

## Computing Policy

### **Intent**

At Worsthorne Primary School, our aim is to empower children to become confident, independent users of technology. Through a broad and engaging Computing curriculum. We nurture creativity, resilience, and critical thinking which equips pupils with the skills they need to thrive in an increasingly digital world.

### **Implement**

To achieve the above, we do the following:

#### General class teaching

At Worsthorne Primary School, we have adopted the Purple Mash Computing Scheme of Work for pupils from Reception through to Year 6. Computing is taught discreetly for one hour per week by class teachers. Purple Mash supports our teachers in delivering fun, engaging, and high-quality computing lessons that help raise standards and enable all children to reach their full potential.

Every pupil has access to lesson resources and explore cross-curricular activities that enhance their learning experience. The scheme offers excellent flexibility, strong links across subjects, and integrates seamlessly with the 2Simple Computing Assessment Tool which ensure effective monitoring of pupil development in computing.

#### **EYFS**

We aim to provide our pupils with a broad, play-based experience of Computing in a range of contexts. We believe the following:

- Early Years learning environments should feature ICT scenarios based on experience in the real world, such as in role play.
- Pupils gain confidence, control and language skills through opportunities to 'paint' on the interactive board/devices or control remotely operated toys.
- Recording devices can support children to develop their communication skills. This is especially useful for children who have English as an additional language.

#### KSI

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions. Write and test simple programs.
- Organise, store, manipulate and retrieve data in a range of digital formats.
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

## Year 1

### Computer Science

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.

Create and debug simple programs.

Use logical reasoning to predict the behaviour of simple programs.

### Information Technology

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

### Digital Literacy

Recognise common uses of information technology beyond school.

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program.

Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code.

When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program.

Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.

Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.

Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.

## Year 2

### Computer Science

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.

Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.

Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug. Challenges: Chimp.

<p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p> <p><b>Information Technology</b></p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p><b>Digital Literacy</b></p> <p>Recognise common uses of information technology beyond school.</p> <p>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>	<p>Children's program designs display a growing awareness of the need for logical, programmable steps.</p> <p>Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.</p> <p>Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence.</p> <p>Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound.</p> <p>Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. 2Publish example template.</p> <p>Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs.</p> <p>Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Resp.</p>
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## KS2

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs.
- Understand computer networks including the internet; how they can provide multiple services, such as the worldwide web; and the opportunities they offer for communication and collaboration.
- Describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

**Computer Science**

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selection and repetition in programs; work with variables and various forms of input and output.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.

**Information Technology**

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

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.

**Digital Literacy**

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code.

Children can identify an error within their program that prevents it following the desired algorithm and then fix it.

Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs.

Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects.

Children understand how variables can be used to store information while a program is executing.

Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.

Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way.

Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines.

Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database

(2Question), using software such as 2Graph. Children can consider what software is most appropriate for a

given task. They can create purposeful content to attach to emails, e.g. 2Respond.

Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.

#### Year 4

##### Computer Science

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selection and repetition in programs; work with variables and various forms of input and output.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.

##### Information Technology

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

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.

When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs.

Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables.

Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code.

Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step through methods to identify errors in code and make logical attempts to correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.

Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.

## Digital Literacy

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. .

Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.

Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.

## Year 5

### Computer Science

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selection and repetition in programs; work with variables and various forms of input and output.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.

### Information Technology

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

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

Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts.

Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.

Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.

When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables.

Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards.

Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains.

content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

### Digital Literacy

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others.

Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode.

They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.

Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services.

Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.

## Year 6

### Computer Science

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selection and repetition in programs; work with variables and various forms of input and output.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.

### Information Technology

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs.

Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.

Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.

Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.

Children understand and can explain in some depth the difference between the internet and the World Wide Web.

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.

### **Digital Literacy**

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

Children know what a WAN and LAN are and can describe how they access the internet in school.

Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication.

Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet, e.g. 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.

Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in preserving their privacy when online for their own and other people's safety.

### Resources

As a school, we are committed to providing high-quality resources that support the effective delivery of the Computing curriculum and help every child reach their full potential.

To enhance teaching and learning in computing, we have two fully equipped iPad trolleys, each containing 30 iPads (60 in total), along with 17 laptops. These devices are regularly updated every other week by our school technician during scheduled visits. The Computing subject lead oversees the equipment, working closely with the technician, and staff report any issues using a central monitoring system.

Across all Key Stages, pupils have access to a selection of digital cameras. These allow children to use technology purposefully. Creating, organising, storing, manipulating, and retrieving digital content as part of their learning.

Every classroom is fitted with an interactive whiteboard, which supports whole-class teaching. These are used to introduce new skills and software, often in combination with laptops, to create engaging and interactive learning experiences.

### Inclusion

At Worsthorne Primary School, we are proud to be an inclusive learning community where every child is valued and supported. We strive to meet the needs of all pupils, recognising and respecting differences in gender, ethnicity, culture, religion, language, disability, age, and social background.

Our provision for children with special educational needs is guided by our SEND Policy. Pupils with SEND may benefit from;

- Additional adult support
- Pre-teaching
- Learning mats for support during lessons
- iPad layover for pupils with dyslexia
- Adapted resources- alternative apps/websites
- Increased text size
- Use of laptop instead of iPad
- Activity modelled using the visualiser

We hold high expectations for all learners and believe that every child can succeed in computing. We understand that some children may need more time or support to grasp certain concepts, and we are committed to providing the scaffolding and encouragement they need to thrive.

### **Impact**

#### Assessment

- Pupil attainment is assessed using the 2Simple Computing Assessment Tool for Years 1 to 6. The tool enables staff to accurately identify attainment of pupils through the detailed exemplification it has for each key learning intention.
- Teachers keep accurate records of pupil attainment by entering data using the 2Simple Computing Assessment Tool.
- Tracking of attainment by using the 2Simple Computing Assessment Tool is used to inform future planning.
- Children are encouraged to self, peer and group assess work in a positive way using online collaborative tools such as 2Blog in Purple Mash.
- Formative assessment is undertaken each session/interaction in Computing and pupils are very much encouraged to be involved in that process.
- Through using the progression of skills documents and displays from 2Simple, both teachers and pupils can evaluate progress. Features such as preview and correct in Purple Mash are used to further support feedback and assessment.

<b>Date of Policy</b>	<b>November 2025</b>
<b>Person Responsible</b>	<b>M. Kayley</b>
<b>To be reviewed</b>	<b>Annually</b>
<b>Review Date</b>	<b>November 2026</b>