

# Wallace Fields Infant School & Nursery

## Subject Story for Computing.



### Intent:

Our Computing curriculum is designed to provide a wealth of learning opportunities and develop transferrable skills explicitly within Computing lessons as well as across other curriculum subjects; it is an integral part of all learning. We aim to help prepare children for a rapidly changing world through the use of technology and recognise that technology can allow pupils to share their learning in creative ways. Through the study of Computing, children develop a wide range of fundamental computing skills, knowledge and understanding that will equip them for the rest of their life. From the Early Years Foundation Stage (EYFS), they learn basic skills including knowing how to operate simple equipment to completing a simple program on a computer. These skills are built upon as they progress throughout the school and by the time they finish Year Two, the children are confidently using a range of skills such as creating and de-bugging simple programs, using technology to create digital content and identifying/reporting inappropriate online content. We want to model and educate children on how to use technology positively, responsibly and safely.

*The National Curriculum for Computing aims to ensure that all pupils:*

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- 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 information and communication technology.

### Implementation:

**In Key Stage 1**, Computing is planned for weekly as an explicit lesson. Teachers follow the *Purple Mash* scheme of work that breaks the Computing curriculum down into different topics to teach throughout the year. The *Purple Mash* scheme directly corresponds to the school's progression of knowledge and skills document which helps teachers to highlight particular skills and areas children need to focus on. This document also allows teachers to identify the relevant challenges and support needed for each lesson. The Computing tasks are linked to the whole school topic, where appropriate; however teachers plan to ensure that there is progression through each National Curriculum strand. Each week, as part of 'Task Time', children have the opportunity to apply the skills they learnt in their explicit Computing lesson from the previous week in an independent task. This task will be evidenced in children's learning journals and will have a context sticker, highlighting the particular Computing skills involved.

**In the Early Years**, Computing is planned for weekly as an explicit input. Teachers similarly follow the *Purple Mash* scheme of work that links Computing to the seven different areas of learning and development in the Early Years Foundation Stage. Each week, as part of 'Discovery Time' in the EYFS, children have the opportunity to apply the skills they learnt in their explicit Computing input in a Discovery Time activity.

## Progression across year groups:

- **In EYFS**, children learn to recognise that a range of technology is used in places such as homes and schools. They will learn to be able to select and use technology for particular purposes.
- **In Year 1**, children learn that an algorithm is a set of instructions used to solve a problem or achieve an objective. They can work out what is wrong in a simple algorithm when the steps are out of order and can write their own simple algorithm. The children are taught to physically sort, collate, edit, present, search through, re-order and re-structure items using a range of given criteria. Children understand what is meant by technology and can identify a number of examples both in and out of school. They develop an awareness of online safety using their own private usernames and passwords for *Purple Mash* and understand the importance of keeping information, such as their usernames and passwords private and actively demonstrate this in lessons.
- **In Year 2**, children will be able to explain that an algorithm is a set of instructions to complete a task. They will be able to turn algorithms of more than one step into code and show an awareness of the need to be precise in their designs so that algorithms can be successfully translated into code. Children will learn to create a program that achieves a specific purpose and identify and correct errors, as well as predicting and describing cause and effect in a program. Children are taught to organise data into spreadsheets, pictograms and binary trees and use these tools to sort information, manipulate their data, answer questions and retrieve data. Children will be able to effectively retrieve relevant, purposeful digital content using a search engine and will have developed an understanding of how to use email safely and responsibly. They also know how to report inappropriate content to their teacher.

### Impact:

- ✓ Children will have a greater understanding of how technology makes a difference in all aspects of life - at home, at school and in the workplace
- ✓ Children will develop Computing skills that can thoughtfully applied in a range of different situations, with children developing increasing independence in the choices they make over which technology to use to help them reach the desired outcome.
- ✓ As they progress through EYFS and KS1, children will become increasingly confident in the application of their digital skills, becoming increasingly efficient and effective communicators, collaborators and analysts, showing imagination and creativity in their use of ICT in different aspects of their learning and life beyond school.
- ✓ We will be able to see that the children know more and remember more in computing, through evidence in their learning journals and pupil voice. We will also see they are able to recall prior learning and apply it. Children will then start their next year of learning with the necessary skills and knowledge to build upon.

### If you were to walk into a Computing lesson at WFIS & Nursery you would see:

- ✓ Computing hardware and software being utilised to enhance the learning outcomes of our children, across the curriculum.
- ✓ Children confidently using a variety of technology available to them in school and with little help needed in navigating their way around technology.
- ✓ Children sharing their learning with others, explaining the processes they went through to reach the end result.

## British Values and Spiritual, Moral, Social and Cultural Learning in Computing:

### *British Values in Computing*

Collaborative work in Computing develops mutual respect for the differing opinions, beliefs and abilities of others. In addition, children develop a respect for the resources used and understand the importance of looking after them. They learn to appreciate the value of similarities and differences and learn to show tolerance. A variety of experiences teaches them to appreciate that all people – and their views – are equally important. Children are encouraged to work in a democratic way, exercising the ‘give and take’ required for successful teamwork, this is particularly true of topics which require children to work in groups to research or to design and create a product. Computing also enables children to appreciate the importance of staying safe online and respecting others.

### *Spiritual development:*

We explore how ideas in computing have inspired them and others. We provide opportunities for children to explore their creativity and imagination when developing digital products. We promote self-esteem through opportunities to present their work to others.

### **Moral development:**

We create an awareness of encouraging respect for and developing a tolerance of other people's views and opinions. We consider the benefits and potential dangers of the internet. We discuss the moral implications of cyber bullying and the consequences of different courses of actions.

### **Social development:**

We highlight ways to stay safe when using the internet and social media. We promote good manners when using digital technologies. We discuss the impact of ICT on the ways people communicate and help pupils express themselves clearly. We encourage collaborative learning through paired and group activities.

### **Cultural development:**

We teach children how to be sensible users of technology. We empower pupils to apply their computing skills and knowledge to the wider curriculum. We help children develop an awareness of their audience when communicating in a digital environment.

## **Pupil Voice:**

**Nursery:** "I'm using the telephone."

**Reception:** "I like drawing on Mini Mash."

**Year 1:** "I like computing because I like being creative."

**Year 2:** "In coding we learnt how to make characters move by writing commands, it was fun."

## **Outstanding Learning Outcomes:**



EYFS exploring technology toys. They were able to press parts to make them work.



Year 1 using drawing and text tools to create engaging e-books.



Year 2 created a poster telling others how to stay safe when using the internet.

## **Successes in 2019-20:**

- ☺ **Launch of Purple Mash:** The Purple Mash programme of study was successfully launched and adopted by all teachers in EYFS and Key Stage One. Weekly distinct Computing lessons have been embedded across the school.
- ☺ **Children's enthusiasm for Computing:** The children responded really positively to the introduction of Purple Mash: "The children are always very excited when they see the iPad trolley in the room! They are engaged throughout the computing lessons."
- ☺ **Subject knowledge of teachers:** Following the launch of Purple Mash, the majority of teachers felt their Computing subject knowledge had improved as well as their ability to assess the children's Computing skills.

## **Priorities for 2020-21:**

- ⇒ **Use of Task/Discovery Time:** Subject leader to monitor and review the use of task and discovery times to ensure it is being used effectively to deliver a broad and ambitious curriculum for Computing so that key skills and knowledge are taught.
- ⇒ **Remote Learning:** To ensure remote learning systems are successfully in place to support learning in the event of a complete/bubble lockdown or if children are isolating.
- ⇒ **Assessment:** Subject Leader to implement an effective tool for assessing/showing progress in Computing.