



Fleet Primary School

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Computing Policy

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1. Curriculum Statement

Intent

In a digital age, where technology continues to influence and transform our lives in previously unimaginable ways, educating children about the effective and responsible use of technology is becoming ever more important.

At Fleet we provide a computing education that develops vital skills through the three elements of the computing curriculum: computer science (programming and understanding how digital systems work), information technology (using computer systems to store, retrieve and send information) and digital literacy (evaluating digital content and using technology safely and respectfully). Through this, our aim is for our children to become autonomous users of computing technologies, able to make independent choices and reflecting on their impact whilst developing key skills of creativity, resilience, critical thinking and problem solving. Our creative curriculum ensures that all learners are given ample opportunities to embrace and develop creative and inspiring uses of technology in a cross curricular approach.

Staff are encouraged to embed computing throughout their curriculum, providing achievable, yet ambitious opportunities that allow for increasing independence as skills develop. Our aim is for children to leave Fleet equipped with the skills and experience to understand themselves as individuals within their community but also as members of a wider global community and as responsible digital citizens.

Implementation

The learning at Fleet is shaped by our school vision of a creative, cross curricular curriculum. Computing is approached in this same way. Wherever possible, computing links are made through the termly learning theme to allow for a creative, engaging approach. We teach the National Curriculum, supported by a clear skills and knowledge progression. This ensures that skills and knowledge are built on year by year and sequenced appropriately to maximise learning opportunities for all our children.

To ensure we cover a broad range of skills and understanding, the computing curriculum has been divided into five focus areas: Online Safety, Programming, Multimedia, Web Authors and Technology in our Lives. These cover the three strands of the computing curriculum (Information Technology, Computer Science and Digital Literacy) whilst enabling cross curricular links to be exploited wherever possible. The Fleet computing map supports teachers in planning effective and stimulating lessons in all focus areas. Children are given opportunities to develop their skills in each of these areas through each year group, either in cross curricular topic lessons, discrete skills based sessions or dedicated time at the CLC or with CLC staff in school.

Staff use our comprehensive progression document to best embed and cover every element of the computing curriculum, with knowledge and skill statements building year on year to deepen and challenge our learners.

Impact

At Fleet, we passionately believe that children learn best through a creative curriculum, enabling full engagement in their own learning with computing used as a way to enhance and develop their ideas as a fully integrated tool. This is evidenced by the annual Year 5 Fleet Beat magazine project, where children use a range of computing skills in varying tasks, culminating in a published magazine for the whole Fleet community.

We encourage our children to be active participants and make independent choices in their approach to tasks. Our aim is for all our learners to think critically about their choices with technology, reflect on its impact and appreciate the effect it can have on their learning, development and well being. We encourage children to find a healthy balance in their use of technology that they can carry forwards into their next stage of learning and beyond.

Progress of the computing curriculum is demonstrated through the outcomes of our learners and the termly record of skills coverage. We review pupil knowledge and skill development through regular observations of learning and through collecting examples of work using the school shared area and Seesaw.

2. Teaching and Learning

We have separated our Computing curriculum into five strands; 'Online Safety', 'Programming', 'Multimedia', 'Web Authors' and 'Technology in our Lives'. Children in years 1-6 are expected to access all strands each year. The curriculum map for computing outlines key objectives and possible ways to develop each strand in every year group. This document is used by teachers to support their planning.

Online Safety

At Fleet, we take online safety very seriously and incorporate teaching children how to be safe and responsible users of technology regularly into lessons where relevant. Children attend specific assemblies and workshops where they learn about potential dangers of working and playing online.

Online safety is taught as part of lessons on internet use, with a focus on:

- security and keeping personal information private;
- appropriate use of online resources;
- the effective use of search engines and accessing websites for reliability.

Programming

We exploit cross curricular links to allow coding to be as creative as possible as the children progress through the school. As skills develop and the children become familiar with a range of programming tools, we aim for our children to, by Year 6, have autonomy over the strategies and tools they can utilise for their coding lessons.

Through their programming lessons, children will:

- predict, estimate and create their own code;
- write their own algorithms to control devices and achieve specific outcomes;
- predict and test algorithms, debugging these where required;
- refine and improve code to ensure efficiency;
- create a sequence of code to control events to solve given problems.

Multimedia

As our curriculum is topic based, we teach many of the multimedia skills through other areas of the curriculum. This allows the children to enhance and present their learning in interesting ways that can engage an audience, such as creating e-books, animations and film-making.

Skills that are developed include:

- communicating and presenting ideas using images, text, sound and animation;
- planning and presenting information for a specific purpose, e.g. assemblies;
- recording and presenting information using a range of resources and programs;
- designing and creating presentations with effective use of IT to present information in a variety of ways for a given purpose/audience;
- demonstrating an understanding of the intended purpose/audience;
- evaluating the suitability of their work for its intended audience, reflecting on its strengths and areas for development.

Web Authors

In a world where an increasing majority of our information is found online, the Web Authors element of our computing curriculum aims to give our children skills to engage in communicating through online methods.

Children learn how to:

- Create and share content such as writing and simple presentations through the school Twitter account and for the school website;
- Use email to communicate by composing, sending and retrieving emails;
- Use the internet to find information;
- Look at how blogs and vlogs can be used to share ideas and opinions;
- plan blogs and vlogs for a given purpose and evaluate its effectiveness with its intended audience;
- collect and present data using appropriate methods;
- create a school magazine for the wider school community, using a variety of presentation skills (Yr 5)
- plan and create digital content, selecting effective tools and devices and evaluating its effectiveness on the target audience.

Technology in our Lives

Technology is all around us and our aim is for children to leave Fleet with the skills to be discerning users, able to utilise technology in positive and meaningful ways. Children need to be able to work effectively and safely to contribute, communicate and collaborate in the online world. To be able to do this successfully, children need to:

- use technology effectively; logging on and off, saving work for later retrieval;
- identify ways in which technology is used in the wider world and the advantages and disadvantages this can have;
- develop a range of skills when using technology to research information;
- explore information from a variety of sources and ask questions of the information they have collected;
- find specific information using a targeted approach to internet based research;
- interpret findings and develop methods for checking the reliability of the information they find;
- identify and question unreliable ('fake news') information and discuss the impact this can have.

3. Planning and Resources

Each term, teachers meet with a specialist computing teacher from the City Learning Centre (CLC). In this meeting, teachers are supported to exploit links with their termly topic, ensuring that the computing curriculum can be delivered in a creative and engaging way. Focus strands are identified for the term and specific skills are highlighted in the Skills Progression document to ensure coverage throughout the year. Lessons for specific skills are taught discretely, whilst other areas of the curriculum may be taught within another subject e.g. creating an animation for a topic on Vikings. Lessons are planned using the National Curriculum document and the Fleet Computing Curriculum Map and Skills Progression documents. Classes also benefit from attending sessions at the CLC for specialist teaching of a predetermined strand or set of skills.

Teachers are supported to tailor the curriculum to meet the needs of the children in their class and discussions with the previous class teacher at the beginning of each year help to inform this.

A minority of children will have particular teaching and learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning. This could include children working at greater depth, those with SEND or who have EAL. Teachers must take account of these requirements and plan, where necessary, to support individuals or groups to enable them to participate effectively in the computing curriculum. These children are identified and discussed through the termly pupil progress meetings to ensure that appropriate provision/interventions are put in place.

4. Assessment

Teachers regularly assess capability through observations, discussions with children and looking at work in progress and when completed. Key objectives are taken from the National Curriculum to assess key computing skills each term. These skills have been broken down further (see Skills Progression document) and are highlighted once covered in lessons. Assessing computing work is an integral part of teaching and learning and central to good practice. As assessment is part of the learning process it is essential that pupils are closely involved.

Assessment in computing takes two forms;

- Formative assessments are carried out during and following computing lessons. They provide children and teaching staff the opportunity to reflect on learning in the context of the shared success criteria. This feeds into planning for the next lesson and include:

Self assessment; children are taught to debug their own programs, use logical reasoning to explain simple algorithms (including their own) in line with the National Curriculum requirements.

Peer assessment and discussion; pupils work with a partner to review and help correct algorithms and programs and provide critical, constructive feedback on digital content.

Open questioning; Pupil's knowledge of the concepts covered may not be immediately apparent in the work they produce. The use of open questioning is used to assess and develop the children's grasp of concepts.

- Summative assessments review pupils' capability and provide a best fit. Use of independent, open-ended tasks provide opportunities for pupils to demonstrate capability in relation to the term's work. This includes opportunities for pupil review and identification of next steps.

Examples of work (emerging, working within and greater depth) for each strand are collected together on the school network and through the Seesaw app. These are used to provide the basis for assessing progress against focus skills and are available as reference for planning through the year and for the teacher to refer to the following year.

5. Organisation

For the computing curriculum to be taught effectively, there is a need to continually maintain, update and develop resources and ensure that resources can effectively deliver the strands of the National Curriculum and support the use of computing across the school. Staff are required to inform the technician of any faults as soon as they are noticed through the online logging system through Camden IT. The technician is provided through a service level agreement with Camden. Laptops and iPads are kept in a central location with Year 6 pupils ensuring these are plugged in to charge each day. Classrooms have internet access (supplied through the LGFL), an interactive whiteboard and desktop computer. Other resources such as visualisers, networked printers, digital cameras and VR headsets are all available for use.

6. EYFS

It is important the Foundation Stage gives children a broad, play-based experience of computing in a range of contexts, including outdoor play. Our computing curriculum provision begins in our Nursery and Reception classes with the children given access to a wide variety of technology resources, such as metal detectors, phones and programmable and remote control toys. These can be used in adult led activities and through role play and other child initiated experiences. Many of the resources mimic 'real life' technology such as tills and phones allowing the children to make connections with technology they see around them, whilst also building confidence, control and language skills.

7. Key Stage 1 and Key Stage 2

- Through Key Stage 1 and 2, the curriculum develops core skills in computer science, digital literacy and information technology.
In Key Stage 1, children begin to look at algorithms and understand what they are; using these to create and debug simple programs. Digital literacy skills are developed through planned activities based on using technology purposefully to create and organise digital content. In an ever changing world, it is important that children have the skills to use technology safely and respectfully. We teach children how to be responsible with their personal information and what to do if they have concerns about anything they experience in the online world.
- In Key Stage 2, skills from Key Stage 1 are developed further to allow children to take more ownership of their own learning by designing, writing and debugging programs that accomplish specific goals and solve problems. Children also develop an understanding of computer networks and how services such as the World Wide Web work and the services they offer for collaboration and communication. Within this, the children are taught how to use search engines effectively and be discerning users of this technology.
- To continue the developing use of digital literacy skills, learners are able to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Learners are also taught how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and who to contact in such an occurrence.

8. Equal Opportunities

At Fleet we ensure that all children are provided with the same learning opportunities regardless of social class, gender, race, disability or learning difficulties. As a result we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to computing lessons and resources. For children who are working at greater depth and children with SEND, resources are made available to support and challenge appropriately.

9. Inclusion

Fleet Primary is an inclusive school where special care is taken by all staff to ensure that all children are given opportunities to succeed. A significant challenge for teachers is the varying experiences and skill levels our children have. Access to resources outside school and also how these are utilised has great impact on the skill and confidence of the children. To ensure they plan for and meet the needs of each learner, teachers observe closely each child's developing computing capability and plan accordingly. If children are unable to access a computer or tablet at home, they can request additional time during the school day to complete any home learning that requires these resources.

Technology is used to support children with SEND, making the curriculum more accessible and meeting their learning needs through particular apps and programs. All staff are given training in programs such as Boardmaker to support children with SEND. Individual teachers and support staff members are trained in the use of relevant resources for individuals under their care.

10. Spiritual, Moral, Social and Cultural Development

<p>Pupils' spiritual development is demonstrated by the:</p> <ul style="list-style-type: none"> • Ability to be reflective about their own beliefs, religious or otherwise, that inform their perspective on life and their interest in and respect for different people's faiths, feelings and values • Sense of enjoyment and fascination in learning about themselves, others and the world around them • Use of imagination and creativity in their learning • Willingness to reflect on their experiences 	
EYFS	<p>Using technological devices in role-play to imagine real life experiences where adults may use ICT.</p> <p>Using paint programs to create pictures and images.</p> <p>Using cameras to record events in school, their learning and experiences and using these photos for reflection.</p> <p>Children are involved in internet searches and the use of Espresso video clips to further their own knowledge about religions and festivals of focus.</p>
Key stage 1 and 2	<p>Computer Science</p> <p>Computer Science is taught in each year group where it links to the overarching termly topic, with a focus on skills based learning. Computer science is the core of computing where pupils are taught how digital systems work. Having been taught the key skills in each key stage, children can then use their own imagination to create their own programs. Children share, evaluate and reflect upon their designs and experiences.</p> <p>In Year 1, children create 'unplugged' programs and in Year 2, themed sequence and repetition loop games in Scratch Junior.</p> <p>In Key Stage 2, Year 3 create simple animations using sequences and repetition loops, Year 4 program Scratch games to include opportunities for debugging and reflecting on their work, Year 5 begin to look at creating programs for specific outcomes and comparing computer models and physical systems in real life e.g. online shopping, whilst Year 6 select from a range of coding systems to create their own programs with a wide range of elements, reflecting and evaluating their effectiveness and suitability.</p> <p>Information Technology</p> <p>In Information Technology, children use their computer science knowledge to create programs, systems and produce content. They gain a sense of enjoyment and fascination in learning about themselves and the world around them. They use their creativity to produce content related to all curriculum areas, through text and images.</p> <p>In Year 1 and 2, children use software to create e-books which include the use of digital painting tools, voice recorders and animation. In Year 3, children create stop motion animations and e-books on particular themes and in Year 4, children are given opportunities to create content for specific themes using photos, video and sound. In Year 5, film making is a focus with children working on creating impact in a variety of ways and Year 6 draw together all developed skills to select and use a range of media to create a particular outcome e.g. film making for the Junior Christmas show.</p>
Whole school	

Our Right Respecting themes and relevant, timely focuses on religions and festivals are presented in whole school assemblies using images, music and key questions delivered through technological devices and carefully selected from the internet. This enables children to be reflective about their own beliefs and religions and to gain an interest in and respect for different people's faiths, feelings and values.

Pupils' **moral development** is shown by the:

- Ability to recognise the difference between right and wrong readily apply this understanding in their own lives and, in so doing, respect the civil and criminal law of England
- Understanding of the consequences of their behaviour and actions
- Interest in investigating and offering reasoned views about moral and ethical issues, and being able to understand and appreciate the viewpoints of others on these issues

EYFS	<p>During self-initiated play, children have access to a range of technological devices including remote control toys, torches, role play toys based on real life equipment e.g. washing machine, mobile phones.</p> <p>In focused activities, children use iPads, cameras, computers and a range of programs.</p> <p>Children are taught to know the right and wrong way to use these technological items.</p> <p>Parents are surveyed to ascertain the use of technology at home.</p>
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Key stage 1 and 2	<p>Digital Literacy</p> <p>Digital Literacy is the evaluating and reflecting on the use of software and the internet. It will prepare children for the future workforce and allows them to make the right choice when selecting technological tools and information.</p> <p>Year 1 begin to learn the importance of keeping passwords secure, how to log on/off and save their work. Year 2 learn how to stay safe at home and how we use the computers safely at school. Children learn how to log on with a private password, discuss the importance of being kind online and where to go for help.</p> <p>In Key Stage 2, children are supported to consider moral questions such as;</p> <p>How can you keep safe whilst using the internet at home, school and in public places?</p> <p>Can I trust everything that I find out about on the internet?</p> <p>How secure are the images that are posted onto the internet?</p> <p>What are the benefits of technology - the advantages and disadvantages?</p> <p>Year 3 look at SMART rules for staying safe, developing effective searches on the Internet and sourcing reliable information. Year 4 learn about the appropriate use of online games and mobile phones, how Internet search results are ranked and how to source and check for reliable information. Year 5 have a focus on 'fake news' and how this can be used to sway opinions in the media. There is also a greater emphasis on protecting personal information and behaving appropriately online as they gain more independence with Internet use at home. Year 6 focus on appropriate use of online technologies, age restrictions, use of apps for specific purposes and how these can be abused, setting controls to maintain privacy and responsible use of the Internet. They also develop an understanding of the copyright of images under British law. By the end of Year 6, children can investigate and offer reasoned views about moral and ethical issues related to the use of the internet.</p>
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<p>Whole school</p> <p>All children and parents sign up and agree to our Acceptable Use policy. This offers advice and guidance between right and wrong when using the internet, in order to keep themselves and their children safe. Regular online safety assemblies for Key Stage 1 and 2 keep children informed in</p>	
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addition to class lessons. Parents receive information about timely issues that may arise in the school newsletter and general online safety information through specific letters. Online safety sessions are held for parents annually.

Pupils' **social development** is shown by the:

- Use a range of social skills in different contexts, including working and socialising with pupils from different religious, ethnic and socioeconomic backgrounds
- Willingness to participate in a variety of communities and social settings, including by volunteering, cooperating well with others and being able to resolve conflicts effectively
- Acceptance and engagement with the fundamental British values of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs; the pupils develop and demonstrate skills and attitudes that will allow them to participate fully in and contribute positively to life in modern Britain

EYFS	<p>Children use iPads and cameras to share ideas and communicate with each other and with other adults.</p> <p>The use of role play toys give the children chances to explore the various uses of technology in the real world.</p> <p>Children learn to take turns to use the technological equipment fairly; they also share their knowledge of how to use equipment with each other during self-initiated time.</p>
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Key stage 1 and 2	<p>Digital Literacy</p> <p>Digital Literacy is the evaluating and reflecting on the use of software and the internet.</p> <p>In Key Stage 1, children learn how technology is used in society and what benefits it many have for people and jobs.</p> <p>In Key Stage 2, children use the Internet to find and evaluate information; looking at fake information websites, how to source reliable information and evaluate it. Children discuss the use of technology in the wider world, the advantages and disadvantages this can have and the effects it has on society.</p> <p>Computer Science</p> <p>Children are encouraged to cooperate with each other and listen to each other's ideas and opinions. They evaluate how things work and how they could change the instructions to make them work more effectively.</p> <p>In Year 1, children work co-operatively on 'unplugged' programming tasks involving clear communication. In Year 2, children work together to plan algorithms and debug simple programs.</p> <p>By Key stage 2 children develop and demonstrate skills (in programming) and attitudes that will allow them to participate fully in, and contribute positively, to life and work in modern Britain. Children learn the skills of creating a program and detecting where there is a problem and how they are going to resolve it. In Year 3, children work collaboratively to plan Scratch programs and decompose the code to identify any issues that may need debugging. By Year 4, the children are discussing ways to make existing code more efficient and in Year 5, comparing and discussing computer models and physical systems. In Year 6, children are evaluating effectiveness and efficiency of programming together and making suggestions to each other.</p> <p>Information Technology</p> <p>In Information Technology, children are given opportunities to create content to share with a wider audience and evaluate its effectiveness.</p> <p>In Year 1, children have opportunities to share writing and create simple presentations to share ideas for the school website, newsletter or Twitter account. In Year 2, the focus is sharing via email; looking at how to compose,</p>
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	<p>send and retrieve emails to communicate with others.</p> <p>In Year 3, children look at example blogs and their use for sharing ideas and opinions, plan and create their own blog and share it online, evaluating its effectiveness with its intended audience. Year 4 focus on sharing work with a wider audience through a range of methods e.g. Powerpoint presentations, iMovie. They also look at how video content can be used to share information and opinions with others and create their own vlogs. In Year 5, children use a range of tools to communicate with a wider audience and engage with the school and local community through the school magazine project, Fleet Beat. They also use blogs and vlogs to communicate progress with the intended audience of the magazine. In Year 6, children use all their skills to create online digital content, selecting the most effective tool for a specified audience and target audience.</p>
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<p>Whole school</p> <p>Through a range of subject related software subscription, for example Mathletics and LGFL content and events such as the yearly Hour of Code event, children are offered safe learning environments where they can communicate and work alongside children within the local environment as well as pupils from different social, religious, ethnic and socio –economic backgrounds.</p> <p>Class assemblies provide opportunities to engage with the school community and share learning through the use of technology.</p>

<p>Pupils’ cultural development is shown by the:</p> <ul style="list-style-type: none"> • Understanding and appreciation of the wide range of cultural influences that have shaped their own heritage and that of others • Understanding and appreciation of the range of different cultures within school and further afield as an essential element of their preparation for life in modern Britain • Knowledge of Britain’s democratic parliamentary system and its central role in shaping our history and values, and in continuing to develop Britain • Willingness to participate in and respond positively to artistic, sporting and cultural opportunities • Interest in exploring, improving understanding of and showing respect for different faiths and cultural diversity, and the extent to which they understand, accept, respect and celebrate diversity, as shown by their tolerance and attitudes towards different religious, ethnic and socio-economic groups in the local, national and global communities 	
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EYFS	<p>Children find out about local, national and global cultural events using video clips e.g. Diwali, Chinese New Year and Child In Need.</p> <p>Children learn about their local area using Google Maps.</p>
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Key stage 1 and 2	<p>Digital Literacy</p> <p>Digital Literacy is the evaluating and reflecting on the use of software and the internet. Children learn how to research safely to find out about the past and the wider world. They explore their year group topics by watching video clips, images and reading information to find out more about their own heritage and that of others. Year 6 focus specifically on the history of Computing and how and when developments have been made in this area and the impact they have had. Key Stage 2 classes also focus on the advancements of historical figures such as Ada Lovelace.</p> <p>Information Technology</p> <p>In Information Technology, children use their knowledge and skills to create programs, systems and produce content. Through cross curricular topic work, children are given many opportunities to create and share information based around cultural events, for example topics based around the Olympics, the World Cup, geographical studies of local and distant locations and historical comparisons. Presentations, film making, e-books, blogs, vlogs are all methods</p>
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	of sharing information used throughout Key Stage 1 and 2.
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Whole school

Through assemblies and whole school themes, children participate and celebrate in cultural, sporting and national events including Black History Month, Red Nose Day, World Book Day, the Olympics, etc. Children have access to these events by watching live feeds and historical archive footage.

11. Role of the Computing Lead

The computing lead will assess and address staff training needs as part of the annual subject action plan process or in response to individual needs and requests throughout the year. Teachers are encouraged to develop their own skills and knowledge and have termly meetings with a computing specialist from the CLC for support with planning. Any additional training needs are highlighted in these meetings for the computing lead to facilitate, either through individual training or through INSET sessions.

The computing lead ensures the curriculum map and skills progression documents are reflective of the needs of the students at Fleet, and makes amendments where necessary annually. Teachers are encouraged to seek the computing lead's support with planning where needed. Assessments and skills progression maps are reviewed termly.

12. Parental Involvement

Parental involvement is highly encouraged. Computing work is shared through the school newsletter and Twitter account. Parents are invited to accompany classes (particularly in EYFS and KS1) when they attend sessions at the CLC. Where possible, parents are encouraged to support the implementation of computing skills by encouraging the use of IT and computing skills at home for pleasure, through home learning tasks. Parents are invited in for online safety talks where they are made aware of relevant and timely issues and are encouraged to promote safe and responsible use at home.