



Policy Document Title:	Computing/IT Policy
To be read in conjunction with:	Internet Policy Safeguarding Statement Child Protection Policy Child Protection Procedures Health, Safety and Security Policy
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## Introduction

This policy document sets out the school's aims, principles and strategies for the delivery of Computing/IT. It will form the basis for the development of Computing/IT in the school over the next academic year.

Computing/IT prepares pupils to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technology. Pupils use Computing/IT tools to find, explore, analyse, exchange and present information responsibly, creatively and with discrimination. They learn how to employ Computing/IT to enable rapid access to ideas and experiences from a wide range of people, communities and cultures. Increased capability in the use of Computing/IT promotes initiative and independent learning; with pupils being able to make informed judgements about when and where to use Computing/IT to best effect, and consider its implications for home and work both now and in the future.

## Aims

The general aims of the Computing/IT Curriculum at:

- KS1, KS2 and KS3 are to enable each pupil to develop, within his/her capabilities, the knowledge, understanding and specific skills involved with the study, use and application of Computing/IT.
- The KS4 examination-based curriculum is an extension of KS3 Computing/IT and often extends the general aims of KS1, 2 and 3 Computing/IT to develop knowledge and understanding of the range and scope of information systems including the software and hardware sub-systems needed to support them. It also encourages the pupils to apply their Computing/IT knowledge and skills to general and specific problems based around a common theme, and incorporating the stages of Computing/IT project development i.e.

analysis, design, implementation, testing and evaluation. An alternative pathway, partly based on many of knowledge and skills that have been developed in Key Stages 1-3, is to study for a BTEC Award in Creative Digital Media Production or Information Technology.

The overall aim for Computing/IT is to enrich learning for all pupils. This is achieved by providing each pupil with a differentiated curriculum based on the following criteria:

- It allows for individual needs so as to achieve success at the appropriate level.
- Emphasis is given to the development of practical skills through "hands-on" use of the equipment and experience with the application of Computing/IT to particular problems and tasks. This practical development is reinforced by appropriate and sufficient study of the concepts and knowledge on which it is based.
- Progression is realised through a gradual completion of tasks and projects which directly relate to our stages/levels of achievement.
- It provides a fundamental background knowledge and skill in the use of computers, computer systems and Computing/IT as a basis for further study in relation to each pupil's level of ability.
- Although many pupils find this subject intrinsically interesting and motivating, the curriculum will emphasise project-based work in order to encourage a sense of regular achievement of specific short-term goals.
- Appropriate resources and equipment will be made available to cater for disabilities.

### **Specific aims for pupils**

All pupils will:

- Develop their Computing/IT capability and understand the importance of information and how to select and prepare it.
- Develop their skills in using hardware and software so as to enable them to manipulate information
- Develop their ability to apply Computing/IT capability and Computing/IT to support their use of language and communication
- Explore their attitudes towards Computing/IT, its value for themselves, others and society, and their awareness of its advantages and limitations.
- Develop good Health and Safety attitudes and practice.

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation, particularly in relation to computer programming.
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are responsible, competent, confident and creative users of Computing/IT.
- Develop familiarity with new and emerging and developing technologies such as tablets, internet radios, digital cameras, social networking, 3D printing and BAN technology.
- Teaching and Learning - Online Safety: Understanding and applying knowledge and behaviours will provide pupils with a solid foundation to navigate the online world in an effective and safe way. By understanding the risks that exist online, we will tailor our teaching and support to the specific needs of our pupils, informed by the "Education for a connected world".

Online Safety education will include but not be limited to::

- Managing online information
- Copyright and ownership
- Privacy and security
- Age restrictions
- How content can be used and shared
- Disinformation, misinformation, and hoaxes
- Fake websites and scam emails
- Online Fraud
- Phishing
- Personal data
- Persuasive design
- Privacy settings
- Targeting of online content
- Online relationships

- Privacy and security
- Online reputation
- Online bullying

## **Curriculum Development and Organisation**

### **Delivery**

The current circumstances in this school are best served by teaching Computing/IT within discrete lessons with encouragement of use of Computing/IT in other curriculum areas. The fact that the pupils have a visual impairment means that a more intensive and focused development of knowledge, understanding and skills are required. This can best be achieved within the framework of discrete lessons managed by a Computing/IT specialist.

The Dearing Report acknowledges this view in suggesting a possible delivery model mixing specialist Computing/IT teaching with an "across the curriculum" approach.

The approach taken by the school is to provide specialist Computing/IT lessons for pupils in KS1, KS2, KS3 and KS4 whilst still actively encouraging curriculum use of Computing/IT. Computing/IT at KS1 and KS2 (years 3-5), is covered by the Computing/IT specialist, as well as the primary department class teacher(s). Computing/IT is also provided to our Post-16 students.

This model of delivery has many benefits:

- provides for continuity and progression.
- ensures coverage.
- with Computing/IT taught as a specialist subject, provides a route for the development of an in-depth knowledge of the Computing/IT attainment targets which can be passed on to members of other departments
- provides time, opportunity and encouragement to non- Computing/IT specialists to develop their understanding and use of Computing/IT in within their own subjects.

For the foreseeable future, this model will be adopted permanently but should be reviewed annually, with the intention of ensuring (see School Development Plan) encouragement of development of Computing/IT skills amongst other members of staff and encouragement of more curriculum-based delivery.

## **Organisation at KS1, KS2, KS3 and KS4**

The separate Scheme of Work for Computing/IT outlines in detail, a full set of main project-based units as short, medium and long term curriculum planning, primarily covering a period of six years from the start of KS1 to the end of KS4. A certain level of flexibility exists so that pupils with sufficient aptitude at KS2 (year/stage 6) may follow some of the projects for year/stage 7 allowing an even more solid foundation for the commencement of certified courses at KS4. Also, those pupils who need more time to progress, or those who are new arrivals to the school may need to cover some units from a previous year/stage. In Year 12/13, pupils follow a Post-16 course based on BTEC Computing/IT or alternatively, BTEC Media Studies, Functional Skills IT or a similar course identified as suitable and appropriate for the learner.

The units of work in the Scheme of Work for Computing/IT have been carefully designed to reflect all Computing/IT attainment targets. All units of work have of course been adapted and designed to be suitable and appropriate for blind and partially sighted students.

Once a unit has been completed, the summative assessments will be considered by the Computing/IT Co-ordinator, to inform future planning.

Each teaching group is usually allocated two to three 55 minute sessions per week for discrete Computing/IT lessons.

## **Programming**

Programming is currently a major part of National Curriculum Computing. Teaching basic programming skills to school children, even if they do not pursue careers in technology, offers several significant advantages. These benefits extend beyond the mere ability to write code, influencing cognitive development, enhancing problem-solving skills, and preparing students for a digital future. Here's a detailed explanation of why these skills are valuable:

### **1. Develops Computational Thinking**

Programming teaches computational thinking, which is the ability to break down complex problems into manageable parts. This skill is applicable across various domains, from solving

mathematical problems to organizing tasks in daily life. Learning to think in this structured and logical way can enhance the ability to tackle complex challenges effectively.

## 2. Encourages Creativity and Innovation

Coding is a creative process. By experimenting with code, children learn to create and express themselves through digital means. This can lead to innovation, as students learn to think outside the box and develop unique solutions to problems. Encouraging creativity in coding can also stimulate interest in other creative pursuits and subjects.

## 3. Improves Problem-Solving Skills

Programming is essentially about solving problems. By learning to code, children develop an iterative mindset—they learn that failure is often a step towards finding a solution, rather than a dead end. This resilience and the ability to persist through challenges are valuable life skills that apply well beyond coding.

## 4. Teaches Collaboration and Communication

Many coding projects in education settings are collaborative, requiring students to work together to solve problems. This fosters teamwork and communication skills, as students must articulate their ideas and listen to others to achieve a common goal. These social skills are critical in both personal development and the workplace.

## 5. Prepares Students for the Future

Regardless of their future career path, today's children will live in a world permeated by technology. Understanding the basics of how software works make them better equipped to navigate, contribute to, and critically assess the digital world. This foundational knowledge can demystify technology, making it more accessible and less intimidating.

## 6. Enhances Digital Literacy

In today's digital age, being literate involves more than reading and writing—digital literacy is equally important. Learning to code helps children understand and interact with the technology around them more effectively. This understanding is crucial for navigating the modern world, from understanding online privacy to using digital tools responsibly.

## 7. Encourages Lifelong Learning

The field of technology is always evolving, and learning to code can instill a love of learning and curiosity in children. It teaches them to be self-directed learners who can use online resources, forums, and communities to continue growing their skills. This adaptability and eagerness to learn are valuable traits in any field of study or career.

Incorporating basic programming skills into education is not just about cultivating future software developers. It's about equipping children with a toolkit of skills—problem-solving, creativity, digital literacy, and more—that are essential in any career and in navigating life in a technology-driven world. By exposing children to coding, we're not just teaching them a technical skill; we're helping them develop as thinkers, innovators, and active participants in the digital age.

At Key Stage 4, depending on progress and aptitude, pupils will have the opportunity to study various certified Computing/IT courses including:

- ASDAN short courses
- Pearson Functional Skills IT
- GCSE in Computing/IT
- The BTEC First in Computing/IT (Level 2)
- The BTEC National in Computing/IT (Level 3)
- The BTEC First Award/Certificate in Creative Digital Media Production
- The BTEC Introductory Award in Information Technology

Pupils at the 16+ stage will have the opportunity to study Computing/IT at a level that is appropriate to their ability.

### **Cross Curricular Computing/IT**

Individual machines in classrooms support the development of Computing/IT capability by encouraging general and creative use, and for research, in relation to other curriculum subjects.

The Computing/IT units followed within discrete Computing/IT lessons pupils are often linked or based on other subject areas such as Mathematics, Humanities and English. Computing/IT is also used as a general teaching/learning resource by the staff and pupils for other subject areas.

Each subject specialist within the Secondary Department is responsible for the delivery of Computing/IT as part of the statutory requirements for their subject. The Computing/IT Co-ordinator is available to provide general assistance or specific advice and/or training as and when necessary.

### **Differentiation**

For Information and Communications Technology, the pupils are based in ability groups with academic, average, low attainment and learning difficulty as a broad classification.

### **Social Moral Spiritual and Cultural in Computing/IT**

Computing/IT contributes to the students' SMSC development in a number of ways often through: Preparing children for the challenge of living and learning in a technologically enriched, increasingly inter-connected world; increasing awareness of the moral dilemmas created by technological advances and establishing boundaries in society by considering what is acceptable. These generic principals are embraced by all Computing/IT staff and are taught within all aspects of Computing/IT as the learning necessitates.

**Spiritual education in Computing/IT** provides opportunities for reflection on the wonderful achievements in Computing/IT today and the possibilities for the future. Computing/IT lets pupils have the opportunity to reflect on, for example, how computers can sometimes perform better in certain activities than people, and vice versa. To promote pupils' spiritual development, their sense of self and their will to achieve, the Computing/IT department continually takes the opportunity to praise students for their contribution in lessons.

**Moral education in Computing/IT** helps pupils to explore aspects of real and imaginary situations and enables them to reflect on the possible consequences of different actions and situations. It can raise issues such as whether it is morally right to have computer games whose aim is killing and violence, and whether it is fair that some people in this country and in other countries cannot use the internet. Through real life case studies, students also consider issues surrounding the misuse and access rights to personal data. Other moral issues surrounding the topics of e-waste and the digital divide are also explored. The use of case studies in Computing/IT encourages students to draw conclusions through evidence rather than their preconceptions whilst allowing the students the time to reflect on the origins of their own personal perceptions of a topic.

**Social education in Computing/IT** involves collaborative work which encourages social development. Computing/IT can also help all pupils to express themselves clearly and to



communicate. As students progress through their learning they will consider more complex social needs and are encouraged to research and work collaboratively to find appropriate solutions to issues that may affect particular groups within society.

**Cultural education in Computing/IT** involves the breaking through of linguistic and cultural barriers. It is possible to e-mail or chat across the world and to word process in the mother tongue. Computing/IT creates new opportunities to communicate such as social networks. Whilst studying various aspects of Computing/IT students are asked to reflect on how different cultures are portrayed on the internet and why or who is portraying them in this way. Students are also challenged to think about how differing cultures access and use the internet and what implications this has on the individual and the culture.

## **Teaching and Learning Approaches**

### **Special Educational Needs**

#### **Visual Impairment**

- The visually impaired child may have had a more restricted range of experience than a fully sighted child, and may thus have problems in acquiring concepts and understanding. He / she may require a great deal of concept reinforcement if he / she is to understand concepts which a fully sighted child learns incidentally.
- Lack of visual experiences will impede concept development. Visual ideas must be expressed in other ways and reinforced where necessary.
- Appropriate resources and equipment will be made available to cater for visual impairment. The pupils will make appropriate use of screen magnification software, speech synthesis, large print, text on computer, and computer-generated braille, raised diagrams, tactile apparatus). Skill in the use of these systems will be developed from the start of Key Stage 3 as a part of the work covered in year 7. This development will continue as necessary alongside any work covered in subsequent years.
- Any pupil who arrives at the school later than year 7 will receive prompt tuition of the appropriate system(s)/equipment.
- Use of this equipment is usually essential in order to make the standard IT resources accessible to our pupils.

## **Disability Specific Skills**

- Self-organisation skills will need to be taught in order to promote independence, and an efficient use of time.
- Use of aids to make the equipment accessible to the pupils must be systematically introduced.
- Individual needs in relation to specific disabilities will be catered for. Examples would include use of headphones connected to speech systems for pupils with an additional hearing impairment. Lack of keyboard skills is a major problem for some pupils in relation to this subject. Reasons for this problem include lack of manual dexterity, spelling difficulties and poor keyboarding skills. This is addressed through use of devices such as adapted keyboards and software-based utilities such as Sticky Keys. Spelling lists are also used.

## **Equal Opportunities**

See St Vincent's School Promoting Race Equality and Equal Opportunities.

## **Internet Safety**

Online safety is a whole school issue and under the PREVENT DUTY, schools are expected to ensure that children are safe from terrorist and extremist material when accessing the internet in school. Online safety is addressed in more detail, in the separate Internet Access Policy.

## **Management Information**

The management structure is shown in the separate School Development Plan. The Computing/IT teaching team consists of three members of staff, one of whom is a qualified teacher. The qualified teacher acts as de facto leader of the team and is accountable to the Teaching and Learning Leaders, the Heads of Service, and the Principal, in ascending hierarchical order. One member of the team specialises in word processing and business administration and teaches some classes on a part-time basis. A separate policy document for this work is included in the appendix to this policy.

## **Assessment**

### **Marking**

Marking of work will generally follow the agreed system as outlined within the internal, Whole School Pupil Assessment guidance document. This system incorporates a series of numbers (1-5) representing attainment, and a series of letters (A-E) representing effort. This method of feedback will also be supplemented from time to time by the following traditional methods:

- In print, a tick represents "correct" and a cross represents "incorrect". Meaningful comments will also be provided as feedback together with sample correct answers or suggestions where appropriate.
- In braille: Meaningful comments will be provided as feedback together with sample correct answers or suggestions where appropriate.
- Many pupils will complete work on disk only. Meaningful comments will be added to the text file as feedback together with sample correct answers or suggestions where appropriate.
- This feedback will often include verbal comments from the teacher and discussion of the content and pupils' attempts after completion.

### **Health and Safety**

Health and safety information is outlined within the St Vincent's School Health and Safety policy.