



Computing Intentions, Implementation and Impact Statement

At St Philip's our Computing Curriculum is driven by our whole school vision and values.

Happiness, Love and Security Abound
Everyone is Special
Every achievement is celebrated
Relationships and teamwork matter
A beacon of light in the community
Christ is in everything we do

Subject Leader: Natalie Lamb

Our golden threads run through our computing provision - Educating for Wisdom, Knowledge and skills - Educating for hope and aspiration - Educating for community and living well - Educating for dignity and respect

Computing: intentions - *how do we consider the quality of the curriculum in each subject as a driver of change?*

As a school we base our learning on a broad and balanced curriculum and strive to deliver a wide and varied learning experience, alongside our Christian Values. Computing requires each person to show respect to others through acceptable use and dignity and be responsible for their own online presence. Children need to understand that they need to take responsibility for all actions and know how to report unacceptable behaviour.

We are fully committed to developing each child's unique potential within a secure and caring environment, offering equality of opportunity. Our home/school links have developed greatly throughout 2020. The use of online communications has increased massively and staff, children and parents are able to share in learning like they have never been able to before. Through Teams, and an upcoming CPD, teachers will have access to their class in an online classroom should that be necessary. Lessons can still be taught and children can be monitored through daily updates from teachers, via this remote platform.

We use a range of ICT resources, such as programmable devices, specific Ipad apps and cameras, alongside our Purple Mash schemes of work to meet the needs of the curriculum and provide an exciting and enlightening learning experience for our children. These resources will give children the skills needed to engage in cross-curricular activities linked to technology such as: IDL interventions, green screen app to go hand in hand with particular topics and Purple Mash spreadsheets to link with maths.

We believe that our children should not only reach their best academically, but also develop a thirst for knowledge, foster a love of learning and leave our school with exceptional independent learning skills. Purple Mash allows an extension of subjects such as writing about the Gunpowder plot through an online poster or making leaflets linked to explanation texts in English.

The children of St Philip's Primary School are happy learners who work hard to reach the challenges set by their teachers within computing. Following on from CPD and a new scheme of work teachers offer excellent teaching and learning and give children

opportunities to be successful in a creative, safe, calm environment whether that be in classrooms on an iPad or other ICT device or other learning spaces, such as the computer suite, to promote creativity and high aspiration.

In the EYFS and Infants, the main aims are to enjoy computing, encourage a confidence in using technology and developing an understanding of **online safety**.

By the end of primary school we want our children to leave our school with a range of positive computing experiences and skills.

- **enjoying computing**
- **knowing why it is an important subject to study**
- having a deeper understanding of how technology works e.g. not just playing the coded game, making it first through 2Code on Purple Mash.
- with a sound knowledge of the areas outlined in the National Curriculum, including cross-curricular links to ensure those who may not be confident in a subject in a classroom setting (or SEND) are getting exposure to that subject through ICT, for example Year 4 expand on their geography lessons by using a weather programme on Purple Mash or for SEND children playing a maths or English game linked to their lesson may increase confidence.
- with a range of ICT skills such as:
 - **computer science (CS)** - 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.
 - **information technology (IT)** - Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content
 - **and digital literacy (DL)** - 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.
- understanding the fast pace of the world we live in and the importance of keeping up with ever improving technological advances, whilst having a full awareness of the importance of online safety, this links well to our British Values especially when thinking about mutual respect and tolerance.



Computing: implementation - *how do we consider the content and teaching sequence in each subject?*

The curriculum consists of many planned experiences in school: lessons, ICT days, assemblies, clubs, workshops, and fund raising for new software.

Outcomes may be designed to meet the requirements of the new National Curriculum but also to develop the skills needed for learning ICT and for life beyond the classroom.

You don't have to go far before being faced with some form of ICT. Our vibrant and rich curriculum is designed so that the subject specific skills are scaffolded within a cross-curricular theme or context each term. Our Purple Mash software has an excellent computing scheme of work but also extremely strong resources to allow cross-curricular links within all subjects but it is great for boosting those less confident with their maths and/or English.

In order to ensure that progression and balance is maintained, the programmes of study have been developed into termly units which clearly highlight the learning objectives, assessment opportunities, differentiated tasks as well as links to other subjects. Teachers use their skills to then translate these plans into smaller units – half term, weekly, daily plans where the specific needs of the learners are addressed. We are developing better ways of assessing children's needs and measuring impact on progress and attainment and, as such, teaching is carefully tailored to meet the needs of all the children.

These units are designed with the end in mind; ensuring children have consistency which in turn ensures they achieve great outcomes by the end of Year 6.

Computers and other IT can help pupils make accelerated progress. We support pupils to develop their skills such as researching, typing, editing and art skills. Then we use those skills in cross-curricular work. For computer programming we use various methods including Scratch, Code club and Purple Mash 2Code.

Class teachers are supported in a range of ways:

- ❖ A subject specialist available to support the subject leader
- ❖ An outline scheme of work
- ❖ A series of online assessment tools which help to outline progression
- ❖ Word banks for each topic – Purple Mash resources
- ❖ Emerging knowledge organisers

- ❖ Reaching out to family members who can come in and be part of relevant workshops. An online safety workshop presented in school by a Sefton master teacher was very successful.

INSET which has...

- ❖ equipped teachers with knowledge of how to best use the Purple Mash software
- ❖ demonstrated activities to develop pupils understanding of how to best use ICT
- ❖ given a skills focussed approach

A curriculum which ...

- ❖ is carefully planned to build and deliver new knowledge
- ❖ has a real focus upon ICT skills
- ❖ is inclusive to all
- ❖ supports and promotes online safety

Computing: impact - *How well are our pupils are learning the content within our curriculum?*

Intention 1: to develop our learner's learning (what we learn)

We strive to ensure that our children's attainment in computing is in line with or exceeding their age related expectations when we consider the varied starting points of children. We measure this carefully using a range of materials, but always considering *where they should be for how old they are*. We intend that the impact is that children will be academically and physically prepared for the next phase of their education, in Britain and the world. If there are instances where knowledge is not consolidated by the following year Purple Mash offer catch up programmes linked to each new unit of work so for example those not confident with coding at Year 2 can do a booster session before starting Year 3 coding.

Intention 2: Develop behaviours and habits to become effective learners (Our actions and attitudes: How we act when we learn)

The impact we intend to achieve by developing this intention is seen by how the children approach challenges every day. This could be whole class discussion, paired computing work or independent ICT challenges. The impact should be that children don't give up, are highly motivated to succeed and achieve and are equipped with all the personal skills to do this.

Intention 3: Develop the moral compass of our learners (Our place in the community and wider world: Who we are)

Our learners will be motivated by a strong personal sense of morality. They will make decisions for the right reasons and in the best interests of their community. They will be able to decide what is right and what is wrong, and will be resilient to the influence of others. They will go out into the world and make a difference in their own life and to others. Our learners will be the owners of their own destinies. This links well with online safety and knowledge of the wider world of ICT. The internet is a fabulous resource full of opportunities to learn, but with that comes opportunists and as long as we create a safe environment for children to use these technologies at home and at school they will be equipped to embark on a more grown up approach to the use of ICT and online safety.

The immediate impact of computing within St Philip's School is that:

Pupils across the year groups are engaged in technology

High levels of pupil enjoyment of computing

Impressive examples of ICT across the age range in terms of online activities, oral work, such as whole class discussions about simulations and group activities such as the use of movie maker, and more recently green screen.



Developing computing as a discreet subject with skills and vocabulary but also of its connections to other areas of the curriculum and its relevance to our world today

How do I know I am better at computing now than I was?

Pupils follow some of the same units throughout the year groups. For example those who use spreadsheets and coding in Year 1 revisit the unit each year developing on their skills and knowledge so are able see their emerging skills and successes through saved tasks. The spreadsheets will become increasingly more detailed and the specific codes will become more complex. The areas outlined in the national curriculum and which target tracker has tried to use have significant overlap but for a full computing progression ladder please see the document in the 'End of Year Outcomes' folder on the school website. Below are the expectations for a pupil by the end of Year 6:

Algorithms

Understand that iteration is the repetition of a process such as a loop and recognises that different algorithms exist for the same problem.

Detects errors in algorithms and rewrites and tests own tests and sequences.

Is able to identify similarities and differences in situations and can use these to solve problems (pattern recognition.)

Programming and Development

Understands that programming bridges the gap between algorithmic solutions and computers.

Has practical experience of high level textual languages e.g. standard libraries when programming.

Uses a range of operators and expressions and applies them in the context of program control (e.g. input/process/output.)

Starts to select the appropriate data types.

Data and Data Representation

Knows that digital computers use binary to represent all data and understands how bit patterns represent numbers and images.

Knows that computers transfer data in binary (code) and recognises the relationship between binary and file size (uncompressed)

Defines data types: real numbers and queries data on one table using typical query language.

Hardware and Processing

Recognises and understands the function of the main internal parts of basic computer designs (architecture.)

Understands the concepts behind the fetch-execute cycle.

Knows that there is a range of operating systems and application software for the same hardware.

Tests, contrasts and evaluates the effectiveness of operating systems (e.g. Windows, Apple)

Communication and Networks

Understands how search engines rank search results and clearly evaluates these systems.

Understands how to construct static web pages using HTML and CSS.

Designs and creates own web pages for a purpose.

Understands data transmission between digital computers over networks including the internet i.e. IP addresses and packet switching.

Information Technology

Justifies the choice of, combines and uses multiple digital devices, internet services and application software to achieve given goals and evaluates the trustworthiness of digital content and knows how the use of technology can impact on society.