

# COMPUTING

AT SHALFLEET AND YARMOUTH CHURCH OF ENGLAND  
PRIMARY SCHOOLS

# NATIONAL CURRICULUM STATEMENT

## Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. 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. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. 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.

## Aims

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.

# OUR INTENT

By the time our children leave our school, our computing provision aims to have equipped them with the necessary skills to understand and access the modern technological world. They will have developed computational thinking, increased their digitally literacy and thus be prepared for their future work environment.

# The Federation of the Church Schools of Shalfleet and Yarmouth

## Curriculum for Learning Overview

What are we trying to achieve?

**Lifelong Achievement**

**Curriculum Values**

**Design principles to inspire & challenge**

Our purpose is to educate children in an atmosphere of Christian love where all achieve the very best they can, now and throughout their lives

<b>Relationships</b> We have strong partnerships and positive relationships	<b>Determination</b> We are determined to do our very best to achieve	<b>Respect</b> We show respect to others and the environment	
<b>Coherent learning links and pathways</b>	<b>Strong working partnerships</b>	<b>High quality outcomes, deep learning</b>	<b>Valuing all children, learning is accessible to all</b>
<b>Challenging, engaging and motivating</b>	<b>Opportunities for memorable experiences</b>	<b>Promotes independence and curiosity</b>	<b>Broad, relevant and balanced Local, Mainland, Global</b>

How do we implement?

**Components**

**Teaching for Learning**

**Approaches**

**EYFS/National Curriculum**

**The curriculum as the entire planned learning experience**

Lessons	Topics	Events/Trips	Environment	Enrichment/Inspire	Partnerships							
Clear understanding of cognition and learning – Good subject knowledge – Skilful instruction, coaching and facilitating – Flexible and responsive teaching strategies – Stimulating and well organised learning environments – Effective use of assessment - High expectations and productive interactions												
Sequences of learning that link key ideas in subject domains - rich connected learning journeys – clear progression of learning – flexible inclusion strategies to tackle educational disadvantage - social, moral, spiritual, cultural education												
CLL	PSED	PD	Literacy	Maths	UW	EAD						
Eng	Ma	Sci	Comp	D&T	Hist	Geo	A&D	Music	PE	MFL	PSHE	RE
Positive relationships and interactions	Appropriate learning opportunities understood by pupils	Children understand how to be successful	Oral and written feedback that has impact	Dialogic talk and rich questioning	Developing meta-cognition	Moderation underpins standards	Effective use of assessment driving tailored learning	Target setting and review				

What is the impact?

**Successful Learning**

**Our curriculum impact can be measured by...**

**Systematic monitoring, action and review : Do design principles translate into an inspiring and challenging curriculum for all?**

**Evidenced by...**

High achievement and outcomes for all across the curriculum	Good behaviour, positive attitudes and high attendance	Teaching that is engaging and consistently good for all	Motivated teams & positive learning culture	Confident, kind, respectful, determined learners
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<p><b>Federation Vision for Computing – Intention for Children</b></p> <p>By the time our children leave our school, our computing provision aims to have equipped them with the necessary skills to understand and access the modern technological world. They will have developed computational thinking, increased their digitally literacy and thus be prepared for their future work environment.</p>	<p style="text-align: center;"><b>Big Ideas</b></p> <ul style="list-style-type: none"> <li>- Computer science – exploring algorithms behind programs and creating these, moving on to learning how to test and debug these to create a working program of their own.</li> <li>- Information technology – learning a variety of skills within the realms of IT, these include word processing, presentation creation, spreadsheets, databases and video production.</li> <li>- Digital literacy – investigating how to be safe when using computing technology not just restricted to computers. Giving children the tools to protect themselves.</li> </ul>		<p style="text-align: center;"><b>Content and Sequencing (Broad, relevant and balanced)</b></p> <ul style="list-style-type: none"> <li>- Create and debug simple programs (KS1) Design, write and debug programs that accomplish specific goals (KS2)</li> <li>- Use logical reasoning to predict behaviour of simple programs (KS1) Using logical reasoning to explain how simple algorithms work and detect errors (KS2)</li> <li>- Use technology safely and respectfully, keeping personal information private and knowing where to go for help (KS1) recognising acceptable/unacceptable behaviour and identifying a number of ways to report issues (KS2)</li> <li>- Use technology purposefully to create, organise, store, manipulate and retrieve digital content (KS1) Select, use and combine a variety of software (including internet services) on a range of devices (KS2)</li> <li>- Recognise common uses of information technology beyond school (KS1) Understand computer networks including the internet (KS2)</li> <li>- Create and debug simple programs (KS1) Use sequence, selection, repetitions, variables, inputs and outputs in programs (KS2)</li> </ul>	
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**Vision for the Federation Learning Principles in Computing**

<b>Coherent Learning Links and Pathways:</b>	<b>Strong Working Partnerships:</b>	<b>High Quality Outcomes/Deep Learning:</b>	<b>Valuing All Children/Accessible Learning:</b>	<b>Challenging, Engaging and Motivating:</b>	<b>Opportunities for Memorable Experiences:</b>	<b>Promotes Independence and Curiosity:</b>	<b>Local, Mainland and Global:</b>
Algorithms link strongly to mathematics, requiring children to apply their learning to sequencing code.	Children will work together to evaluate and debug their projects, offering ideas and suggestions to improve them further.	Through teaching the children will have a deep understanding of how computing systems work and power our lives.	All children in our Federation have the same opportunities to achieve the same end goals as each other with scaffolding enabling this.	Children will be challenged to apply their skills across the computing curriculum to create a range of projects that they can creatively adapt to truly make their own.	Children will leave school remembering the first time they learned how to use computing skills that they will use repeatedly throughout their lifetime.	Children will be able to apply their learned skills within computing science to develop projects that they can test with their own ideas.	Children will be able to develop skills that allow them to communicate effectively across the technological landscape of our world.

<p><b>Links with English and Maths</b></p>	<p style="text-align: center;"><b>Progress</b></p>	<p style="text-align: center;"><b>Support</b></p>
<p><b>Maths:</b> Directional language, angles, measurement, four main operations, sequencing, coordinates</p> <p><b>English:</b> Sentence structure skills within word processing</p>	<p>Projects based around computing science skills (computing) will develop through the year groups in the complexity of algorithms used and support given.</p> <p>Information technology areas will show developed skills in their projects appropriate for their year groups (such as spreadsheet formulas being developed in upper KS2)</p>	<p>Everyone has access to the computing National Curriculum. Children will be supported with recapping any basic skill not achieved in previous year groups.</p> <p>Changes made to computers/devices in order to enable access (background lighting/colours or keyboard sizing for example)</p>

# PROGRESSION OF SKILLS

1. Computer Systems and Networks
2. Creating Media
3. Data and Information
4. Programming
5. Vocabulary and Resources
6. Overview of coverage (Split into EYFS and KSI, LKS2, and UKS2)

COMPUTING	EYFS Link	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COMPUTER SYSTEMS AND NETWORKS	<ul style="list-style-type: none"> <li>- Knows what a keyboard is</li> <li>- Knows how to log in and out</li> <li>- Knows how to control a mouse including clicking</li> <li>- Have explored different hardware</li> <li>- Can take photos using a camera app</li> </ul>	<ul style="list-style-type: none"> <li>- Identify technology</li> <li>- Identify a computer and its main parts</li> <li>- Use a mouse in different ways</li> <li>- Use a keyboard to type on a computer</li> <li>- Use the keyboard to edit text</li> <li>- Create rules for using technology responsibly</li> </ul>	<ul style="list-style-type: none"> <li>- Recognise the uses and features of information technology</li> <li>- Identify the uses of information technology in the school</li> <li>- Identify information technology beyond school</li> <li>- Explain how information technology helps us</li> <li>- Explain how to use information technology safely</li> <li>- Recognise that choices are made when using information technology</li> </ul>	<ul style="list-style-type: none"> <li>- Explain how digital devices function</li> <li>- Identify input and output devices</li> <li>- Recognise how digital devices can change the way we work</li> <li>- Explain how a computer network can be used to share information</li> <li>- Explore how digital devices can be connected</li> <li>- Recognise the physical components of a network</li> </ul>	<ul style="list-style-type: none"> <li>- Describe how networks physically connect to other networks</li> <li>- Recognise how networked devices make up the internet</li> <li>- Outline how websites can be shared via the World Wide Web (WWW)</li> <li>- Describe how content can be added and accessed on the World Wide Web (WWW)</li> <li>- Recognise how the content of the WWW is created by people</li> <li>- Evaluate the consequences of unreliable content</li> </ul>	<ul style="list-style-type: none"> <li>- Explain that computers can be connected together to form systems</li> <li>- Recognise the role of computer systems in our lives</li> <li>- Identify how to use a search engine</li> <li>- Describe how search engines select results</li> <li>- Explain how search results are ranked</li> <li>- Recognise why the order of results is important, and to whom</li> </ul>	<ul style="list-style-type: none"> <li>- Explain the importance of internet addresses</li> <li>- Recognise how data is transferred across the internet</li> <li>- Explain how sharing information online can help people to work together</li> <li>- Evaluate different ways of working together online</li> <li>- Recognise how we communicate using technology</li> <li>- Evaluate different methods of online communication</li> </ul>
CREATING MEDIA		<ul style="list-style-type: none"> <li>- Describe what different freehand tools do</li> <li>- Use the shape tool and the line tools</li> <li>- Make careful choices when painting a digital picture</li> <li>- Explain why I chose the tools I used</li> <li>- Use a computer on my own to paint a picture</li> <li>- Compare painting a picture on a computer and on paper</li> <li>- Use a computer to write</li> <li>- Add and remove text on a computer</li> <li>- Identify that the look of text can be changed on a computer</li> <li>- Make careful choices when changing text</li> <li>- Explain why I used the tools that I chose</li> <li>- Compare typing on a computer to writing on paper</li> </ul>	<ul style="list-style-type: none"> <li>- Use a digital device to take a photograph</li> <li>- Make choices when taking a photograph</li> <li>- Describe what makes a good photograph</li> <li>- Decide how photographs can be improved</li> <li>- Use tools to change an image</li> <li>- Recognise that photos can be changed</li> <li>- Say how music can make us feel</li> <li>- Identify that there are patterns in music</li> <li>- Show how music is made from a series of notes</li> <li>- Show how music is made from a series of notes</li> <li>- Create music for a purpose</li> <li>- Review and refine our computer work</li> </ul>	<ul style="list-style-type: none"> <li>- Explain that animation is a sequence of drawings or photographs</li> <li>- Relate animated movement with a sequence of images</li> <li>- Plan an animation</li> <li>- Identify the need to work consistently and carefully</li> <li>- Review and improve an animation</li> <li>- Evaluate the impact of adding other media to an animation</li> <li>- Recognise how text and images convey information</li> <li>- Recognise that text and layout can be edited</li> <li>- Choose appropriate page settings</li> <li>- Add content to a desktop publishing publication</li> <li>- Consider how different layouts can suit different purposes</li> <li>- Consider the benefits of desktop publishing</li> </ul>	<ul style="list-style-type: none"> <li>- Identify that sound can be digitally recorded</li> <li>- Use a digital device to record sound</li> <li>- Explain that a digital recording is stored as a file</li> <li>- Explain that audio can be changed through editing</li> <li>- Show that different types of audio can be combined and played together</li> <li>- Evaluate editing choices made</li> <li>- Explain that digital images can be changed</li> <li>- Change the composition of an image</li> <li>- Describe how images can be changed for different uses</li> <li>- Make good choices when selecting different tools</li> <li>- Recognise that not all images are real</li> <li>- Evaluate how changes can improve an image</li> </ul>	<ul style="list-style-type: none"> <li>- Explain what makes a video effective</li> <li>- Identify digital devices that can record video</li> <li>- Capture video using a range of techniques</li> <li>- Create a storyboard</li> <li>- Identify that video can be improved through reshooting and editing</li> <li>- Consider the impact of the choices made when making and sharing a video</li> <li>- Identify that drawing tools can be used to produce different outcomes</li> <li>- Create a vector drawing by combining shapes</li> <li>- Use tools to achieve a desired effect</li> <li>- Recognise that vector drawings consist of layers</li> <li>- Group objects to make them easier to work with</li> <li>- Evaluate my vector drawing</li> </ul>	<ul style="list-style-type: none"> <li>- Review an existing website and consider its structure</li> <li>- Plan the features of a web page</li> <li>- Consider the ownership and use of images (copyright)</li> <li>- Recognise the need to preview pages</li> <li>- Outline the need for a navigation path</li> <li>- Recognise the implications of linking to content owned by other people</li> <li>- Use a computer to create and manipulate three-dimensional (3D) digital objects</li> <li>- Compare working digitally with 2D and 3D graphics</li> <li>- Construct a digital 3D model of a physical object</li> <li>- Identify that physical objects can be broken down into a collection of 3D shapes</li> <li>- Design a digital model by combining 3D objects</li> <li>- Develop and improve a digital 3D model</li> </ul>




<b>DATA AND INFORMATION</b>	<ul style="list-style-type: none"> <li>- Can sort and categorise objects</li> <li>- Can sort people into groups</li> <li>- Can use yes/no sorting questions</li> <li>- Can use a branching database physically</li> <li>- Can interpret basic pictograms</li> </ul>	<ul style="list-style-type: none"> <li>- Label objects</li> <li>- Identify that objects can be counted</li> <li>- Describe objects in different ways</li> <li>- Count objects with the same properties</li> <li>- Compare groups of objects</li> <li>- Answer questions about groups of objects</li> </ul>	<ul style="list-style-type: none"> <li>- Recognise that we can count and compare objects using tally charts</li> <li>- Recognise that objects can be represented as pictures</li> <li>- Create a pictogram</li> <li>- Select objects by attribute and make comparisons</li> <li>- Recognise that people can be described by attributes</li> <li>- Explain that we can present information using a computer</li> </ul>	<ul style="list-style-type: none"> <li>- Create questions with yes/no answers</li> <li>- Identify the object attributes needed to collect relevant data</li> <li>- Create a branching database</li> <li>- Explain why it is helpful for a database to be well structured</li> <li>- Identify objects using a branching database</li> <li>- Compare the information shown in a pictogram with a branching database</li> </ul>	<ul style="list-style-type: none"> <li>- Explain that data gathered over time can be used to answer questions</li> <li>- Use a digital device to collect data automatically</li> <li>- Explain that a data logger collects 'data points' from sensors over time</li> <li>- Use data collected over a long duration to find information</li> <li>- Identify the data needed to answer questions</li> <li>- Use collected data to answer questions</li> </ul>	<ul style="list-style-type: none"> <li>- Use a form to record information</li> <li>- Compare paper and computer-based databases</li> <li>- Outline how grouping and then sorting data allows us to answer questions</li> <li>- Explain that tools can be used to select specific data</li> <li>- Explain that computer programs can be used to compare data visually</li> <li>- Apply my knowledge of a database to ask and answer real-world questions</li> </ul>	<ul style="list-style-type: none"> <li>- Identify questions which can be answered using data</li> <li>- Explain that objects can be described using data</li> <li>- Explain that formulas can be used to produce calculated data</li> <li>- Apply formulas to data, including duplicating</li> <li>- Create a spreadsheet to plan an event</li> <li>- Choose suitable ways to present data</li> </ul>
<b>PROGRAMMING</b>	<ul style="list-style-type: none"> <li>- Can follow instructions</li> <li>- Can give instructions</li> <li>- Can read simple instructions</li> <li>- Can read directional arrows</li> <li>- Can give a Bee-bot a simple command</li> <li>- Can debug instructions when they go wrong</li> </ul>	<ul style="list-style-type: none"> <li>- Explain what a given command will do</li> <li>- Act out a given word</li> <li>- Combine forwards and backwards commands to make a sequence</li> <li>- Combine four direction commands to make sequences</li> <li>- Plan a simple program</li> <li>- Find more than one solution to a problem</li> <li>- Choose a command for a given purpose</li> <li>- Show that a series of commands can be joined together</li> <li>- Identify the effect of changing a value</li> <li>- Explain that each sprite has its own instructions</li> <li>- Design the parts of a project</li> <li>- Use my algorithm to create a program</li> </ul>	<ul style="list-style-type: none"> <li>- Describe a series of instructions as a sequence</li> <li>- Explain what happens when we change the order of instructions</li> <li>- Use logical reasoning to predict the outcome of a program (series of commands)</li> <li>- Explain that programming projects can have code and artwork</li> <li>- Design an algorithm</li> <li>- Create and debug a program that I have written</li> <li>- Explain that a sequence of commands has a start</li> <li>- Explain that a sequence of commands has an outcome</li> <li>- Create a program using a given design</li> <li>- Change a given design</li> <li>- Create a program using my own design</li> <li>- Decide how my project can be improved</li> </ul>	<ul style="list-style-type: none"> <li>- Explore a new programming environment</li> <li>- Identify that commands have an outcome</li> <li>- Explain that a program has a start</li> <li>- Recognise that a sequence of commands can have an order</li> <li>- Change the appearance of my project</li> <li>- Create a project from a task description</li> <li>- Explain how a sprite moves in an existing project</li> <li>- Create a program to move a sprite in four directions</li> <li>- Adapt a program to a new context</li> <li>- Develop my program by adding features</li> <li>- Identify and fix bugs in a program</li> <li>- Design and create a maze-based challenge</li> </ul>	<ul style="list-style-type: none"> <li>- Identify that accuracy in programming is important</li> <li>- Create a program in a text-based language</li> <li>- Explain what 'repeat' means</li> <li>- Modify a count-controlled loop to produce a given outcome</li> <li>- Decompose a task into small steps</li> <li>- Create a program that uses count-controlled loops to produce a given outcome</li> <li>- Develop the use of count-controlled loops in a different programming environment</li> <li>- Explain that in programming there are infinite loops and count controlled loops</li> <li>- Develop a design that includes two or more loops which run at the same time</li> <li>- Modify an infinite loop in a given program</li> <li>- Design a project that includes repetition</li> <li>- Create a project that includes repetition</li> </ul>	<ul style="list-style-type: none"> <li>- Explain how selection is used in computer programs</li> <li>- Relate that a conditional statement connects a condition to an outcome</li> <li>- Explain how selection directs the flow of a program</li> <li>- Design a program which uses selection</li> <li>- Create a program which uses selection</li> <li>- Evaluate my program</li> </ul>	<ul style="list-style-type: none"> <li>- Define a 'procedure' as something that can be run multiple times</li> <li>- Explain why a procedure is used in a program</li> <li>- Choose how to improve a game by using procedures</li> <li>- Define a 'variable' as something that is changeable</li> <li>- Explain why a variable is used in a program</li> <li>- Choose how to improve a game by using variables</li> <li>- Design a project that builds on a given example</li> <li>- Use my design to create a project</li> <li>- Evaluate my project</li> </ul>
<b>Key Vocabulary – See the link below for detailed explanations of the terms</b>  <a href="https://teachcomputing.org/primary-computing-glossary">https://teachcomputing.org/primary-computing-glossary</a>	<b>Device, computer, mouse, click, keyboard, numbers, letters, document, type, spacebar, screen, internet, online, technology, content, text, image, video, audio, media, digital, data, information, personal, online, real life, trust, categories, action, success, failure, repeat, outcome, instructions, approach, control, patterns, input, order, sort, group, pictogram</b>	<b>Algorithm, Attribute (property), Code, Code snippet, Command, Computer, Data, Debugging Information, Information Technology, Object, Program, Property (attribute), Run (execute), Technology</b>	<b>Algorithm, Attribute (property), Browser, Code, Code snippet, Command, Computer, Computer network, Computer system, Condition, Condition-controlled loop, Count-controlled loop, Data, Data set, Debugging, Decompose, Digital device, Domain name, Execute (run)</b> <b>Hardware, HTML (HyperText Markup Language), Hyperlink, Infinite loop, Information, Input, Input device, Internet, Loop, Loop(condition-controlled), Loop (count-controlled), Loop (infinite), Network, Object, Output, Output device, Procedure, Process, Program, Repetition, Router, Run (execute), Selection, Server, Software, Stored (data), Subroutine, Switch (network switch), URL (Uniform Resource Locator), Variable, Web, Web address, Web browser, Web page, Website, WiFi, WAP (Wireless Access Point)</b> <b>WWW (World Wide Web)</b>				
<b>Resources – Including link to Reading</b>	<b>See long term plan for the resources for each year group</b>						



# FEDERATION COVERAGE – EYFS & KSI

## COMPUTING LONG TERM PLAN 2022-2023

	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
<p>EYFS (see sequences for each area in the document below)</p>  <p>Computing-EYFS-overview-slides-23-07-</p>	<p><b>(Although 'Technology' was removed from 'Understanding the World' – The following are key steps to preparing children for computing in KS1) This can of course be flexible and I have purposefully kept the planning simple so it can be adapted to interests and topics.</b></p>					
		<p><i>Computer Systems and Networks - Using a <u>Computer</u></i></p> <p><b>Key Program</b> – Laptops (not iPads)</p>	<p><i>Programming A – 'All about Instructions'</i></p> <p><b>Key Program</b> – Barefoot activities</p>	<p><i>Computer Systems and Networks - Exploring Hardware</i></p> <p><b>Key Program</b> – iPad camera app</p>	<p><i>Programming B – Bee bots</i></p> <p><b>Key Program</b> – <b>Bee bots</b></p>	<p><i>Data and Information – Introduction to Data</i></p> <p><b>Key Program</b> – Barefoot activities</p>
YEAR 1	<p><i>Computer Systems and Networks - 'Technology Around Us'</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-technology-around-us">https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-technology-around-us</a></p> <p><b>Key Program</b> – <a href="http://www.paintz.app">www.paintz.app</a></p>	<p><i>Creating Media – Digital Painting</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-painting">https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-painting</a></p> <p><b>Key Program</b> – <a href="http://www.paintz.app">www.paintz.app</a></p>	<p><i>Creating Media – Digital Writing</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing">https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing</a></p> <p><b>Key Program</b> – Microsoft Word</p>	<p><i>Data and Information – Grouping Data</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data">https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data</a></p> <p><b>Key Program</b> – Provided PowerPoint Resources</p>	<p><i>Programming A – Moving a <u>Robot</u></i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot">https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot</a></p> <p><b>Key Program</b> – <b>Bee Bots</b></p>	<p><i>Programming B – Animation Introduction</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/programming-b-introduction-to-animation">https://teachcomputing.org/curriculum/key-stage-1/programming-b-introduction-to-animation</a></p> <p><b>Key Program</b> – Scratch Jnr (iPads)</p>
YEAR 2	<p><i>Computer Systems and Networks - 'IT Around Us'</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-it-around-us">https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-it-around-us</a></p> <p><b>Key Program</b> – 'Barefoot' activities</p>	<p><i>Creating Media – Digital Photography</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography">https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography</a></p> <p><b>Key Program</b> – iPad Camera App &amp; Editor OR <a href="https://pixlr.com/x/">https://pixlr.com/x/</a></p>	<p><i>Creating Media – Making Music</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing">https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing</a></p> <p><b>Key Program</b> – Chrome Music Labs - <a href="https://musiclab.chromeexperiments.com/">https://musiclab.chromeexperiments.com/</a></p>	<p><i>Data and Information – Pictograms</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data">https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data</a></p> <p><b>Key Program</b> – J2E Pictograms - <a href="https://www.j2e.com/jit5#pictogram">https://www.j2e.com/jit5#pictogram</a></p>	<p><i>Programming A – Robot Algorithms</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms">https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms</a></p> <p><b>Key Program</b> – <b>Bee Bots</b></p>	<p><i>Programming B – An Introduction to Quizzes</i></p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes">https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes</a></p> <p><b>Key Program</b> – Scratch Jnr (iPads)</p>

# FEDERATION COVERAGE – LKS2

<p>YEAR 3</p>	<p>Computer Systems and Networks - 'Connecting Computers'</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers">https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers</a></p> <p><b>Key Program – <a href="http://www.paintz.app">www.paintz.app</a></b></p>	<p>Creating Media – Animation</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation">https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation</a></p> <p><b>Key Program – iMotion App OR An Equivalent Stop Motion App</b></p>	<p>Creating Media – Desktop Publishing</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing">https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing</a></p> <p><b>Key Program – Adobe Express (Children will need to sign in)</b></p>	<p>Data and Information – Branching Databases</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases">https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases</a></p> <p><b>Key Program – J2E Branch Databases - <a href="https://www.j2e.com/jit5#branch">https://www.j2e.com/jit5#branch</a></b></p>	<p>Programming A – Sequence in Music</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/programming-a-sequence-in-music">https://teachcomputing.org/curriculum/key-stage-2/programming-a-sequence-in-music</a></p> <p><b>Key Program – Scratch</b></p>	<p>Programming B – Events and Actions</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes">https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes</a></p> <p><b>Key Program – Scratch</b></p>
<p>YEAR 4</p>	<p>Computer Systems and Networks – The Internet</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet">https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet</a></p> <p><b>Key Program – Variety of websites (Including Chrome Music Labs)</b></p>	<p>Creating Media – Audio Editing</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-audio-editing">https://teachcomputing.org/curriculum/key-stage-2/creating-media-audio-editing</a></p> <p><b>Key Program – Audacity</b></p>	<p>Creating Media – Photo Editing</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing">https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing</a></p> <p><b>Key Program – <a href="http://paint.net">paint.net</a></b></p>	<p>Data and Information – Data Logging</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging">https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging</a></p> <p><b>Key Program – Arduino Science Journal App</b></p>	<p>Programming A – Repetition in Shapes</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes">https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes</a></p> <p><b>Key Program – <a href="http://turtleacademy.com/playground">turtleacademy.com/playground</a> (Children can sign in) OR FMS Logo</b></p>	<p>Programming B – Repetition in Games</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games">https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games</a></p> <p><b>Key Program – Scratch</b></p>

# FEDERATION COVERAGE – UKS2

<p>YEAR 5</p>	<p>Computer Systems and Networks - 'Sharing Information'</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-sharing-information">https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-sharing-information</a></p> <p><b>Key Program</b> – Search Engines (Google)</p>	<p>Creating Media – Vector Drawing</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-vector-drawing">https://teachcomputing.org/curriculum/key-stage-2/creating-media-vector-drawing</a></p> <p><b>Key Program</b> – <a href="https://docs.google.com/drawings/">https://docs.google.com/drawings/</a> (Children will need to sign in)</p>	<p>Creating Media – Video Editing</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-video-editing">https://teachcomputing.org/curriculum/key-stage-2/creating-media-video-editing</a></p> <p><b>Key Program</b> – iMovie</p>	<p>Data and Information – Flat-file Databases</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/data-and-information-flat-file-databases">https://teachcomputing.org/curriculum/key-stage-2/data-and-information-flat-file-databases</a></p> <p><b>Key Program</b> – J2E Databases - <a href="https://www.j2e.com/database/">https://www.j2e.com/database/</a> (Children will need to sign in)</p>	<p>Programming A – Selection in Games</p> <p><a href="http://code-it.co.uk/goldgame/Diving%20Beetle%20game">http://code-it.co.uk/goldgame/Diving Beetle game</a></p> <p>(USE, MODIFY, CREATE booklets to be used)</p> <p><b>Key Program</b> – Scratch</p>	<p>Programming B – Selection in Quizzes</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/programming-b-selection-in-quizzes">https://teachcomputing.org/curriculum/key-stage-2/programming-b-selection-in-quizzes</a></p> <p><b>Key Program</b> – Scratch</p>
<p>YEAR 6</p>	<p>Computer Systems and Networks - 'Communication'</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication">https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication</a></p> <p><b>Key Program</b> – Various Including Scratch</p>	<p>Creating Media – 3D Modelling</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-3d-modelling">https://teachcomputing.org/curriculum/key-stage-2/creating-media-3d-modelling</a></p> <p><b>Key Program</b> – <a href="https://www.tinkercad.com/">https://www.tinkercad.com/</a> (Children will need <u>tinkercad</u> accounts, see me to support setting these up)</p>	<p>Creating Media – Web Page Creation</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation">https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation</a></p> <p><b>Key Program</b> – Google Sites - <a href="https://sites.google.com/">https://sites.google.com/</a> (Children will need to sign in)</p>	<p>Data and Information – Spreadsheets</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/data-and-information-spreadsheets/lesson-2-modifying-spreadsheets">https://teachcomputing.org/curriculum/key-stage-2/data-and-information-spreadsheets/lesson-2-modifying-spreadsheets</a></p> <p><b>Key Program</b> – Microsoft Excel</p>	<p>Programming A – Variables in Games</p> <p><a href="https://teachcomputing.org/curriculum/key-stage-2/programming-a-variables-in-games">https://teachcomputing.org/curriculum/key-stage-2/programming-a-variables-in-games</a></p> <p><b>Key Program</b> – Scratch</p>	<p>Programming B – Procedures in Games</p> <p><a href="http://code-it.co.uk/goldshape/7/">http://code-it.co.uk/goldshape/7/</a></p> <p>(USE, MODIFY, CREATE booklets to be used)</p> <p><b>Key Program</b> – Scratch</p>

# PLANNING DOCUMENTS – MEDIUM TERM

AUTUMN

SPRING

SUMMER

# OUR IMPLEMENTATION - ASSESSMENT

Class teachers use assessment to track the achievements of pupils through the computing subsections. This can influence next steps for pupils and the level of support needed.

I will use assessment to analyse summative data through the monitoring and evaluating process.

**Key computing targets for each sequence of lessons and children should be assessed against these.**

*The assessment model is designed to support all pupils to access the computing curriculum and also challenge higher attaining pupils.*

The assessment of computing is supported by the targets from the computing progression map and the assessment document is designed to support staff with accurate assessment measures by identifying children who have achieved targets and importantly inputting the names that have yet to achieve a target.



	Computing	RE	Art	
	COMPUTER SYSTEMS AND NETWORKS	COMMUNICATE	KNOWLEDGE	
	Explain the importance of internet addresses	Goodall, Annie	Explain my own response to laws.	Give detailed observations about notable artists', artisans' and designers' work;
	Recognise how data is transferred across the internet	Covered	Explain my own response to the concept of prophecy.	Offer facts about notable artists', artisans' and designers' lives;
	Explain how sharing information online can help people to work together		Explain my own response to rituals.	SKILLS
	Evaluate different ways of working together online		Explain my own response to resurrection	Use a variety of techniques to add effects, e.g. shadows, reflection, hatching and cross-hatching;

DESIGN





# FEDERATION CURRICULUM ASSESSMENT



Key area of subject

Individual target

Insert names of individuals not achieving target (target yellow)

Target fully secured by all class (target green)

Target not covered (stays red)

Computing	RE	Art	
COMPUTER SYSTEMS AND NETWORKS	COMMUNCIATE	KNOWLEDGE	
Explain the importance of internet addresses	Goodall, Annie	Explain my own response to laws.	Give detailed observations about notable artists', artisans' and designers' work;
Recognise how data is transferred across the internet	Covered	Explain my own response to the concept of prophecy.	Offer facts about notable artists', artisans' and designers' lives;
Explain how sharing information online can help people to work together		Explain my own response to rituals.	<b>SKILLS</b>
Evaluate different ways of working together online		Explain my own response to resurrection	Use a variety of techniques to add effects, e.g. shadows, reflection, hatching and cross-hatching;

DESIGN



# MONITORING AND EVALUATING

Impact of the implementation of the computing curriculum is measured in a variety of ways.

These include:

- Pupil Conferencing
- Work Scrutiny – alongside teacher's planning
- Assessment data
- Learning walks
- Learning environment

**EVIDENCE ATTAINED FROM THESE FOLLOWS ON THE NEXT SLIDES (SPLIT INTO YEAR GROUPS)**

# SHALFLEET – EYFS TO YEAR 6

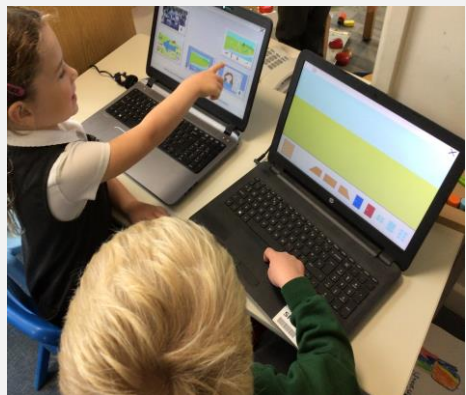


# COMPUTING IN EYFS

- Computer Systems and Networks
- Data and Information
- Programming
- Other

# COMPUTER SYSTEMS AND NETWORKS

- Knows what a keyboard is
- Knows how to log in and out
- Knows how to control a mouse including clicking
- Have explored different hardware
- Can take photos using a camera app



# DATA AND INFORMATION

- Can sort and categorise objects
- Can sort people into groups
- Can use yes/no sorting questions
- Can use a branching database physically
- Can interpret basic pictograms

# PROGRAMMING

- Can follow instructions
- Can give instructions
- Can read simple instructions
- Can read directional arrows
- Can give a Bee-bot a simple command
- Can debug instructions when they go wrong



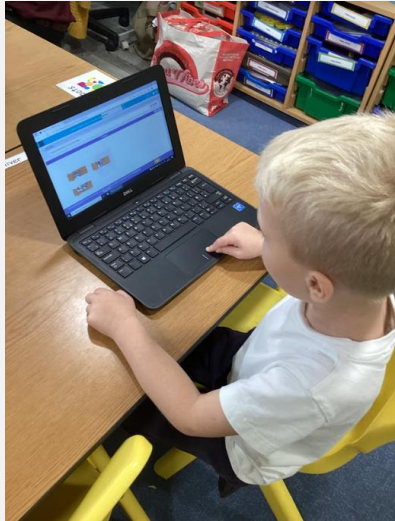
OTHER

# COMPUTING IN YEAR I

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming

# COMPUTER SYSTEMS AND NETWORKS

- Identify technology
- Identify a computer and its main parts
- Use a mouse in different ways
- Use a keyboard to type on a computer
- Use the keyboard to edit text
- Create rules for using technology responsibly



Year 1 - Technology around us  
Lesson 1 - Technology in our classroom

LEO

National Centre for Computing Education  
Raspberry Pi

### Activity 1 - Is it technology?

Technology	Not technology

Resources are updated regularly — the latest version is available at [pccc.io/10c](http://pccc.io/10c)  
This resource is licensed under the Open Government Licence, version 3. For more information on this licence, see [pccc.io/og1](http://pccc.io/og1).



Year 1 - Technology around us  
Lesson 1 - Technology in our classroom

LEO

### Activity 3 - Explorer task

Technology	Helps us to...
	Sleep at night
	See in the dark

Resources are updated regularly — the latest version is available at [pccc.io/10c](http://pccc.io/10c)  
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Year 1 - Technology around us  
Lesson 1 - Technology in our classroom

LEO

### Activity 3 - Explorer task

	<ul style="list-style-type: none"> <li>Stay warm</li> <li>See in the dark</li> <li>Have fun</li> </ul>
	Get to school
	Play football
	Tidy a house
	Eat food

Year 1 - Technology around us  
Lesson 1 - Technology in our classroom

LEO

### Activity 3 - How technology helps us

Technology	Helps us to...
	<ul style="list-style-type: none"> <li>Keep food cold</li> <li>Write down my ideas</li> <li>Get to school</li> </ul>
	<ul style="list-style-type: none"> <li>Talk to people</li> <li>Write on a piece of paper</li> <li>Play football</li> </ul>
	<ul style="list-style-type: none"> <li>Brush our teeth</li> <li>Tidy our house</li> <li>Learn</li> </ul>
	<ul style="list-style-type: none"> <li>Eat our food</li> <li>Cut paper</li> <li>Stay healthy</li> </ul>
	<ul style="list-style-type: none"> <li>Go to places</li> <li>Write a story</li> <li>Sleep at night</li> </ul>

# CREATING MEDIA

- Describe what different freehand tools do
- Use the shape tool and the line tools
- Make careful choices when painting a digital picture
- Explain why I chose the tools I used
- Use a computer on my own to paint a picture
- Compare painting a picture on a computer and on paper
- Use a computer to write
- Add and remove text on a computer
- Identify that the look of text can be changed on a computer
- Make careful choices when changing text
- Explain why I used the tools that I chose
- Compare typing on a computer to writing on paper

# DATA AND INFORMATION

- Label objects
- Identify that objects can be counted
- Describe objects in different ways
- Count objects with the same properties
- Compare groups of objects
- Answer questions about groups of objects

# PROGRAMMING

- Explain what a given command will do
- Act out a given word
- Combine forwards and backwards commands to make a sequence
- Combine four direction commands to make sequences
- Plan a simple program
- Find more than one solution to a problem
- Choose a command for a given purpose
- Show that a series of commands can be joined together
- Identify the effect of changing a value
- Explain that each sprite has its own instructions
- Design the parts of a project
- Use my algorithm to create a program



# COMPUTING IN YEAR 2

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming

# COMPUTER SYSTEMS AND NETWORKS

- Recognise the uses and features of information technology
- Identify the uses of information technology in the school
- Identify information technology beyond school
- Explain how information technology helps us
- Explain how to use information technology safely
- Recognise that choices are made when using information technology

# CREATING MEDIA

- Use a digital device to take a photograph
- Make choices when taking a photograph
- Describe what makes a good photograph
- Decide how photographs can be improved
- Use tools to change an image
- Recognise that photos can be changed
- Say how music can make us feel
- Identify that there are patterns in music
- Show how music is made from a series of notes
- Show how music is made from a series of notes
- Create music for a purpose
- Review and refine our computer work

# DATA AND INFORMATION

- Recognise that we can count and compare objects using tally charts
- Recognise that objects can be represented as pictures
- Create a pictogram
- Select objects by attribute and make comparisons
- Recognise that people can be described by attributes
- Explain that we can present information using a computer

# PROGRAMMING

- Describe a series of instructions as a sequence
- Explain what happens when we change the order of instructions
- Use logical reasoning to predict the outcome of a program (series of commands)
- Explain that programming projects can have code and artwork
- Design an algorithm
- Create and debug a program that I have written
- Explain that a sequence of commands has a start
- Explain that a sequence of commands has an outcome
- Create a program using a given design
- Change a given design
- Create a program using my own design
- Decide how my project can be improved

# COMPUTING IN YEAR 3

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming



# COMPUTER SYSTEMS AND NETWORKS

- Explain how digital devices function
- Identify 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
- Explore how digital devices can be connected
- Recognise the physical components of a network

Year 3 - Connecting computers  
Lesson 2 - What parts make up a digital device?  
Learner activity sheet

Match input, device, output

Input device	Digital device	Output device
Keyboard	Laptop	Printer
Touchscreen	Games console	Screen
Games controller	Tablet	Speaker
Button	Pedestrian crossing button	Pedestrian crossing lights

Resources are updated regularly - the latest version is available at [nccpe.io/acc](https://nccpe.io/acc).  
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Year 3 - Connecting computers  
Lesson 3 - How do digital devices help us?  
Learner activity sheet

What can you use a digital device for?

Tick the box if you can complete the task on the device. Then, add some tasks of your own.

	Digital camera	Laptop computer	Games console	Smartphone
Take pictures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Write a story	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Play a game	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Make a phone call	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Send a message	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Look at pictures	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Take a video	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Watch TV	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Set an alarm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Image sources:  
<https://www.amazon.co.uk/nikon-129-digital-camera-compact-1502959/>  
<https://www.ebay.com/itm/notebook-laptop-notebook-mobile-computer-154021/>  
<https://www.ebay.com/itm/nintendo-switch-games-console-video-games-console-2302666/>  
<https://www.ebay.com/itm/apple-iphone-smartphone-128gb-1284370/>

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Year 3 - Connecting computers  
Lesson 2 - What parts make up a digital device?  
Learner activity sheet

Devices

Inputs	Outputs

Invention name: Francesca SEF

Process  
It's a robot that at the side there is a screen that make it move and the robot has a mouth this is a robot but it has a brain. But you need a screen and a tablet and a battery and blue paint.

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Year 3 - Connecting computers  
Lesson 1 - How does a digital device work?  
Learner activity sheet

Processes

Think of processes for these input/output machines.

Input	Process	Output
10	$\div 2 + 20$	23
12		26
14		27
16		28
40	$\div 10 + 3$	7
20		5
200		23
400		43

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Year 3 - Connecting computers  
Lesson 4 - How am I connected?  
Learner activity sheet

My connections

Francesca 27/09/22

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Year 3 - Connecting computers  
Lesson 4 - How am I connected?  
Learner activity sheet

My connections

Francesca 01/10/22

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# CREATING MEDIA

- Explain that animation is a sequence of drawings or photographs
- Relate animated movement with a sequence of images
- Plan an animation
- Identify the need to work consistently and carefully
- Review and improve an animation
- Evaluate the impact of adding other media to an animation
- Recognise how text and images convey information
- Recognise that text and layout can be edited
- Choose appropriate page settings
- Add content to a desktop publishing publication
- Consider how different layouts can suit different purposes
- Consider the benefits of desktop publishing

# DATA AND INFORMATION

- Create questions with yes/no answers
- Identify the object attributes needed to collect relevant data
- Create a branching database
- Explain why it is helpful for a database to be well structured
- Identify objects using a branching database
- Compare the information shown in a pictogram with a branching database

# PROGRAMMING

- Explore a new programming environment
- Identify that commands have an outcome
- Explain that a program has a start
- Recognise that a sequence of commands can have an order
- Change the appearance of my project
- Create a project from a task description
- Explain how a sprite moves in an existing project
- Create a program to move a sprite in four directions
- Adapt a program to a new context
- Develop my program by adding features
- Identify and fix bugs in a program
- Design and create a maze-based challenge

# COMPUTING IN YEAR 4

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming





# CREATING MEDIA

- Identify that sound can be digitally recorded
- Use a digital device to record sound
- Explain that a digital recording is stored as a file
- Explain that audio can be changed through editing
- Show that different types of audio can be combined and played together
- Evaluate editing choices made
- Explain that digital images can be changed
- Change the composition of an image
- Describe how images can be changed for different uses
- Make good choices when selecting different tools
- Recognise that not all images are real
- Evaluate how changes can improve an image

# DATA AND INFORMATION

- Explain that data gathered over time can be used to answer questions
- Use a digital device to collect data automatically
- Explain that a data logger collects 'data points' from sensors over time
- Use data collected over a long duration to find information
- Identify the data needed to answer questions
- Use collected data to answer questions



# PROGRAMMING

- Identify that accuracy in programming is important
- Create a program in a text-based language
- Explain what 'repeat' means
- Modify a count-controlled loop to produce a given outcome
- Decompose a task into small steps
- Create a program that uses count-controlled loops to produce a given outcome
- Develop the use of count-controlled loops in a different programming environment
- Explain that in programming there are infinite loops and count controlled loops
- Develop a design that includes two or more loops which run at the same time
- Modify an infinite loop in a given program
- Design a project that includes repetition
- Create a project that includes repetition

# COMPUTING IN YEAR 5

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming



# CREATING MEDIA

- Explain what makes a video effective
- Identify digital devices that can record video
- Capture video using a range of techniques
- Create a storyboard
- Identify that video can be improved through reshooting and editing
- Consider the impact of the choices made when making and sharing a video
- Identify that drawing tools can be used to produce different outcomes
- Create a vector drawing by combining shapes
- Use tools to achieve a desired effect
- Recognise that vector drawings consist of layers
- Group objects to make them easier to work with
- Evaluate my vector drawing

# DATA AND INFORMATION

- Use a form to record information
- Compare paper and computer-based databases
- Outline how grouping and then sorting data allows us to answer questions
- Explain that tools can be used to select specific data
- Explain that computer programs can be used to compare data visually
- Apply my knowledge of a database to ask and answer real-world questions

# PROGRAMMING

- Explain how selection is used in computer programs
- Relate that a conditional statement connects a condition to an outcome
- Explain how selection directs the flow of a program
- Design a program which uses selection
- Create a program which uses selection
- Evaluate my program

# COMPUTING IN YEAR 6

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming







# CREATING MEDIA

- Review an existing website and consider its structure
- Plan the features of a web page
- Consider the ownership and use of images (copyright)
- Recognise the need to preview pages
- Outline the need for a navigation path
- Recognise the implications of linking to content owned by other people
- Use a computer to create and manipulate three-dimensional (3D) digital objects
- Compare working digitally with 2D and 3D graphics
- Construct a digital 3D model of a physical object
- Identify that physical objects can be broken down into a collection of 3D shapes
- Design a digital model by combining 3D objects
- Develop and improve a digital 3D model

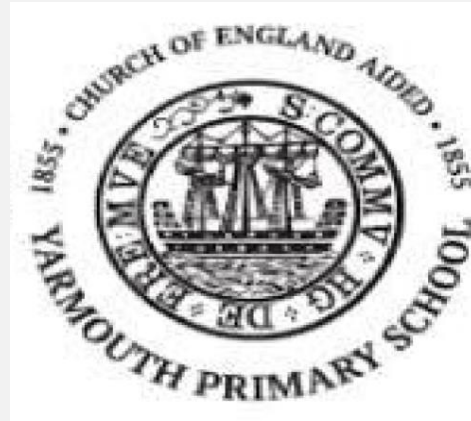
# DATA AND INFORMATION

- Identify questions which can be answered using data
- Explain that objects can be described using data
- Explain that formulas can be used to produce calculated data
- Apply formulas to data, including duplicating
- Create a spreadsheet to plan an event
- Choose suitable ways to present data

# PROGRAMMING

- Define a 'procedure' as something that can be run multiple times
- Explain why a procedure is used in a program
- Choose how to improve a game by using procedures
- Define a 'variable' as something that is changeable
- Explain why a variable is used in a program
- Choose how to improve a game by using variables
- Design a project that builds on a given example
- Use my design to create a project
- Evaluate my project

# YARMOUTH – EYFS TO YEAR 6



# COMPUTING IN EYFS

- Computer Systems and Networks
- Data and Information
- Programming
- Other

# COMPUTER SYSTEMS AND NETWORKS

- Knows what a keyboard is
- Knows how to log in and out
- Knows how to control a mouse including clicking
- Have explored different hardware
- Can take photos using a camera app

# DATA AND INFORMATION

- Can sort and categorise objects
- Can sort people into groups
- Can use yes/no sorting questions
- Can use a branching database physically
- Can interpret basic pictograms

# PROGRAMMING

- Can follow instructions
- Can give instructions
- Can read simple instructions
- Can read directional arrows
- Can give a Bee-bot a simple command
- Can debug instructions when they go wrong

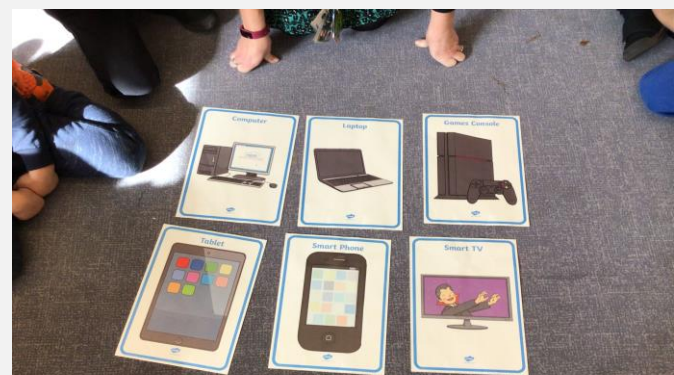


Video following instructions



# OTHER

Staying safe with  
gadgets discussion

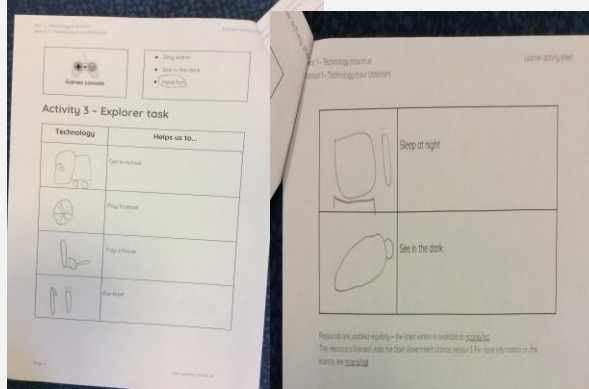
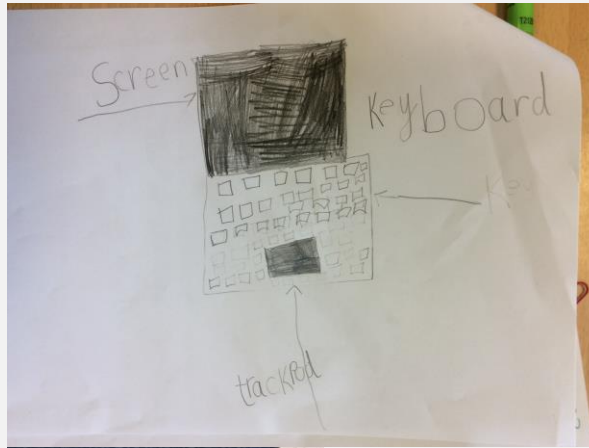
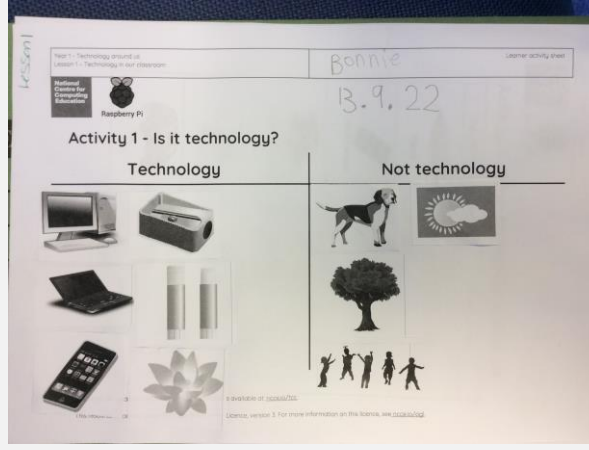
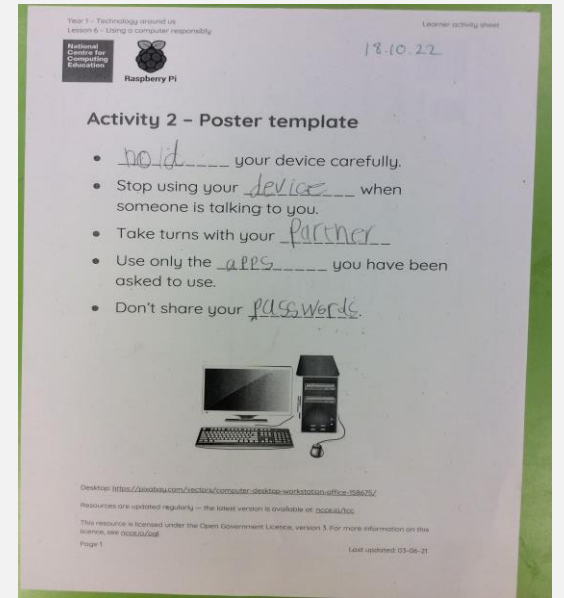
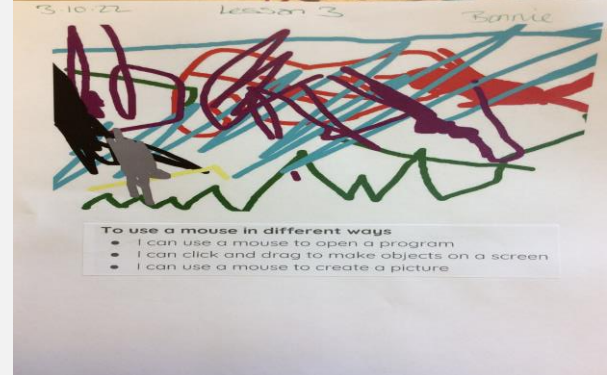
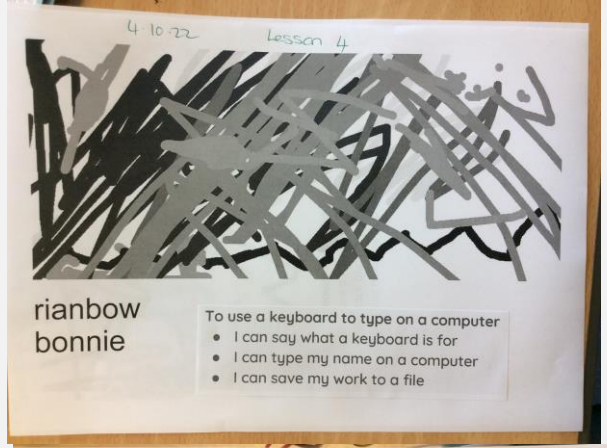
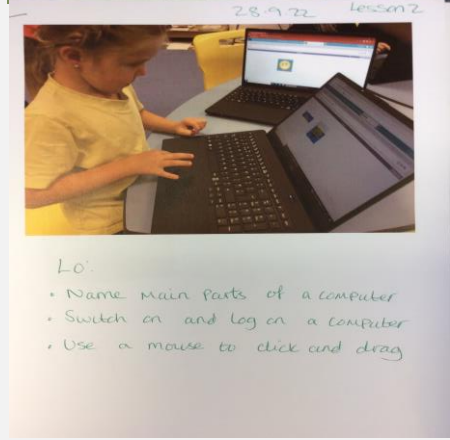
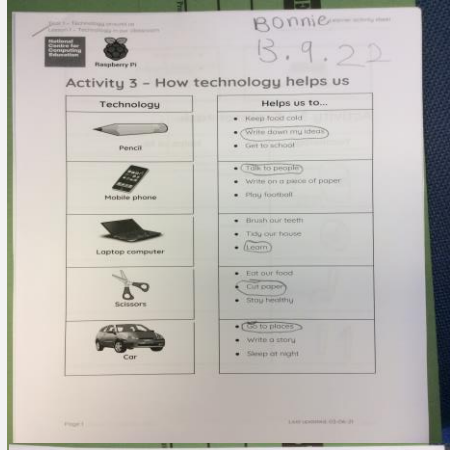
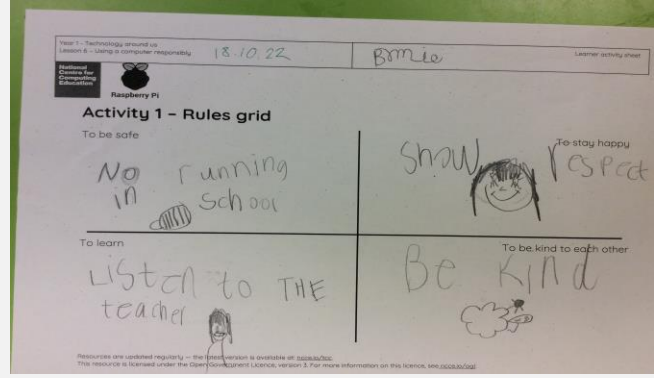


# COMPUTING IN YEAR I

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming

# COMPUTER SYSTEMS AND NETWORKS

- Identify technology
- Identify a computer and its main parts
- Use a mouse in different ways
- Use a keyboard to type on a computer
- Use the keyboard to edit text
- Create rules for using technology responsibly



# CREATING MEDIA

- Describe what different freehand tools do
- Use the shape tool and the line tools
- Make careful choices when painting a digital picture
- Explain why I chose the tools I used
- Use a computer on my own to paint a picture
- Compare painting a picture on a computer and on paper
- Use a computer to write
- Add and remove text on a computer
- Identify that the look of text can be changed on a computer
- Make careful choices when changing text
- Explain why I used the tools that I chose
- Compare typing on a computer to writing on paper

# DATA AND INFORMATION

- Label objects
- Identify that objects can be counted
- Describe objects in different ways
- Count objects with the same properties
- Compare groups of objects
- Answer questions about groups of objects

# PROGRAMMING

- Explain what a given command will do
- Act out a given word
- Combine forwards and backwards commands to make a sequence
- Combine four direction commands to make sequences
- Plan a simple program
- Find more than one solution to a problem
- Choose a command for a given purpose
- Show that a series of commands can be joined together
- Identify the effect of changing a value
- Explain that each sprite has its own instructions
- Design the parts of a project
- Use my algorithm to create a program

# COMPUTING IN YEAR 2

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming



# COMPUTER SYSTEMS AND NETWORKS

- Recognise the uses and features of information technology
- Identify the uses of information technology in the school
- Identify information technology beyond school
- Explain how information technology helps us
- Explain how to use information technology safely
- Recognise that choices are made when using information technology



# CREATING MEDIA

- Use a digital device to take a photograph
- Make choices when taking a photograph
- Describe what makes a good photograph
- Decide how photographs can be improved
- Use tools to change an image
- Recognise that photos can be changed
- Say how music can make us feel
- Identify that there are patterns in music
- Show how music is made from a series of notes
- Show how music is made from a series of notes
- Create music for a purpose
- Review and refine our computer work

# DATA AND INFORMATION

- Recognise that we can count and compare objects using tally charts
- Recognise that objects can be represented as pictures
- Create a pictogram
- Select objects by attribute and make comparisons
- Recognise that people can be described by attributes
- Explain that we can present information using a computer

# PROGRAMMING

- Describe a series of instructions as a sequence
- Explain what happens when we change the order of instructions
- Use logical reasoning to predict the outcome of a program (series of commands)
- Explain that programming projects can have code and artwork
- Design an algorithm
- Create and debug a program that I have written
- Explain that a sequence of commands has a start
- Explain that a sequence of commands has an outcome
- Create a program using a given design
- Change a given design
- Create a program using my own design
- Decide how my project can be improved

# COMPUTING IN YEAR 3

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming

# COMPUTER SYSTEMS AND NETWORKS



- Explain how digital devices function
- Identify 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
- Explore how digital devices can be connected
- Recognise the physical components of a network

# CREATING MEDIA

- Explain that animation is a sequence of drawings or photographs
- Relate animated movement with a sequence of images
- Plan an animation
- Identify the need to work consistently and carefully
- Review and improve an animation
- Evaluate the impact of adding other media to an animation
- Recognise how text and images convey information
- Recognise that text and layout can be edited
- Choose appropriate page settings
- Add content to a desktop publishing publication
- Consider how different layouts can suit different purposes
- Consider the benefits of desktop publishing

# DATA AND INFORMATION

- Create questions with yes/no answers
- Identify the object attributes needed to collect relevant data
- Create a branching database
- Explain why it is helpful for a database to be well structured
- Identify objects using a branching database
- Compare the information shown in a pictogram with a branching database

# PROGRAMMING

- Explore a new programming environment
- Identify that commands have an outcome
- Explain that a program has a start
- Recognise that a sequence of commands can have an order
- Change the appearance of my project
- Create a project from a task description
- Explain how a sprite moves in an existing project
- Create a program to move a sprite in four directions
- Adapt a program to a new context
- Develop my program by adding features
- Identify and fix bugs in a program
- Design and create a maze-based challenge



# COMPUTING IN YEAR 4

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming

# COMPUTER SYSTEMS AND NETWORKS

- Describe how networks physically connect to other networks
- Recognise how networked devices make up the internet
- Outline how websites can be shared via the World Wide Web (WWW)
- Describe how content can be added and accessed on the World Wide Web (WWW)
- Recognise how the content of the WWW is created by people
- Evaluate the consequences of unreliable content

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Finding routes**

1. Write down three possible routes to B. 1-5-8, 1-4-3-8, 1-4-7-3-8

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Purple Pen Feedback - match the keywords to their definitions.**

A) network switch	1) A device, connected to a wired network, that sends and receives wireless signals to/from devices with <u>WiFi</u> connectivity
B) server	2) A device that enables multiplier devices on a network to be connected with each other
C) wireless access point (WAP)	3) A device that passes information between two computer networks
D) router	4) A computer that manages the network and stores files

A = 2  
B = 4  
C = 1  
D = 3

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Mind map - How can I access the World Wide Web?**

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Homework**

World Wide Web device trail

Your task is to find devices which can enable you to access the World Wide Web. You could look at devices at school, or in the community. Draw pictures of the devices below, and remember to include which functions are available on the device.

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Features of a website**

What features are most important for websites that about these things:

- Shopping websites** - Pictures because that while they look nice it can help as they link to other web pages because they are not going to get you lost.
- Wikipedia** - Text because otherwise it would be a boring page with lots of pictures because that is not what you need to get to the point.
- The Guardian** - News websites The logo is important because it is a sign that the website is reliable.
- Video** - because they can see what is going on and they can see it all.

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

The internet is connected by lots of routers.  
The world wide web is part of the internet where we can visit web pages and websites.

**web pages    internet    routers**  
**World Wide Web    websites**



Creating Music in Chrome Lab

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Exploring websites**

Introduction

Here's a link to the websites listed here. What things can you find on each of these?

Website	List three things you could find on this website
www.bbc.com/news	Video about the news news that are presented and you can read TV about news as well
www.bbc.com/news/health	you can stop the news website you can check all the news you can see what is going on with the world
Your school's website	✓ school home page information for teachers and children ✓ timetable ✓ photos

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

Box 1: 1.088  
Box 2: 1.672  
Box 3: 1.47,563

2. What's the greatest way to a school page? 1.12
3. How could you get from 3 to 17? 1.17
4. How could you get to 17 without going through 1? 1.17

5. Make up your own question and answer.

Question: What is the greatest way to a school page?  
Answer: 1.17

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

From: Maddison at school

To: 5@home

Draw a triangle in the space below, then forward this message to 3@school.

Would you **BLOCK** or **ALLOW** this request?  
Explain your decision below: because it is silly to send that sort of message they should know how to draw a triangle.

Task 4 - Comparing systems and networks - The internet  
Lesson 4 - What is a network?

**Adding your own content to the web**

Introduction

Many websites allow you to add content to the World Wide Web. Examples include:

- Blog
- Wiki
- Social media

What should you consider when you do this? Think about what type of content you can add and who can see it. Discuss with a partner and write down your ideas below.

<p>Our friends are getting puzzles and we are doing a drawing for our school.</p>	<p>These ideas are good but we should be careful about what we put on the web because it can be seen by everyone.</p>
---	---

Another idea: make a picture of our school and put it on the web.

Other things to think about: it can be seen by everyone. It can be seen by everyone.

Justly: other people can see personal details so we should be careful.



Acting Out Sending Info Via Router and Networks

# CREATING MEDIA

- Identify that sound can be digitally recorded
- Use a digital device to record sound
- Explain that a digital recording is stored as a file
- Explain that audio can be changed through editing
- Show that different types of audio can be combined and played together
- Evaluate editing choices made
- Explain that digital images can be changed
- Change the composition of an image
- Describe how images can be changed for different uses
- Make good choices when selecting different tools
- Recognise that not all images are real
- Evaluate how changes can improve an image

# DATA AND INFORMATION

- Explain that data gathered over time can be used to answer questions
- Use a digital device to collect data automatically
- Explain that a data logger collects 'data points' from sensors over time
- Use data collected over a long duration to find information
- Identify the data needed to answer questions
- Use collected data to answer questions

# PROGRAMMING

- Identify that accuracy in programming is important
- Create a program in a text-based language
- Explain what 'repeat' means
- Modify a count-controlled loop to produce a given outcome
- Decompose a task into small steps
- Create a program that uses count-controlled loops to produce a given outcome
- Develop the use of count-controlled loops in a different programming environment
- Explain that in programming there are infinite loops and count controlled loops
- Develop a design that includes two or more loops which run at the same time
- Modify an infinite loop in a given program
- Design a project that includes repetition
- Create a project that includes repetition

# COMPUTING IN YEAR 5

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming





# CREATING MEDIA

- Explain what makes a video effective
- Identify digital devices that can record video
- Capture video using a range of techniques
- Create a storyboard
- Identify that video can be improved through reshooting and editing
- Consider the impact of the choices made when making and sharing a video
- Identify that drawing tools can be used to produce different outcomes
- Create a vector drawing by combining shapes
- Use tools to achieve a desired effect
- Recognise that vector drawings consist of layers
- Group objects to make them easier to work with
- Evaluate my vector drawing



# DATA AND INFORMATION

- Use a form to record information
- Compare paper and computer-based databases
- Outline how grouping and then sorting data allows us to answer questions
- Explain that tools can be used to select specific data
- Explain that computer programs can be used to compare data visually
- Apply my knowledge of a database to ask and answer real-world questions

# PROGRAMMING

- Explain how selection is used in computer programs
- Relate that a conditional statement connects a condition to an outcome
- Explain how selection directs the flow of a program
- Design a program which uses selection
- Create a program which uses selection
- Evaluate my program

# COMPUTING IN YEAR 6

- Computer Systems and Networks
- Creating Media
- Data and Information
- Programming

# COMPUTER SYSTEMS AND NETWORKS

- Explain the importance of internet addresses
- Recognise how data is transferred across the internet
- Explain how sharing information online can help people to work together
- Evaluate different ways of working together online
- Recognise how we communicate using technology
- Evaluate different methods of online communication

Archie

To:	From:	Packet no.	of	Total no. of packets	D	a	t	a	-	i	s	-	t	r	a	n
192.168.1.5	192.168.1.2	1		3												

Header Data payload

To:	From:	Packet no.	of	Total no. of packets	s	f	e	r	r	e	a	-	i	n	-	p
192.168.1.5	192.168.1.2	2		3												

Header Data payload

To:	From:	Packet no.	of	Total no. of packets	a	c	k	e	t	s	-	-	-	-	-	-
192.168.1.5	192.168.1.2	3		3												

Header Data payload

To:	From:	Packet no.	of	Total no. of packets												
192.168.1.3	103.244.11	1		5												

To:	From:	Packet no.	of	Total no. of packets												
192.168.1.3	103.244.11	2		5												

To:	From:	Packet no.	of	Total no. of packets												
192.168.1.3	103.244.11	3		5												

To:	From:	Packet no.	of	Total no. of packets												
192.168.1.3	103.244.11	4		5												

To:	From:	Packet no.	of	Total no. of packets												
192.168.1.3	103.244.11	5		5												

Neve, Daisy, Archie, Lincoln

From: 192.168.1.200  
To: 192.168.1.21

When a message is sent from one computer to another over a network, both the destination and start address are included. Why do you think that is?  
Because if you send a letter you need to know who it is sent to and the person who gets the letter knows who it is from.

### Finding IP addresses of websites

Go to [www.nslookup.io](http://www.nslookup.io) and look up the IP addresses of the following websites:

Website	IP address or addresses
www.bbc.co.uk	151.101.64.81
www.google.com	142.251.36.36
www.microsoft.com	104.123.41.162
www.number10.gov.uk	151.101.0.144 www.apple.com
www.youtube.com	172.217.168.238 21.43.35
www.fosay.co.uk	167.86.68.53 ✓

What do you notice about the IP addresses for google.com and youtube.com? Can you explain what you have noticed?  
EXT- They have both got loads more IP addresses than all the others.  
www.jdsports.co.uk 23.38.23.118  
www.sportsdirect.com 23.202.229.144

Year 6 - Communication and collaboration  
Lesson 3 - Internet addresses

Can you write down three communication protocols we have at school.

speech quietly in class. Don't say mean words. Be polite.

Activity 2

1	J Smith 256 High Street Bigton	2	256 High Street Bigton BLK 10N	3	J Smith Bigton, Con
4	J Smith 256 High Street	5	J Smith 256 High Street Bigton BLK 10N	6	J Smith High Street Bigton BLK 10N

Which of these do you think will reach the person at their destination?

1. It is missing a postcode. ✓
2. It is missing the person's name and postcode. ✓
3. It is missing the place and high street. ✓
4. It is missing the place and the postcode. ✓
5. correct ✓
6. It doesn't have the house number. ✓

Activity 1

Two people need to write a book together. They live 150 miles (240 kilometres) apart. In what different ways could they work together over a long distance?

One of them could start the book on Word then that person could send the link. And they could use zoom or just call to each other each other.  
\* To the Word document.

To: Mr McCarthy  
From: Archie

To:	From:	Packet no.	of	Total no. of packets	H	i	,	h	o	w	a	r	e	!
11	20	1		6										

To:	From:	Packet no.	of	Total no. of packets	h	o	w	?	D	O	y	o	u
11	20	2		6									

To:	From:	Packet no.	of	Total no. of packets	p	l	a	y	s	o	o	t	b	a
11	20	3		6										

To:	From:	Packet no.	of	Total no. of packets	!	?	-	I	.	L	i	k	e	-	P	L
11	20	4		6												

To:	From:	Packet no.	of	Total no. of packets	a	y	i	n	g	s	o	o	t	b	a
11	20	5		6											

To:	From:	Packet no.	of	Total no. of packets	L	L	.	.	.	.	.	.	.	.
11	20	6		6										

Archie

To:	From:	Packet no.	of	Total no. of packets	H	e	l	l	o	m	e	,
20	17	1		9								

To:	From:	Packet no.	of	Total no. of packets	I	l	o	v	e	c	h	i	c
20	17	2		9									

To:	From:	Packet no.	of	Total no. of packets	e	n	d	a	n	'	s	g	a
20	17	3		9									

To:	From:	Packet no.	of	Total no. of packets	l	i	m	m	s	i	l	l
20	17	4		9								

To:	From:	Packet no.	of	Total no. of packets	s	t	a	v	s	a	n	g
20	17	5		9								

To:	From:	Packet no.	of	Total no. of packets	y	o	u	'	s	k	o	r
20	17	6		9								

To:	From:	Packet no.	of	Total no. of packets	k	e	r	e	a	n	i	e
20	17	7		9								

To:	From:	Packet no.	of	Total no. of packets	o	n	a	n	y	b	a	y
20	17	8		9								

To:	From:	Packet no.	of	Total no. of packets	k	m	a	n	y	e	v	
20	17	9		9								

From Robbie

<https://docs.google.com/presentation/d/1AjeklIjrgrZzHCpym34n7iqITJAGTbRb/edit#slide=id.p6>

Shared Google Slides

# CREATING MEDIA

- Review an existing website and consider its structure
- Plan the features of a web page
- Consider the ownership and use of images (copyright)
- Recognise the need to preview pages
- Outline the need for a navigation path
- Recognise the implications of linking to content owned by other people
- Use a computer to create and manipulate three-dimensional (3D) digital objects
- Compare working digitally with 2D and 3D graphics
- Construct a digital 3D model of a physical object
- Identify that physical objects can be broken down into a collection of 3D shapes
- Design a digital model by combining 3D objects
- Develop and improve a digital 3D model

# DATA AND INFORMATION

- Identify questions which can be answered using data
- Explain that objects can be described using data
- Explain that formulas can be used to produce calculated data
- Apply formulas to data, including duplicating
- Create a spreadsheet to plan an event
- Choose suitable ways to present data

# PROGRAMMING

- Define a 'procedure' as something that can be run multiple times
- Explain why a procedure is used in a program
- Choose how to improve a game by using procedures
- Define a 'variable' as something that is changeable
- Explain why a variable is used in a program
- Choose how to improve a game by using variables
- Design a project that builds on a given example
- Use my design to create a project
- Evaluate my project

# ACTION PLAN

## 2022/2023 One Page Subject Action Plan

**Subject – Computing**

**Subject Lead – Stuart Cook**

**FDP Link – Strategic Objective 1: Aspire**

**Ensuring the provision of high quality curriculum, teaching, learning & assessment.**

**Every child has a ‘fantastic education’**

<b>ACTION</b>	<b>WHY?</b>	<b>HOW?</b> <i>Success Criteria</i>	<b>WHO?</b>	<b>COST/RESOURCES?</b>	<b>OBJECTIVE ACHIEVED?</b>	<b>EVALUATION</b> <i>What has been the impact?</i>	<b>NEXT STEPS</b>
To ensure relevant software and hardware is installed/bought so that new computing long term plan can be taught	In order for the new long-term plan to be taught effectively a multitude of new software and hardware is needed that has not been used before/prioritised in previous long-term plans.	<ul style="list-style-type: none"> <li>- Create a list of relevant software/hardware</li> <li>- Contact ICT manager to get free software installed, indicating whether it is needed for iPads or laptops and getting shortcuts added.</li> <li>- Cost up any hardware/paid software.</li> <li>- Present to Finance officer for approval and order these for both schools.</li> <li>- Distribute resources when they arrive.</li> <li>- Update email accounts for children in relevant classes.</li> </ul>	<p>Me (computing lead)</p> <p>ICT manager (Mark Flanders)</p> <p>Finance manager (Vikki Plumbley)</p>	<p>Bee bots – 1x £60 exc VAT – Check budget for final amount</p> <p>iMotion (app) – free</p> <p>Audacity (software) – free</p> <p>Arduino Science Journal (app) – free</p> <p>FMS logo (software) - free</p>			
To record observations of learning and child's voice in computing	These are two key aspects of subject leadership that have been missing from the last two years.	<ul style="list-style-type: none"> <li>- Liaise with headteacher about organising subject specific days.</li> <li>- Communicate this with staff.</li> <li>- Create proforma for making notes on learning.</li> <li>- Create proforma for child interviews</li> <li>- Spend half a day at each school during computing day, seeing learning in each class and capturing child voice.</li> </ul>	<p>Me (computing lead)</p> <p>Headteacher (Elizabeth Grainger)</p> <p>All teaching staff</p> <p>HLTA cover (likely Sharon Moran)</p>	<p>Subject lead release time (1 day – half a day at both schools).</p> <p>HLTA cover for my class.</p>			
To ensure teachers are supported in capturing evidence for their learning	As there has been a change in types of lesson and software used, teachers may be less familiar with how best to capture evidence.	<ul style="list-style-type: none"> <li>- Review long term plan and identify trickier areas to evidence</li> <li>- Seek to support teachers of these areas before they teach them</li> <li>- Ensure that teachers can easily contact me if they have concerns in any areas for evidence capturing.</li> <li>- Teachers will have placed evidence on Google Drive.</li> <li>- Evaluate and give feedback to teachers on evidence.</li> </ul>	<p>Me (computing lead)</p> <p>All teaching staff</p>	<p>Subject lead time (dependent on support needed by staff)</p> <p>iPads for evidence capture</p>			

**Minimum of 2 actions to take forward – Maximum of 3 actions to take forward.**