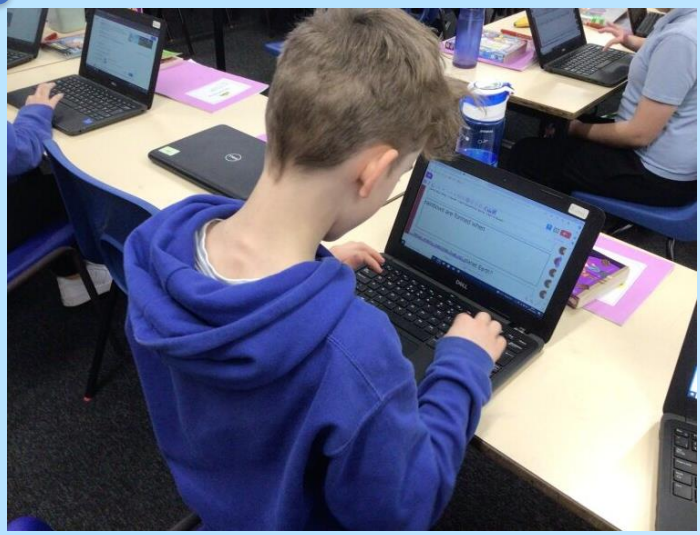
All Saints Church of England Primary School

Wigston Magna

Subject Leadership



Zola Drummond

Computing

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Intent

Throughout All Saints we provide opportunities for pupils to thrive using technology and strive to enable them to learn and apply their computing skills throughout their education in order to prepare them for society in the future, through the use of iPads and laptops to enrich and enhance the learning of our pupils.

Computing will allow pupils to effectively communicate and pupils will be able to apply and evaluate information technology through a variety of devices such as laptops and iPads. Also, pupils will be able to have a sense of responsibility and would be competent, creative and confident users of computing.

Key Stage 1 pupils learn how to think logically, make predictions and problem solve. With these skills embedded it provides support for Key Stage 2 where pupils focus on deepening their understanding of information technology and coding.

Our computing curriculum teaches pupils to understand, analyse and apply skills by helping them to understand logic, algorithms and data representation. Also, it allows pupils to breed resilience and can develop skills such as problem solving. Computing allows pupils to engage and it opens their eyes to the world of technology.

One of the main parts of our computing in all areas of our school is E-safety, which is taught and celebrated in order to fully embed pupil's knowledge in identifying ways to keep themselves safe and a full understanding of what they should do if they do not feel safe online.

Pupils also learn about how the world is connected through networks and have opportunities to discover the language of websites and start to understand where to find useful and reliable research.

Computing promotes several learning characteristics as it increases pupil's capability of the use of information technology. This enables pupils to be independent learners as well as using their initiative as pupil's will have to make informed judgements about where and when computing is the most effective and would allow them to consider its purposes for work and home use as well as in the future.

This subject meets the needs of the children in our school as it is accessible for all. As our school has a high number of SEN pupils and some EAL pupils, computing enables them to access the learning comfortably. This allows pupils to take control of their environment and prevent themselves from being distracted by their surroundings. Computing enables pupils who live in a high deprivation area to develop their technology skills and allows pupils to be exposed to a variety of terminology and facts through research.

Topics

Year 1

1. Online Safety
2. Grouping and Sorting
3. Pictograms
4. Lego Builders
5. Maze Explorers
6. Animated Stories
7. Coding
8. Spreadsheets
9. Tech Outside School

Year 2

1. Coding
2. Online Safety
3. Spreadsheets
4. Questioning
5. Effective Searching
6. Creating Pictures
7. Making Music
8. Presenting Ideas

Year 3

1. Coding
2. Online Safety
3. Spreadsheets
4. Typing
5. Email
6. Branching Databases
7. Simulations
8. Graphing
9. Presenting (MS Powerpoint)
10. Presenting (Google Slides)

Year 4

1. Coding
2. Online Safety
3. Spreadsheets
4. Writing for Different Audiences
5. Logo
6. Animation
7. Effective Searching
8. Hardware Investigators
9. Making Music

Year 5

1. Coding
2. Online Safety
3. Spreadsheets
4. Databases
5. Game Creator
6. 3D Modelling
7. Concept Maps
8. Word Processing (MS Word)
9. Word Processing (Google Docs)

Year 6

1. Coding
2. Online Safety
3. Spreadsheets
4. Blogging
5. Text Adventures
6. Networks
7. Quizzing
8. Binary
9. Spreadsheets (MS Excel)
10. Spreadsheets (Google Sheets)

Rather than a scheme with set lessons, the early years resources are designed to integrate into the day-to-day routine and set-up of an early years setting with opportunities for using Mini Mash or Purple Mash as part of the Early Years curriculum to support children in working towards early learning goals. In addition, there are units of suggested ideas that focus on computing skills specifically, that can also be provided as opportunities for learning as part of the topics in other areas to give children a sound basis to explore topics using technology and to be ready for progressing through the Computing curriculum. These are as follows and are designed to be integrated and linked to wider early years curriculum areas.

- Mouse and Trackpad Skills
- Keyboard Skills
- Drawing skills
- Robots
- Sounds
- Photography
- Technology Around Us
- Hardware Safety and Privacy Quizzes
- Using Purple Mash with an Individual Login

Implementation

How is your subject planned and delivered?

- We have invested heavily in new computing equipment for the classroom.
- We have invested in the Purple Mash scheme.
- We have 2 sets of Ipads and children have at least 1 lesson per week using them.
- We have a set of classroom laptops which children have at least 1 lesson per week using.
- Early Years Foundation Stage to Year 6 have interactive boards in each classroom.
- Bee-bots are used in Key Stage 1.
- Apps and programmes are available to teach throughout Early Years Foundation Stage, Key Stage 1 and Key Stage 2.

Depth

The teaching and learning from the computing curriculum area developed by year. From KS1 pupils will start to learn and grasp the basic skills of computing. From this, they will develop their knowledge by using their basic skills from year 1 and add onto it each year. Pupils will start by learning the basics of coding and online safety from year 1 and develop this each year. They will begin to learn advanced skills such as binary and blogging.

Pupils will be able to practice their skills independently or in a small group using both a laptop and iPad. They will be taught the skill and will be giving the opportunity throughout the lesson to apply what they have learnt. As a school, we plan to ensure the children retain their knowledge by applying their skills during their computing sessions and developing it each year, which will enable pupils to activate their prior knowledge. Pupils will be able to manage new content as they are taught in steps, if they have not mastered a step then they should keep practicing before they move onto the next step. Staff will be kept up to date with the computing curriculum by being able to view the long-term plan.

Breadth

The computing curriculum provides a breadth of opportunity for all pupils as they are open to unplugged type activities such as algorithms which are a part of coding. This is an effective experience as programming is part of the curriculum and when pupils master the basic skills it will benefit them in the future when they go into high school. Also, pupils are exposed to the contextualisation of tasks as they will understand how the skill they learn are applied to real life situations as well to enable them to

problem solve. This is a beneficial as pupils will recognise the relevance to the knowledge. As well as this, pupils may be encouraged to work collaboratively with their peers to solve or create problems.

Computing allows pupils to develop computational thinking as they are not gaining knowledge but they it enables them to think in a unique manner. This allows pupils to think in a deeper way and permits them to understand the world of computing. Computing incorporates spiritual development as it may explore creativity and encourages pupils to use their imagination to construct and design. Also, it may promote self-esteem as pupils tend to take pride in their work presentation either independently or in a team. Pupils may learn how different aspects of computing may have inspired others in the world of work.

Furthermore, this subject incorporates moral development as it may encourage pupils to respect their peer's opinions, views, the equipment that they use and how it may have an affect on other individuals. During KS2, pupils may explore moral issues in the world of computing such as copyright and plagiarism.

Computing incorporates social development as it encourages and promotes social behaviours within the classroom such as interacting with one another as a community and allows them to take turns and listen when their peers are talking. It also encourages pupils to be respectful whilst they are using the technology and encourages them to problem solve as a team, which is a skill that they will take with them in the world of work. In addition to this, this subject incorporates cultural development as we live in digital cultural environment and technology is used in the classroom and for pupils to complete some of their homework.

Early Years Foundation Stage

We teach computing in Reception classes as an integral part of the topic work covered during the year. We relate the computing aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning. The children are encouraged to develop interest in and awareness of the uses of technology. They look at the similarities and differences between the past and now (this can include looking at how technology as changed). They also have a range of opportunities to use Computing equipment including computers, a digital camera and programmable toys. During the year they gain confidence and start using the computer to find information and use it to communicate in a variety of ways. Purple Mash is used to enhance and support learning throughout the year.

The contribution of Computing to teaching in other curriculum areas

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

English

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, revise and redraft text. They have the opportunity to develop their writing skills by communicating with people over the Internet, and they are able to join in discussions with other children throughout the world through the medium of video conferencing. They learn how to improve the presentation of their work by using desk-top publishing software.

Mathematics

Many computing activities build upon the mathematical skills of the children. Children use technology to improve on mathematical skills by using TTRockstars and Numbots.

Personal, social and health education (PSHE) and citizenship

Computing contributes to the teaching of PSHE and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and e-mail. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse of computing, and they also gain a knowledge and understanding of the interdependence of people around the world.

Teaching computing to children with special needs

Teaching computing to children with special needs At All Saints Church of England Primary School we teach computing to all children, whatever their ability. Computing forms part of our school curriculum policy to provide a broad and balanced education for all children. We provide learning

opportunities that are matched to the needs of children with learning difficulties. In some instances, the use of computing has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in computing, we consider the targets in the children's Individual Provision Map (IPM).

Assessment and Recording

Teachers assess children's work in computing by making informal judgements as they observe them during lessons. On completion of a piece of work, the teacher marks it and comments as necessary (when a hard copy record is made). At the end of a unit of work s/he makes a summary judgement about the work of each pupil in relation to age related attainment, and records these attainment grades. The Computing subject leader keeps samples of the children's work in a digital portfolio (keeping hard copies where appropriate). This demonstrates the expected attainment in Computing for each age group in the school.

Resources

All of our classrooms are equipped with Interactive Screens; these systems can also connect to iPads. The school hall is equipped with a presentation system. Our network provides access to licence-controlled software, personally allocated memory space, shared memory space for pupils, shared memory space of staff, secure memory space for administration purposes, and security filtered internet access.

Along with the computers, the school has the following:

- networked colour printers;
- scanner;
- iPads allocated to classes;
- interactive screens in all classrooms;
- iPads
- photocopier printer;
- staff laptops;
- pupil laptops;

- Purple Mash (Part of the 2Simple Collection) – used to support the curriculum e.g. supporting home learning, enhance lessons, support homework tasks
- Microsoft Office Package including – Word, Excel, PowerPoint, Publisher, Outlook, InfoPath, Access.
- This list is not exhaustive as new software is continually being sought and reviewed by the Computing subject leader and subject leaders throughout all curriculum areas.