Background and Current Practice

Minet Junior School has a computing suite with 30 PCs for children to use and a separate teacher computer which is linked to a large display monitor. Each classroom has an interactive whiteboard compatible with Promethean (ActivInspire) software and PC for the teacher to use, as well as many classes having an additional PC for students to use.

The school subscribes to a number of online learning platforms for students to access including Purple Mash, Microsoft Teams, Times Table Rock Stars, Learning by Questions, Education City, and Bug Club. The school continues to monitor and review the software and subscriptions available to pupils both in school and at home. All classes assign their homework through Microsoft Teams, allowing pupils to build awareness of the Microsoft 365 suite of programs.

The school website has been recently updated and is regularly reviewed to add additional information to support parents, as well as up-to-date information about the learning happening in each year group. Newsletters and policies are also available on the website for parent access, as well as quick links for students to access the online learning resources available to them.

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible system by investing in resources which will effectively support delivering the strands of the national curriculum and support the use of computing across the school. Teachers are required to inform the IT/Data Manager of any faults as soon as they are noticed so that they can be addressed. Resources, if not classroom based, are located in the computing suite or with the IT/Data Manager.

Objectives

By the end of key stage 2, pupils should be taught to:

- Recognise common uses of information technology beyond the school
- 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 and 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.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Use technology safely, respectfully and responsibly, recognising the difference between acceptable and unacceptable behaviour with technology, and identify a range of ways to report concerns about content and contact.

- Use a variety of software applications including Microsoft Word and Microsoft Excel, as well as software which includes email, blogging, graphing, database, animation, games creation, networks, binary, and 3D modelling.

Planning, Assessment and Record Keeping

Computing is planned using the Purple Mash scheme of work across key stage 2 and Teach Computing. After a graduated roll-out of the scheme across the school, all year groups are now following the Purple Mash scheme of work as it aligns with their year group and the national curriculum, combined with elements of Microsoft 365 and Microsoft Teams. This scheme of work covers the skills and knowledge set out in the national curriculum, with students covering a variety of content including: computer hardware, simulations, effective searching, spreadsheets, touch typing, coding, email, blogging, databases, 3D modelling, game creation, animation, networks, and binary.

Computing capability is developed over time. The scheme of work from Purple Mash is used in line with the Purple Mash online resources and the new computing curriculum for key stage 2 in order to plan and assess computing across the school. Assessment should be integral to teaching and learning and planned for, using the scheme of work to ensure continuity and progression.

In deciding levels of attainment, pupils are tracked using a combination of assessment tools from Purple Mash and Target Tracker in order to ensure and monitor progression. Teacher keep a file of samples of children's work to support monitoring across the school. Evidence of children's work can also be found in the profiles on the Purple Mash website.

Computing is not just taught and assessed explicitly in Computing lessons, but also through cross-curricular lessons and tasks where teachers endeavour to make links across all subjects, wherever possible, providing opportunities for the children to apply their skills.

Monitoring and Evaluation

The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching through the use of informed walks, tracking use of software, looking at planning, and looking at examples of student work, as well as discussions with pupils about their learning. The subject leader is also responsible for supporting colleagues in the teaching of computing, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school. The governors will ensure that this policy is reviewed.

Equal Opportunities

We will ensure that all pupils are provided with the same learning opportunities, regardless of their social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all pupils to develop positive attitudes towards others. All pupils have equal access to ICT and computing and all staff members follow the equal opportunities policy. Resources for SEN pupils, EAL pupils and gifted & talented will be made available to support and challenge appropriately.

Health and safety

The school is aware of the health and safety issues involved in children's use of ICT and computing.

- All fixed electrical appliances in the school are tested by a contractor every five years and all portable electrical equipment in school is tested by an external contractor every twelve

months. Staff should not bring in their own electrical equipment in to school, but if this is necessary, then the equipment must be PAT tested before being used in school.

- Damaged equipment should be reported to the IT/Data Manager who will arrange for repair or disposal.
- Children should be supervised when using plug sockets.
- Trailing leads should be made safe behind equipment.
- Liquids must not be taken near computers.
- E-Safety forms an integral part of the curriculum and the school will deliver further education through assemblies and parent presentations.

When working with tools, equipment and materials in practical activities and in different environments, children should be taught:

- About hazards, risks and risk control
- To recognise hazards, assess consequent risks and take steps to control risks to themselves and others
- To use information to assess the immediate and cumulative risks
- To manage their environment to ensure the health and safety of themselves and others.
- To explain the steps they take to control risks.

Security

The IT/Data Manager is responsible for regularly updating the anti-virus software on school computers. The use of ICT and computing in the school must be in line with the schools 'acceptable use policy' and all staff, volunteers and pupils will be made aware of this policy. Parents are informed about the 'acceptable use policy' at school entry. Pupils will be made aware of the school rules for responsible use when using the network and will understand the consequences of any misuse. The school is protected by CCTV and an alarm system to secure computing equipment in the school, and all equipment has a secure location to be kept in at night and on weekends to further safeguard devices and equipment.