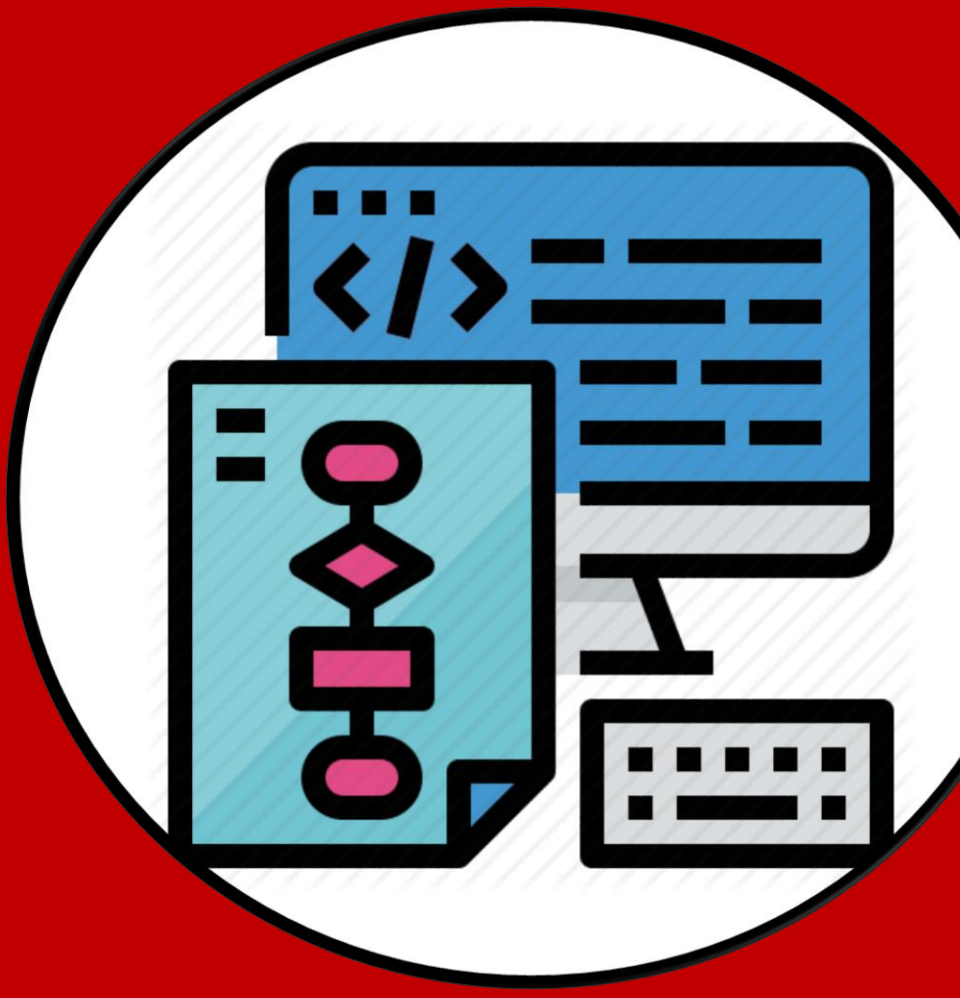
COMPUTING



PORTSWOOD PRIMARY SCHOOL

KEY INFORMATION
2025 - 2026

COMPUTING INTENT

In Computing at Portswood Primary School we encourage children to become **confident** and **creative** users of information and communication technology, **understanding** its **importance** in their lives and in the ever-changing world around them.

We ensure that pupils **understand** how to act as **responsible** online citizens, staying **safe** online to protect their own **wellbeing** and that of those around them.

Our **aims** for computing reflect the aims of the National Curriculum.

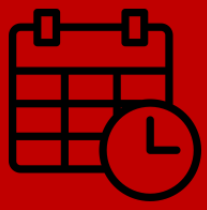
It is our intention to enable children to **find, explore, analyse, exchange and present** information. Our curriculum enables pupils to **explore and develop** a range of skills, **solving problems** and **presenting information** using different equipment and software.

We **equip** pupils with the **key digital literacy skills** they need to **express** themselves and **develop their ideas** through information technology and computer science. Pupils use **computational thinking** and **creativity** to solve problems, and to **understand** and **change the world**. They should leave school **computer literate**.

Pupils at Portswood Primary School should be able to **use** a **range of technologies** to **enrich** their learning across the curriculum. Their **knowledge and skills** should be at a level suitable for the next stage in their computing education.

COMPUTING IMPLEMENTATION

The computing curriculum at Portswood Primary School reflects the aims set out in the National Currriculum Programme of Study.



Units of learning are either planning termly or half-termly, based on the content and the software used. These may be taught as discrete lessons each week or delivered in blocked units of time to allow larger projects to be completed.

Teaching is mostly whole-class based, supported by appropriate differentiation. At times, small group work is also used for children to practise or apply their computing skills in other subject areas across the curriculum.

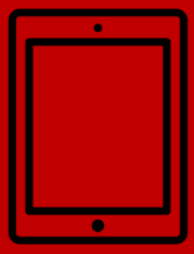
Within the curriculum there are lots of opportunities for collaboration, specifically pair programming, peer instruction, and structured group tasks. This allows the skills of communication and co-operation to be promoted.

COMPUTING IMPLEMENTATION

Early Years Stage

In Early Years, computing is taught through explicit modelling of using technology as well as child-initiated discovery.

In Reception children use the Smart board to select games, songs and dances they would like to join in with; keeping them engaged whilst supporting their physical development. iPads and walkie talkies are used as part of Discovery Time to provide children with opportunities to express themselves and communicate with one another.



Pupils also enjoy experimenting with cameras and BeeBots. They are taught how to stay safe with technology by telling an adult if they have any problems.

Computing is assessed across multiple strands of the Early Years Framework including Understanding the World and and Personal, Social and Emotional Development.

Computing in the Early Years provides pupils with exposure to different types of technology and gives them the opportunity to use them in play for a purpose. They are introduced to the key concepts that are developed further later in KS1 and KS2 which sets them up for success in later years.

COMPUTING IMPLEMENTATION

Long term curriculum planning for computing is created so that each Programme of Study (POS) strand is taught and revisited each academic year.

The strands of computing are:

- Computer Systems and Networks
- Creating media
- Programming
- Data and information

Our computing curriculum is organised so that pupils have the opportunity to develop skills using a wide range of software and hardware. This is set out in our Long Term Planning (LTP), and in greater detail in the school's Medium Term Planning (MTP).

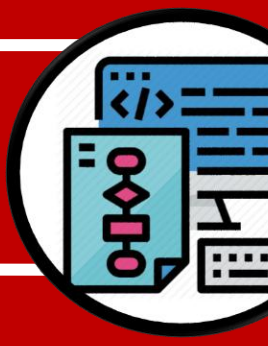
COMPUTING
E-Safety - IMPLEMENTATION

A secure understanding of E-safety is vital for our pupils to be responsible, respectful, digital citizens. E-safety is taught in dedicated units through the PSHE curriculum (see next page) and is woven into the computing curriculum to allow E-safety concepts to be taught in context.

In addition to this, E-safety is taught discretely in short regular sessions throughout the year to emphasise the importance of this subject in a growingly more technological world. Each year group focuses on the same strand of E-safety each term and on the same day to inspire wider conversations about E-safety in our school community. This is followed with an email to parents and carers sharing the learning that has taken place and communicating the key messages.

Specific key days, such as Safer Internet Day, are used as opportunities to further emphasise current E-safety topics that are relevant to our school community.

COMPUTING
E-Safety - IMPLEMENTATION



The following units are taught discretely in PSHE lessons as part of the health and wellbeing strand.

Online safety

- **Year 2 – Looking after yourself -** Feeling safe at school including online. Ways to deal with given scenarios.
- **Year 5 – Online wellbeing** - How do I use technology? Integral part of life with many benefits. Risks of excessive time spent on electronics. Ways to limit time spent online. Circle time - safe and appropriate use of technology.
- **Year 6 – Keeping safe online -** Different ways of accessing/using the internet. It's an integral part of life. Keeping personal information private. Being a discerning consumer of online information. When/how to report concerns. Circle Time - safe use of technology.

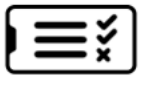
COMPUTING
E-Safety - IMPLEMENTATION

Our ‘E-safety across the school’ document maps out where this knowledge is directly taught.

		EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Autumn 1	Health, wellbeing and lifestyle 	I can identify rules that help keep us safe and healthy in and beyond the home when using technology	I can explain rules to keep myself safe when using technology both in and beyond the home.	I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.	I can explain why spending too much time using technology can sometimes have a negative impact on anyone; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged	I can identify times or situations when someone may need to limit the amount of time they use technology.	I can explain how and why some apps and games may request or take payment for additional content and explain the importance of seeking permission from a trusted adult before purchasing.	I can recognise features of persuasive design and how they are used to keep users engaged (current and future use).
	Self-image and identity 	I can recognise, online or offline, that anyone can say ‘no’ - ‘please stop’ - ‘I’ll tell’ - ‘I’ll ask’ to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.	I can explain how other people may look and act differently online and offline.	I can explain ways in which someone might change their identity depending on what they are doing online.	I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.	I can explain how identity online can be copied, modified or altered.	I can identify and evaluate online content relating to gender, race, religion, culture disability, and other groups, and explain why it is important to challenge and reject inappropriate representations online.
Autumn 2	Privacy and security 	I can identify some simple examples of my personal information and describe who would be trustworthy.	I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.	I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords).	I can describe simple strategies for creating and keeping passwords private.	I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure.	I can explain what app permissions are and can give some examples.	I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content.

Continued on the next page.

COMPUTING
E-Safety - IMPLEMENTATION

Spring 1	Online relationships 	I can recognise some ways in which the internet can be used to communicate.	I can give examples of when I should ask permission to do something online and explain why it is important.	I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky.	I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online.	I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.	I can explain that there are some people I communicate with online who may want to do me or my friend's harm. I can recognise that this is not my / our fault.	I can describe how things shared privately online can have unintended consequences for others.
	UK Safer internet day Lesson linked to the yearly Safer Internet Day theme which looks at what young people are seeing and experiencing online.							
Spring 2	Online bullying 	I can describe ways that some people can be unkind online and give examples of how it makes people feel.	I can describe how to behave online in ways that do not upset others, and I can give examples.	I can explain what bullying is, how people may bully others and how bullying can make someone feel. I can talk about how anyone experiencing bullying can get help.	I can give examples of how bullying behaviour could appear online and how someone can get support.	I can describe ways people can be bullied through a range of media.	I can identify a range of ways to report concerns and access support both in school and at home about online bullying.	I can explain how someone would report online bullying in different contexts.
Summer 1	Online reputation 	I can identify ways that I can put information on the internet.	I can recognise that information can stay online and could be copied.	I can explain how information put online can last for a long time and could be seen by others.	I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing personal information.	I can explain ways that some of the information about anyone online could have been created, copied or shared by others.	I can describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect	I can explain the ways in which anyone can develop a positive online reputation.
Summer 2	Managing online information 	I can talk about how to use the internet as a way of finding information online.	I understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke.	I can explain why some information I find online may not be real or true.	I can explain how the internet can be used to sell and buy things.	I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.	I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence.	I can describe the difference between online misinformation and dis-information
	Copyright and ownership 	I know that work I create belongs to me. I can name my work so that others know it belongs to me.	I can explain why work I create using technology belongs to me.	I can describe why other people's work belongs to them.	I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.	When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have a right to reuse it.	I can assess and justify when it is acceptable to use the work of others.	I can demonstrate the use of search tools to find and access online content which can be reused by others.

COMPUTING IMPLEMENTATION

Whole School provision for computing

Computing at Portswood

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Computing delivered through continuous provision, enhancement and enabling environments.					
Year 1	Computer systems and networks - Technology around us (Online - Paintz.app)	Programming A: Moving a robot (Beebots)	Creating media: Digital painting (Online - Paintz.app)	Data and information: Grouping data (Powerpoint)	Creating media: Digital writing (Word)	Programming B: Programming animations (iPads ScratchJr)
Year 2	Computer systems and networks - Information technology around us (Powerpoint)	Creating media - Digital music (Online Chrome Music Lab)	Programming A - Robot algorithms (Beebots)	Creating media - Digital photography (iPad cameras and apple photo software)	Data and information - Pictograms (Online – J2Data Pictogram)	Programming B: Programming quizzes (iPads Scratch Jr)
Year 3	Computer systems and networks – Connecting computers (Online – Paintz.app)	Programming A – sequencing sounds. (Scratch)	Creating media - stop-frame animation (iPads – I can animate)	Programming B – Events and actions in programs (Scratch)	Data and information – Branching databases (Online – J2Data Branch and Pictogram)	Creating media – Desktop publishing (Publisher)
Year 4	Computer systems and networks – The Internet (Online – various websites)	Creating media – audio production (Audacity)	Programming – repetition in shapes (FMSLogo)	Programming – Repetition in games (Scratch)	Data and information – data logging (Data loggers)	Creating media: Photo editing (Paint.NET)
Year 5	Computer systems and networks: sharing information (Powerpoint)	Creating media: introduction to vector graphics (Powerpoint)	Programming A: Selection in physical computing (Physical computing crumble controllers)	Programming B: Selection in quizzes (Scratch)	Data and information: Flat file database (Online - J2Data Database)	Creating media: Video production (iPads – iMovie)
Year 6	Computer systems and networks – communication and collaboration (Powerpoint)	Data and information – Introduction to spreadsheets. (Excel)	Creating media – 3D Modelling (Online – Tinkercad)	Programming A – Variables in games (Scratch)	Programming B – Sensing movement (Physical computing Micro:bits Online – Makecode microbit)	

Vocabulary

There should be an emphasis on the teaching and modelling of key terminology for computer science, digital literacy and information technology in order for children to be able to understand and articulate their knowledge and understanding.

Recall prior learning

In our lessons, retrieval practice is an essential part of learning. We regularly revisit key concepts from previous lessons to reinforce understanding and strengthen recall. By using this approach, we ensure that knowledge is stored in pupils' long-term memories, allowing them to build on their learning with confidence.

COMPUTING
Key Skills - IMPLEMENTATION

Skills progression:
Computer systems and networks

Year 1
- Identify the parts of a computer.
- Identify technology in the classroom.
- Use a keyboard and a mouse to type on a computer.
- Create and agree on rules to use technology responsibly.

Year 2
- Manage files and folders to save and open work.
- Identify technology in the school and beyond.
- Explain how technology helps people.
- Explain how to use technology safely.
- Discuss the choices we can make when using technology.

Year 3
- Identify different input and output devices.
- Recognise how digital devices can change the way we work.
- Explain how a computer network can be used to share information.
- Explain the role of a switch, server and wireless access point in a network.
- Identify the computer network in the school and explain how devices are connected together.

Year 4
- Describe how information is shared across the internet.
- Recognise how networked devices make up the internet.
- Describe how content is accessed and added to websites on the World Wide Web WWW.
- Recognise that not everything on the WWW is true.
- Recognise that I should think carefully before sharing or resharing content online.

Year 5
- Explain that computers can be connected to form systems.
- Describe how search engines select results and rank them.
- Describe some of the ways that search results can be influenced.

Year 6
- Describe how computers use addresses to access websites.
- Explain that data transferred over the internet and networks is in packets.
- Evaluate different methods of online communication.

COMPUTING
Key Skills - IMPLEMENTATION

Skills progression: **Creating media**

Year 1

- Use digital tools to create pictures.
- Use letter, number, space, backspace and enter keys on a keyboard to manipulate text.
- Use different tools to change the appearance of text.
- Create a simple piece of digital content for a purpose.
- Explain why I have chosen to use certain digital tools.

Year 2

- Use a camera to take photographs.
- Use tools to alter an image.
- Use a computer to create a musical pattern.
- Create music for a purpose using a computer program.

Year 3

- Explain what an animation is.
- Use a camera to create a stop motion animation.
- Explain the difference between text and images.
- Change font style, size, and colours in a document for a given purpose.
- Choose a suitable layout for a document for a given purpose.

Year 4

- Identify input and output devices that are used to record and play sound.
- Use a computer to record audio.
- Record and edit a podcast.
- Combine audio to enhance a podcast project.
- Use tools including cloning and cropping to edit images.
- Combine images for a purpose.

Year 5

- Capture video using a range of techniques.
- Edit a video and make improvements using reshooting.
- Create a vector drawing by combining shapes.
- Use layering to create an image.
- Group objects in a drawing to make them easier to work with.

Year 6

- Recognise that you can work in three dimensions on a computer.
- Manipulate 3D objects including lift, lower, recolour, resize, duplicate, group and rotate in three dimensions.
- Create a 3D model for a given purpose.
- Plan and create a digital 3D model.

COMPUTING
Key Skills - IMPLEMENTATION

Skills progression: **Programming**

Year 1

- Explain what a command will do.
- Combine commands to make a sequence.
- Design and execute a simple program.
- Begin to use the word 'algorithm' to describe a set of instructions.
- Begin to use the word 'debug' when correcting mistakes in programming.

Year 2

- Describe a series of instructions as a sequence.
- Explain that a sequence of commands has an outcome.
- Begin to explain what will happen when the order of instructions changes.
- Predict what will happen for a short series of instructions.
- Design a simple program and explain what it should achieve.
- Test and debug different parts of a program I have written.

Year 3

- Explain what will happen when the order of instructions changes.
- Apply knowledge of sequencing to a different programming language.
- Explain the relationship between an event and an action in Scratch.
- Adapt a program to suit a new context.
- Design a maze based challenge using Scratch.

Year 4

- Write an algorithm for a given purpose.
- Create a program using an algorithm that I have designed.
- Recognise the purpose of count-controlled and infinite loops in programs.
- Design a program in Scratch that includes repetition.

Year 5

- Control a simple circuit connected to a computer.
- Design and use a conditional loop, explaining that a loop can stop when a condition is met.
- Design a program that controls a physical computing project.
- Identify the condition and outcomes in an 'if… then… else…' statements.
- Design and create a program which uses selection.

Year 6

- Describe what a 'variable' is in programming.
- Use variables to improve a game.
- Design, create and evaluate a project that includes variables.
- Create a program to run on a controllable device.
- Design and create a project that uses inputs and outputs on a controllable device.

COMPUTING
Key Skills - IMPLEMENTATION

Skills progression:
Data and information

Year 1
- Use labels to group objects.
- Describe the properties of objects.
- Group objects with similar properties.
- Identify that objects can be counted.
- Compare groups of objects.

Year 2
- Use tally chats to count and compare objects.
- Recognise that objects can be represented as pictures.
- Recognise that objects and people can be described by attributes.
- Create a pictogram.
- Present information in different ways.

Year 3
- Explore the features of branching databases.
- Arrange objects by attributes into a tree structure.
- Explain why it is helpful for a database to be well structured.
- Design and create a branching database.

Year 4
- Identify that data can be gathered over time.
- Use a datalogger to collect information.
- Propose a question that can be answered using logged data.
- Use collected data to answer questions.

Year 5
- Create a database.
- Explain what a field and a record is in a database.
- Use tools to select specific data in a database.
- Use a real-world database to answer questions.

Year 6
- Collect data and enter it into a spreadsheet.
- Construct a formula in a spreadsheet to produce calculated data.
- Create a spreadsheet to plan an event.
- Choose suitable ways to present data.

COMPUTING IMPACT

At Portswood Primary School we ensure that our computing planning and teaching is high quality, providing variety and promoting interest in the subject.

Children enjoy computing. When speaking with pupils across the school, they are enthusiastic about their learning, and they can articulate why the subject is important.
Pupils of all ages can explain how to stay safe online and what to do if they encounter any issues.

Computing allows children to develop skills which are relevant to their everyday life and they are able to use their own knowledge and understanding to enhance their learning.

As the strands of computing are revisited throughout Key Stage 1 and 2, there is a clear skills progression within the subject. Pupils become adept at using specific software, such as Scratch, but are also given ample opportunity to explore a range of programmes. This allows them to use and apply their skills with confidence.

Within Programming, for example, pupils explore algorithms using BeeBots in Year 1. They then progress to writing simple code using Scratch Junior in Year 2. In LKS2, pupils develop their skills to create a simple maze game and in UKS2 they apply their knowledge to use hardware including crumble controllers and micro:bits to create programs for a purpose.

COMPUTING
IMPACT

The quality of teaching is high. Teachers use their subject knowledge to engage and inspire pupils.

As a school, we strive to use IT across the curriculum to support and enhance learning experiences, too. For example, in Year 5 pupils use their Digital Literacy skills to create CVs linked to the novel they study. In Year 1, BeeBots are programmed to move around the model streets of Portswood which are created in their Geography study of the local area.

Planning for each computing unit is adapted from the MTP. The short term planning is either taught as a block or in a series of sessions over a half-term or term.

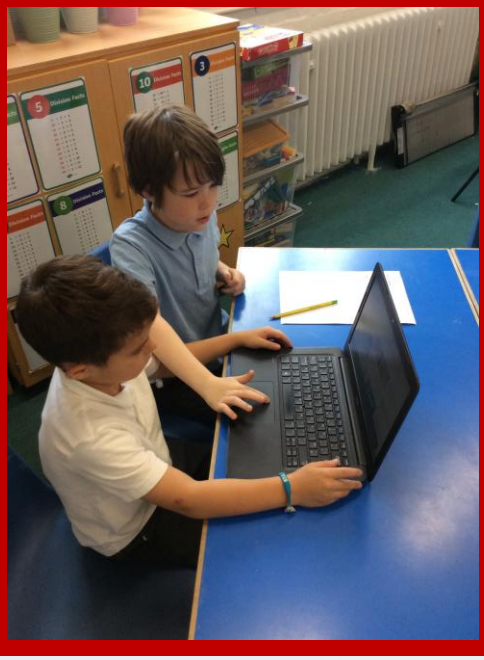
In computing, pupils show enthusiasm and very good attitudes to their learning. They are proud of their outcomes and are able to discuss the relevance of their learning, both across the curriculum and within their lives outside of school. Well planned units mean pupils are shown clear models and they make good progress learning and using skills.

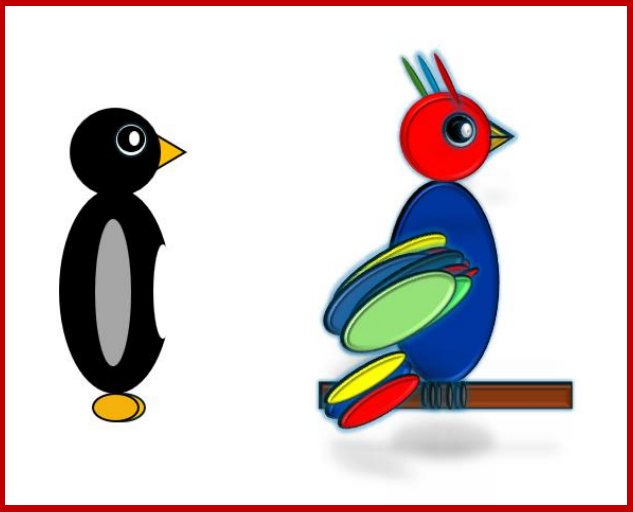
COMPUTING
IMPACT

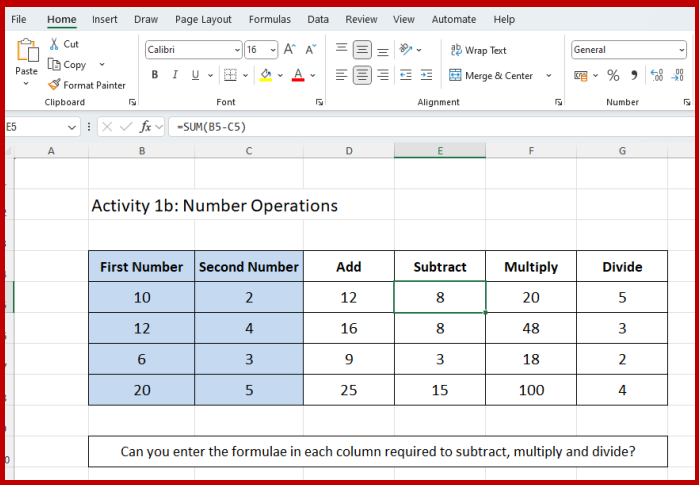
By the time pupils leave Portswood Primary School, they are **aware** of how to be **safe**, **responsible** users of information technology. Pupils know what to do if they encounter any issues online.

COMPUTING
IMPACT

By the time pupils leave Portswood Primary school, they are **computer literate**. They can use technology to **find**, **share** and **present** information.

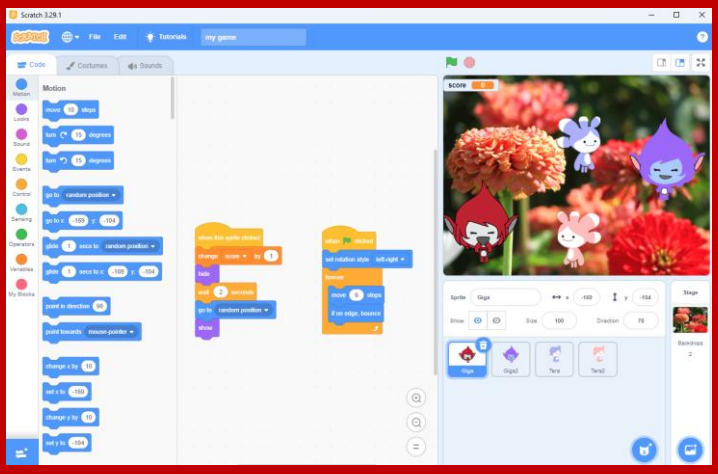


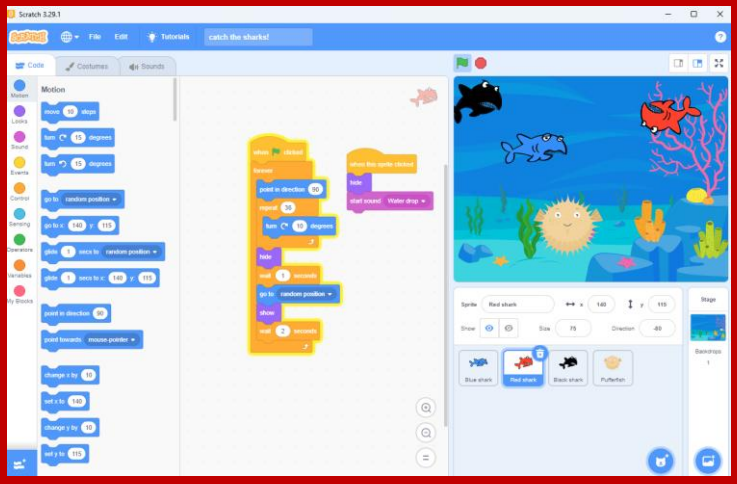




COMPUTING
IMPACT

By the time pupils leave Portswood Primary School, they are able to **use technology confidently** and **creatively** to **design** programmes and **solve** problems.





COMPUTING
IMPACT – Pupil Voice

What our pupils say about computing:

I enjoy computing because it is so exciting.

I loved using the BeeBots and we gave them instructions so they move. You call it a code.

I learn how to do things I couldn't do before and it's really fun exploring.

Computing is definitely my favourite lesson at school because I can practise typing and then you can type anything.

Computing is great because it is interesting and I like using the internet to research. It's useful because things I learn can help me in all my lessons.

I love coding. It's cool that we get to make games and you can design it and make it look however you want. The teachers let you be creative. I like coding at home, too.

I'll always remember the projects we did, especially on Scratch because they were so much fun. We use research to help us with all of our learning and I like presenting my work using the computer too.