**Computing at All Saints**

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| **Purpose of Study at All Saints** | |
| ‘A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.’ Computing programme of Study, DfE, 2013  Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems… 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.  At All Saints, we believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving, so much so that children are being prepared to work with technology that doesn’t even exist yet. For this reason, we feel that it is important that children are able to participate in the creation of these new tools to fully grasp the relevance of and the possibilities of emerging technologies thus preparing them for the world of work. | |
| **National Curriculum Aims** | |
| The Computing in the National Curriculum (2013) expectations split the teaching and learning of Computing into three strands (Computer Science, Digital Literacy and Information Technology). It is therefore important that children recognise the difference between what makes each one relevant to their future, as well as their everyday lives. High quality teaching of Computing, from Reception through to Year 6, utilises a combination of practical lessons and theory lessons designed to promote discussion and nurture understanding, which are also relevant to other areas of the curriculum such as PSHE and Citizenship | |
| **Planning at All Saints** | |
| In order to develop the Computing and ICT capability and understanding of each child we will provide through our planning:  ∙ Computing through all three strands taught within the thematic curriculum.  ∙ Continuity throughout the school to ensure that experience and skills are developed in a cohesive and consistent way.  ∙ Access to laptops and iPads within class or in designated communal areas.  ∙ Experience of a variety of well-planned, structured and progressive activities.  ∙ Experience cross-curricular links to widen children’s knowledge of the capability of computing including safe use of the Internet and other digital equipment.  ∙ Opportunities for children to recognise the value of computing and ICT in their everyday lives and their future working life as active participants in a digital world.  Teachers will follow the  Through our thematic approach to planning and teaching, our curriculum covers the three strands of computing across the key stages. The key concepts of logic, algorithms, decomposition, patterns, abstractions and evaluations are taught across the curriculum. **Please view the Computer Science, Information Technology and Digital Literacy Pathways for a more detailed look at progression across the school.**  Individual iPads in classrooms support the development of Computing and ICT capability by enabling independent learning; encouraging research, and allowing for the creative use of ICT in all subjects. Digital projectors, interactive whiteboards and visualisers are positioned in all classrooms and are used as a teaching and learning resource across the curriculum. An immersive classroom further enhances the children’s learning, emotive and language experiences and responses through cross-curricular exploration of ideas and themes.  Learn Programming by using programmable toys, program on screen, through animation, develop games (simple and interactive) and to develop simple mobile apps.   * Develop their computational thinking through filming, exploring how computer games work, finding and correcting bugs in programs, creating interactive toys, cracking codes and developing project management skills. * Develop computing creativity by illustrating an eBook, taking and editing digital images, shooting and editing videos, producing digital music, creating geometrical art and creating video and web copy for mobile phone apps. * Investigate computer networks through finding images using the Web, researching a topic, finding out how the school network operates, editing and writing code, creating an e-safety micro-site, and planning the creation of mobile apps. * Communicate and collaborate by producing a talking book, communicating clues, use email, produce wikis, create and write blog pages and design interfaces for apps. * Understand the need for productivity as a life skill through creating a card electronically, record bug hunt data, create surveys and analyse results, record and analyse weather data, create virtual spaces and research the app market.   Teacher’s planning is differentiated to meet the range of needs in each class. A wide range of teaching and learning styles are employed to ensure all children are sufficiently challenged. Children may be required to work individually, in pairs or in small groups according to the nature of the task. Different outcomes may be expected depending on the ability and needs of the individual child. | |
| **Computer Science** | |
| Computer Science (Computing) is taught explicitly across the school from Year 1. Our aims at All Saints are:   * To enable children to become confident coders on a range of devices. * To create opportunities for collaborative and independent learning. * To develop children’s understanding of technology and how it is constantly evolving.   Teachers at All Saints plan coding lessons by encouraging playing, exploring (tinkering), questioning methods, problem solving (debugging). Computer Science should follow the following cycle.  Write  Navigate  Review    Tinker  Debug  Computer Science in EYFS and KS1 is planned with a mixture of unplugged coding and coding hardware such as BEEbots to introduce the computer science concepts to the children from the start of their Computing education.  All Saints Computer Science curriculum will be taught predominantly on iPads, therefore teachers and pupils approach coding as paired programming where the children take on roles of the driver (writing the code) and the navigator (reviewing the code) and swap roles frequently during each lesson. Pupils in KS2 have access to coding through Lego We Do, Beebots, Scratch and other coding applications. | |
| **Digital Literacy** | |
| Digital Literacy is taught explicitly across the school from Year 1 as part of PSHE lessons. Lessons are matched to the children’s needs and therefore may be different each year based on developments in technology and the children’s interests. This is a vital area for safeguarding and is an ever-changing strand of the Computing Curriculum. Internet access is planned to enrich and extend learning activities across the curriculum. However, we have acknowledged the need to ensure that all pupils are responsible and safe users of the Internet and other communication technologies both in school and outside. The head teacher and Computing lead will update parents regularly with a letter, the website and social media on developments in computing at home.  Our aims at All Saints are:   * To enable a safe computing environment through appropriate computing behaviours. * To allow children to explore a range of digital devices. * To promote pupils’ spiritual, moral, social and cultural development. | |
| * **Information Technology** | |
| At All Saints we have developed an engaging, thematic approach to planning and teaching therefore, Information Technology will be taught alongside other subjects in the curriculum to enhance the children’s learning.. Our aims at All Saints are:   * To develop ICT as a cross-curricular tool for learning and progression. * To promote learning through the development of thinking skills. * To enable children to understand and appreciate their place in the modern world. | |
| **Vocabulary and Reading** | |
| Computing, Information Technology and Digital Literacy require a large amount of new vocabulary so all members of staff should use subject specific language to expose children to higher-level vocabulary wherever possible. Teachers and other members of staff should refer to the progressive vocabulary grid to ensure that all new vocabulary (green) for the Key Stage is covered across the year and any pre-existing (purple) vocabulary is recapped to encourage use. New vocabulary should be taught explicitly at the beginning Computing lessons following the DERIC methods from the reading policy and should be included as part of the cross-curricular exposure to IT and media use. Vocabulary should be displayed and used appropriately in all Computing lessons and teachers should encourage children to use higher-level vocabulary from the vocabulary grids in their video/audio recordings and class discussions.  Computing vocabulary should be sue across the curriculum for example, algorithm (instructions), loops (repetitions) and conditionals (If statements in real life). | |
| **Equipment and Resources** | |
| Equipment availability is the responsibility of the class teacher. Orders will be made on a termly basis where needed. Any specific equipment is to be ordered by the class teacher. The Computing subject Leader will be responsible for:   * iPads * hardware   Our IT Service desk will manage all queries regarding software. | |
| **Assessment** | |
| Monitoring termly enables the subject leader to gain an overview of Computing and ICT teaching and learning throughout the school. This will assist the school in the self-evaluation process identifying areas of strength as well as those for development. In monitoring the quality of Computing and ICT teaching and learning, the subject leader will:  ∙ Observe teaching and learning in the classroom.  ∙ Hold discussions with teachers and children.  ∙ Analyse children’s work  ∙ Examine plans to ensure full coverage of the Computing and cross-curricular ICT | |
| ***Written by subject leader*** | Miss Martin |
| ***Signed by Head Teacher*** | Miss Mackle |
| ***To be reviewed July 2021*** | |