Curriculum Handbook for Computing

EYFS and Key Stage 1 Sequence of Learning

St. Martin's
C. of E. Primary School
Serve one another in love
Galatians 5v13

St. Martin's C of E (VA) Primary School
Computing Sequence of Learning – EYFS and Key Stage 1

The Bays	Name Of Unit	Strand	Key Vocabulary	Objectives
Autumn 1 Autumn 2	Exploring Hardware	Computing systems and networks	Naming items in the tray such as a mouse, screen, camera etc.	I can name hardware including screen, keyboard, camera and mouse
Spring 1	All About Instructions	Programming	Instructions, debugging	I can follow and give instructions.
Spring 2	Programming Bee-Bots	Programming	Directional language such as right, left, forwards	I can programme a bee-bot to move around an area.
Summer 1	Introduction To Data	Data Handling	Sorting, yes,no, branching database (flow chart)	I can sort a range of items into a range of categories.
Summer 2	Using a computer	Computing systems and networks	Logging in, mouse control, clicking, dragging.	I can log in with support. I can use a mouse complete basic tasks.

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Computing Sequence of Learning – EYFS and Key Stage 1

<table>
<tr><td rowspan="4">Burniston Rocks</td><td colspan="2">Unit Name: Programming Bee-Bots</td><td colspan="3">Strand: Programming</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.

Create and debug simple programs.</td><td>algorithm

artificial intelligence

Bee-Bot

clear

code

debug

filming</td><td>inputting

instructions

pause

precise

predict

program

tinker</td><td>video
video recording</td></tr>
<tr><td colspan="2">Unit Outcomes
Recognise cause and effect when pressing buttons on a Bee-Bot.

Discuss and demonstrate how the Bee-Bot works.

Record video ensuring everyone is in the shot.

Give a a number of clear instructions in sequence.

Program a Bee-Bot to reach a destination.

Identify and correct mistakes in their programming.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To explore a new device	I can 'tinker' with the buttons of a Bee-Bot to see what they do. I can complete a cycle of predict, test and review.	algorithm, Bee-Bot, code, instructions
	2 – To create a demonstration video.	I can create a video to explain how to use a Bee-Bot. I can explain what the buttons on a Bee-Bot do. I can show how the Bee-Bot moves when you press the different buttons.	algorithm, Bee-Bot, code, demonstration, filming, video.
	3 – To plan and follow a precise set of instructions.	I can follow verbal instructions. I can give precise instructions. I can check that the instructions being given are correct.	algorithm, Bee-Bot, explain, explore, instructions, precise, video.
	4 – To program a device.	I can personalise my Bee-Bot world. I can consider how the Bee-Bot can move from one place to another. I can plan a Bee-Bot route. I can program a Bee-Bot to follow my planned route.	Bee-Bot, program
	5 - To create a program that tells a story.	I can use programming to give the Bee-Bot clear instructions. I can debug my instructions if they go wrong by identifying and correcting the mistake.	algorithm, Bee-Bot, debug, program.

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<table>
<tr><td rowspan="3">Burniston Rocks</td><td>Unit Name: Word Processing Skills</td><td colspan="3">Strand: Computing Systems and Networks</td></tr>
<tr><td>National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Use technology safely and respectfully, keeping personal information private.

Recognise common uses of information technology beyond school.</td><td>Backspace
Bold
Copy
Copyright
Cut
Delete
Forward button
Highlight
Home row
Home screen Image
Import
Italics
Keyboard
Keyboard character</td><td>Keyboard shortcut
Keyword
Layout
Navigate
Paste
Redo
Search
Space bar
Text
Text effects
Touch typing
Underline
Undo
Word processing</td><td></td></tr>
<tr><td>Unit Outcomes</td><td colspan="3"></td></tr>
<tr><td colspan="4">Explain which are the home row keys and how to find them for typing.

Use the spacebar and backspace correctly.

Type and make simple alterations to text using buttons on a word processor.

Modify text in a document.

Explain what information is safe to be shared online.</td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – I can type on a keyboard.	I can find keys on a computer keyboard. I can identify that the keyboard is an important input device.	keyboard, typing, text,
	2 – I can type symbols and save files	I can type a special symbols I can use the save icon to save a file.	save, keyboard, click, keyboard shortcut
	3 – I can edit text	I can use backspace. I can highlight and select a word.	text, edit, undo, word processing
	4 – I can use a keyboard	I can find keys on a computer keyboard. I can type simple words on a keyboard. I can identify that the keyboard is an important input device.	keyboard, shortcut, text,
	5 – I can select and format text.	I can select text and make it bold or italic.	keyboard, text, bold, italics, copy, paste,
	6 – I can format the font	I can select text and select different fonts.	keyboard, text, bold, italics, copy, paste,

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<table>
<tr><td rowspan="3">Burniston Rocks</td><td>Unit Name: Improving Mouse Skills</td><td colspan="3">Strand: Computing Systems and Networks</td></tr>
<tr><td>National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td>I can use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Recognise common uses of information technology beyond school.

Use technology safely and respectfully, keeping personal information private.

Unit Outcomes
Use computers more purposefully

Log in and navigate around a computer

Drag, drop, click and control a cursor using a mouse

Use software tools to create art on the computer.</td><td>Log in

Login

Log out / off Mouse

Mouse pointer

Click

Keyboard

Tools</td><td>Screen

Password

Account

Software

Duplicate

Ctrl</td><td></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To log in to a computer and access a website.	I can recognise what we mean by a computer I can understand why we need to lo into a computer. I can log in and out of a computer account.	account, computer, log off, log on, mouse, password, predict, screen (monitor), software, tool.
	2 – To develop mouse skills.	I can navigate a computer using a mouse. I can understand what we mean by 'click' and 'drag'. I can use the fill and stamp tools in Sketchpad.	click, clipart, drag, duplicate, explore, log off, redo, resize, undo, username.
	3 – To use mouse skills to draw and edit shapes.	I can click and drag objects to change their size or position. I can use a mouse to carefully position shapes. I can move shapes in front of or behind others.	bring to the front, drag and drop, fill, layers, left-click, log of, outline, right-click, tool.
	4 – To draw a scene from a story using digital tools.	I can identify the key parts of a story. I can use drag and drop to move and resize images. I can use a variety of tools to create different effects.	clipart, drag and drop, image, log off, resize, texture, undo.
	5 – To create a self portrait using digital techniques.	I can identify different facial features. I can use click and drag to create and layer shapes. I can resize, move and change the order of shapes.	differences, ellipse, facial, features, oval, portrait, self-portrait, similarities.

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<table>
<tr><td rowspan="4">Burniston Rocks</td><td colspan="2">Unit Name: Rocket To The Moon</td><td colspan="3">Strand: Showcase</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</td><td>Annotate
Cells
Components
Create
Data
Debug
Designing
Digital content
Share</td><td>Digital image
Document
E-document
Edit
Editing program
Evaluate
Folder
Input
Instructions</td><td>Log in
Photo
Program
Order
Robot
Save
Sequence
Software
Spreadsheet
Table</td></tr>
<tr><td colspan="2">Unit Outcomes</td></tr>
<tr><td colspan="2">Use a computer to make a list.

Explain the benefits of making a list on the computer.

Use a basic range of tools on graphics editing software to design a rocket.

Sequence instructions.

Follow instructions to build their model rocket.

Input data about their rockets into a table or spreadsheet.</td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To recognise that digital content can be represented in many forms.	I can use a computer to create a list. I can identify which materials are best for my rocket and describe their physical properties. I can identify different types of digital content (words and pictures). I can explain how a list made on a computer can be saved and shared more easily.	Computer, create, digital content, list, materials, physical properties, saved, shared
	2 – To design a rocket using a graphics editing programme.	I can open a graphics editing program. I can create a digital image using a graphics editor. I can save my digital image to the correct folder.	annotate, components, create, designing, digital image, document, editing software, folder, graphics, materials, program, save.
	3 – To sequence a set of instructions	I can put a set of instructions in the right order. I can identify the importance of instructions being in the right order. I know how to build a model rocket.	algorithm, computer program, order, sequence.
	4 – To build a rocket	I can build a rocket according to instructions. I can refer to my rocket design. I can take a clear photo of my finished rocket. I can add text to evaluate it.	create, design, equipment, evaluate, instructions, materials, photo, rocket launch.
	5 – To test a design and record data.	I can measure distances accurately. I can record data.	cells, data, distance, input, measure, spreadsheet.

		I can evaluate the success of my design.	

Burniston Rocks	**Unit Name: Digital Imagery**	**Strand: Creating Media**		
	National curriculum objectives	**Key Vocabulary**		
	Use logical reasoning to predict the behaviour of simple programs. *Use technology purposefully to create, organise, store, manipulate and retrieve digital content.* *Recognise common uses of Information technology beyond school.* *Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.*	background blurred camera clear crop delete device digital camera download drag and drop edit	editing software filter image import internet keyword online photograph resize save as	screen search engine sequence software storage space visual effects
	Unit Outcomes *Plan a pictorial story using photographic images in sequence.* *Explain how to take clear photos.* *Take photos using a device.* *Edit photos by cropping, filtering and resizing.* *Search for and import images from the internet.*			

	Explain what to do if something makes them uncomfortable online. Organise images on the page, orientating where necessary.			

Sequence of Learning	Success Criteria	Vocabulary
1 – To understand and create a sequence of pictures.	I can explain what is happening in a pictorial story. I can recognise the importance of sequencing. I can plan my own pictorial story I know that sequencing is important in Computing.	image, photograph, photo story, sequence.
2 – To take clear photos	I can get down to the level of my character. I can look at the screen and check what is in frame. I can press the button carefully to ensure nothing changes. I can ensure that my surroundings are bright enough. I can identify that moving can create a blurred image.	camera, delete, image, photograph.
3 – To edit photos	I can explain that photos can be changed after they have been taken.	camera, crop, edit, editing software, image.

		I can identify ways to improve my photo. I can crop, resize, and ad a colour filter to my photo.	
	4 – To search for and import images	I know images can be found online. I can think of a keyword to search with. I know what to do if I find something uncomfortable.	drag and drop, edit, image, import, internet, keyword, online, props, save as, search engine.
	5 – To create a photo collage.	I can download the photos I want. I can organise them on to the page. I can resize and change the orientation of my images. I can add numbers to show their order.	collage, download, edit, images, orientation, photograph, props, resize.

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<table>
<tr><td rowspan="4">Burniston Rocks</td><td colspan="2">Unit Name: Introduction to Data</td><td colspan="3">Strand: Data Handling</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Use technology purposefully to create, organise store, manipulate and retrieve digital content.

Recognise common uses of information technology beyond school.</td><td rowspan="3">bar chart
block graph
branching database
categorise
chart
click and drag
compare
count
data
data record
data collection
data representation</td><td rowspan="3">edit
input
keyboard
line graph
mouse
information
label
pictogram
pie chart
process
record</td><td rowspan="3">resize
sort
table
tally
values</td></tr>
<tr><td colspan="2">Unit Outcomes</td></tr>
<tr><td colspan="2">Represent animal-themed data in different ways, using objects and technology.

Log in and use mouse and keyboard skills to navigate the computer.

Represent the same data as a pictogram and a table or chart.

Collect data about minibeasts using a tally chart and represent their data digitally.

Click and drag objects to sort data using a branching database.

Consider the types of input that would be used to gather different forms of data when designing an invention.</td></tr>
</table>

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	Sequence of Learning	Success Criteria	Vocabulary
	1 – To represent data in different ways.	I know that data can be shown in different ways. I can represent data in different ways. I can answer questions about the data using my representation.	data, information, map, object, representation.
	2 – To use technology to represent data.	I can use a mouse I can type using a keyboard I can create a pictogram that shows animal data	bar chart, chart, label, line graph, pictogram, pie chart, resize, table.
	3 – To collect and record data.	I can identify different minibeasts. I can record the number of different minibeasts I see. I can represent this data digitally.	data, data collection, data record, digitally, information, minibeasts, represent, tally.
	4 – To sort data.	I can identify and categorise different animals. I can identify questions to sort data in the most efficient way. I can create a branching database.	branching database, categorise, data, identify, sort.
	5 – To design an invention to gather data.	I recognise that computers understand different types of input. I can design a computerised invention to gather data. I can explain how my invention works.	computer, data, data collection, data recording, information, input, text.

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<table>
<tr><td rowspan="4">Burniston Rocks</td><td colspan="2">Unit Name: Online Safety</td><td colspan="3">Strand: Online Safety</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Recognise common uses of information technology beyond school .

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

appropriate

device

digital footprint

feelings

going online

in-person interactions

internet

kindness

offline activity</td><td>online activity

online experience

online interactions

online safety

personal information

pop up

posting online

report

responsible digital citizen</td><td>screen time

sharing online

stranger

technology

trusted adult

unkind

website</td></tr>
<tr><td colspan="2">Unit Outcomes
Discuss what the internet is and how it can be used.

Recognise that the internet may affect mood or emotions.

Recognise how internet use can affect and upset others.

Identify which information is appropriate to share and post online and which is not.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To recognise what the internet is and how to use it safely.	I can identify when something makes me feel uncomfortable online. I know who to go to when I need help online. I can offer advice on how to stay safe online.	device, going online, internet, online safety, pop up, responsible digital citizen, report, unkind
	2 – To identify how people's feelings and emotions can be affected by online content.	I can suggest how a character might be feeling. I can identify a trusted adult and how they can help. I can share advice on ways to stay happy and safe online.	device, internet, personal information, pop up, stranger, trusted adult.
	3 – To recognise how to treat others, both online and in person.	I can describe how other people may feel in different situations. I can recognise how actions on the internet can affect others. I can identify that feelings are the same whether online or in the real world.	feelings, in-person interactions, kindness online interactions
	4 - To recognise the importance of being careful when posting and sharing online.	I can understand the meaning of 'sharing' and 'posting' information online. I can understand what 'digital footprint' means. I can identify my own digital footprint.	app, appropriate, digital footprint, going online, posting online, sharing online, website.
	5 – To discuss ways to balance time spent online and offline.	I can name offline and online activities I enjoy. I can identify how different activities make me feel. I can make a plan to balance my screen time with other offline activities.	internet, online activity, online experience, offline activity, screen time, technology.

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<table>
<tr><td rowspan="3">Hayburn Wyke</td><td colspan="2">Unit Name: Improving Mouse Skills (Y1 – 3 lessons)
What Is A Computer? (Y2 – Full Unit)</td><td colspan="3">Strand: Computing Systems and Networks</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">I can use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Recognise common uses of information technology beyond school.

Use technology safely and respectfully, keeping personal information private.

Unit Outcomes
Use computers more purposefully

Log in and navigate around a computer

Drag, drop, click and control a cursor using a mouse

Use software tools to create art on the computer.

Name some computer peripherals and their function.

Recognise that buttons cause effects.

Explain that technology follows instructions.

Recognise different forms of technology.

Design an invention which includes inputs and outputs.

Explain the role of computers in the world around them.</td><td>Log in

Login

Log out / off Mouse

Mouse pointer

Click

Keyboard

Tools

Screen

Password

Account

Software

Duplicate

Ctrl

battery

buttons

camera</td><td>device

digital

digital recorder

electricity

function

input

invention

keyboard

laptop

monitor

mouse

output

paying till

scanner

screen

system

tablet

technology</td><td></td></tr>
</table>

		computer desktop	video wires	

Sequence of Learning	Success Criteria	Vocabulary
1 – To log in to a computer and access a website.	I can recognise what we mean by a computer I can understand why we need to lo into a computer. I can log in and out of a computer account.	account, computer, log off, log on, mouse, password, predict, screen (monitor), software, tool.
2 – To develop mouse skills.	I can navigate a computer using a mouse. I can understand what we mean by 'click' and 'drag'. I can use the fill and stamp tools in Sketchpad.	click, clipart, drag, duplicate, explore, log off, redo, resize, undo, username.
3 – To use mouse skills to draw and edit shapes.	I can click and drag objects to change their size or position. I can use a mouse to carefully position shapes. I can move shapes in front of or behind others.	bring to the front, drag and drop, fill, layers, left-click, log of, outline, right-click, tool.
(Year 2 – What Is A Computer Lesson 1) 4 – To recognise the parts of a computer.	I can name the key parts of a computer. I can explain the purpose of different computer parts. I can explain that a keyboard contains lots of buttons.	buttons, computer, desktop keyboard, laptop, monitor, mouse
(Year 2 – What Is A Computer Lesson 2) 5 – To recognise how technology is controlled.	I can understand that people control technology.	

		I can understand that technology follows instructions. I can predict what technology will do.	device, input, output, robot, technology
	(Year 2 – What Is A Computer Lesson 3) 6 – To recognise technology	I can suggest what might have a computer inside. I can explain why I think this. I can suggest what the technology does.	battery, camera, computer, digital content, electricity, photograph, screen, tablet, technology
	(Year 2 – What Is A Computer Lesson 4) 7 – To create a design for an invention	I can include an input and output as part of my invention. I can explain how it works, including how to control it. I can label my design clearly.	design, input, invention, output, plan
	(Year 2 – What Is A Computer Lesson 5) 8 – To understand the role of computers.	I can explain where computers are used. I can suggest what their job is. I can understand that computers work together.	computer, digital recorder, role, scanner, system, technology, till, video.

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<table>
<tr><td rowspan="4">Hayburn Wyke</td><td>Unit Name: Algorithms Unplugged</td><td colspan="3">Strand: Programming</td></tr>
<tr><td>National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td>Understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.

Create and debug simple programs.

Use logical reasoning to predict the behaviour of simple programs.</td><td>Algorithm
Automatic
Bug
Chunks
Clear
Code
Debug
Decompose
Decomposition
Device</td><td>Directions
Input
Instructions
Manageable
Motion
Order
Organise
Output
Precise
Programming</td><td>Problem
Robot
Sensor
Sequence
Solution
Specific
Steps
Tasks
Virtual assistant</td></tr>
<tr><td>Unit Outcomes
Explain what an algorithm is.
Write clear algorithms.
Follow an algorithm.
Explain what inputs and outputs are.
Create an achievable program.
Decompose a design into steps.
Identify bugs in an algorithm and how to fix them.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To understand what an algorithm is.	I can explain that an algorithm is a set of instructions. I can understand that these instructions sometimes need to be carried out in order. I can understand there can be more than one way to solve a problem.	algorithm, computer, instructions, order, solution, specific, tasks.
	2 – To follow instructions precisely to carry out an action.	I can explain why an algorithm must be clear and precise. I can explain the problems a robot can have following our instructions.	algorithm, instructions, bug
	3 – To understand that computers and devices around us use inputs and outputs.	I can identify some input devices. I can identify some output devices. I can identify some devices that are both input and output devices.	artificial intelligence, device, output, virtual assistant, computer, input, program.
	4 – To be able to understand and be able to explain what decomposition is.	I can explain what decomposition is. I can understand how decomposition allows you to solve a problem more easily. I can explain how we use decomposition in our everyday lives.	chunks, decompose, manageable, organising, problem.
	5 – To know how to debug an algorithm.	I can spot bugs in algorithms. I can fix the error (debug it) and explain the problem it caused.	algorithm, bug, code, correct, debug, directions.

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<table>
<tr><td rowspan="4">Hayburn Wyke</td><td colspan="2">Unit Name: Programming Bee-Bot</td><td colspan="3">Strand: Programming</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.

Create and debug simple programs.</td><td>algorithm
artificial intelligence
Bee-Bot
clear
code
debug
filming</td><td>inputting
instructions
pause
precise
predict
program
tinker</td><td>video
video recording</td></tr>
<tr><td colspan="2">Unit Outcomes
Recognise cause and effect when pressing buttons on a Bee-Bot.

Discuss and demonstrate how the Bee-Bot works.

Record video ensuring everyone is in the shot.

Give a a number of clear instructions in sequence.

Program a Bee-Bot to reach a destination.

Identify and correct mistakes in their programming.</td><td></td><td></td><td></td></tr>
</table>

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	Sequence of Learning	Success Criteria	Vocabulary
	1 – To explore a new device	I can 'tinker' with the buttons of a Bee-Bot to see what they do. I can complete a cycle of predict, test and review.	algorithm, Bee-Bot, code, instructions
	2 – To create a demonstration video.	I can create a video to explain how to use a Bee-Bot. I can explain what the buttons on a Bee-Bot do. I can show how the Bee-Bot moves when you press the different buttons.	algorithm, Bee-Bot, code, demonstration, filming, video.
	3 – To plan and follow a precise set of instructions.	I can follow verbal instructions. I can give precise instructions. I can check that the instructions being given are correct.	algorithm, Bee-Bot, explain, explore, instructions, precise, video.
	4 – To program a device.	I can personalise my Bee-Bot world. I can consider how the Bee-Bot can move from one place to another. I can plan a Bee-Bot route. I can program a Bee-Bot to follow my planned route.	Bee-Bot, program
	5 - To create a program that tells a story.	I can use programming to give the Bee-Bot clear instructions. I can debug my instructions if they go wrong by identifying and correcting the mistake.	algorithm, Bee-Bot, debug, program.

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<table>
<tr><td rowspan="3">Hayburn Wyke</td><td>Unit Name: Programming Scratch Jr</td><td colspan="3">Strand: Programming</td></tr>
<tr><td>National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td>Using logical reasoning to predict the behaviour of simple programs.

Create and debug simple programs.

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

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
Unit Outcomes
Explore a new application independently.

Explain what the blocks on ScratchJr do and use them for a purpose.

Recognise a loop in coding and why it is useful.

Use a code to create an animation of an animal moving.

Use code to follow and create an algorithm.

Program code to run 'on tap'.

Explain the role of the blocks in a program they have created.</td><td>algorithm

animation

blocks

bug

button

CGI

Computer code

code

debug

fluid</td><td>icon

imitate

instructions

loop

'on tap'

programming

repeat

ScratchJr

sequence

sound recording</td><td></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To explore a new application.	I can predict what something new will do. I can explore something independently. I can explain what I found using ScracthJr.	block, code, ScratchJr.
	2 – To create an animation	I can use the programming blocks for a purpose. I can recognise a loop in programming. I can think about how animals move. I can use my programming skills to represent an animal moving.	animation, code, loop, repeat
	3 – To use characters as buttons.	I can design a musical instrument. I can program code to run 'on tap'. I can select appropriate blocks for my purpose.	button, block, code
	4 – To follow and algorithm.	I can use an algorithm to help with my programming. I can sequence the blocks appropriately. I can explain what each block in the program does.	algorithm, block, code, loop, sequence.
	5 – To plan and use code to create an algorithm.	I can explain what an algorithm is. I can choose the code to match my algorithm. I can use an algorithm to write a computer program.	algorithm, code, program

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Computing Sequence of Learning – EYFS and Key Stage 1

<table>
<tr><td rowspan="6">Hayburn Wyke</td><td colspan="2">Unit Name: Stop Motion</td><td colspan="3">Strand: Creating Media</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Recognise common uses of information technology beyond school

Use technology safely and respectfully, keeping personal information private.</td><td>animate
animation
animator
background
decompose
digital camera
duration
flipbook
focus</td><td>frames
import
moving images
object
plan
save
still images
upload</td><td></td></tr>
<tr><td colspan="2">Unit Outcomes</td><td colspan="3" rowspan="3"></td></tr>
<tr><td colspan="2">Create a flip book animation.

Take clear, in-focus photographs using a digital camera.

Upload images from the school network.

Decompose a story into smaller parts to plan a stop motion animation.

Create stop motion animations with small changes between images</td></tr>
<tr><td>Sequence of Learning</td><td>Success Criteria</td><td colspan="3">Vocabulary</td></tr>
<tr><td>1 – To understand what animation is.</td><td>I understand and explain what animation means.</td><td colspan="3">animation, still images, moving images, flip book, frames, drawing.</td></tr>
</table>

		I understand how to create a short animation using a flip book. I can talk about how animation began.	
	2 – To understand what stop motion animation is.	I can explain what 'stop motion' means I understand how to create a short animation using animation software I understand what 'onion skinning' is and how animators use it I can use onion skinning to make small changes to my object to make my animation smooth.	stop motion, animation, digital device, frame, animator.
	3 – To take clear photographs using a digital camera.	I can use a digital camera to take photographs I understand how to take a good photograph	background, object, digital camera, animate, focus.
	4 – To create a stop motion animation.	I can find and upload images from the school network. I can change the duration of my images. I can save my work.	import, upload, save, duration animate.
	5 – To plan my stop motion animation.	I can work collaboratively with others to plan an animation. I can think carefully about keeping my idea simple and easy to animate. I can decompose my story into smaller parts.	animation, planning
	6 – To create a stop motion animation.	I can use my planning sheet to structure my animation. I can work collaboratively. I can create an animation of at least 10 frames.	debug, frames, duration, focus, evaluate, collaboration, fluid

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<table>
<tr><td rowspan="4">Hayburn Wyke</td><td colspan="2">Unit Name: Introduction to Data</td><td colspan="3">Strand: Data Handling</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Use technology purposefully to create, organise store, manipulate and retrieve digital content.

Recognise common uses of information technology beyond school.</td><td>bar chart
block graph
branching database
categorise
chart
click and drag
compare
count
data
data record
data collection
data representation</td><td>edit
input
keyboard
line graph
mouse
information
label
pictogram
pie chart
process
record</td><td>resize
sort
table
tally
values</td></tr>
<tr><td colspan="2">Unit Outcomes
Represent animal-themed data in different ways, using objects and technology.

Log in and use mouse and keyboard skills to navigate the computer.

Represent the same data as a pictogram and a table or chart.

Collect data about minibeasts using a tally chart and represent their data digitally.

Click and drag objects to sort data using a branching database.</td><td colspan="3"></td></tr>
</table>

	Consider the types of input that would be used to gather different forms of data when designing an invention.			

Sequence of Learning	Success Criteria	Vocabulary
1 – To represent data in different ways.	I know that data can be shown in different ways. I can represent data in different ways. I can answer questions about the data using my representation.	data, information, map, object, representation.
2 – To use technology to represent data.	I can use a mouse I can type using a keyboard I can create a pictogram that shows animal data	bar chart, chart, label, line graph, pictogram, pie chart, resize, table.
3 – To collect and record data.	I can identify different minibeasts. I can record the number of different minibeasts I see. I can represent this data digitally.	data, data collection, data record, digitally, information, minibeasts, represent, tally.
4 – To sort data.	I can identify and categorise different animals. I can identify questions to sort data in the most efficient way. I can create a branching database.	branching database, categorise, data, identify, sort.

	5 – To design an invention to gather data.	I recognise that computers understand different types of input. I can design a computerised invention to gather data. I can explain how my invention works.	computer, data, data collection, data recording, information, input, text.

Hayburn Wyke	Unit Name: Online Safety	Strand: Online Safety		
	National curriculum objectives	**Key Vocabulary**		
	Recognise common uses of information technology beyond school . Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	app appropriate device digital footprint feelings going online in-person interactions internet	online activity online experience online interactions online safety personal information pop up posting online report	screen time sharing online stranger technology trusted adult unkind website

	Unit Outcomes Discuss what the internet is and how it can be used. Recognise that the internet may affect mood or emotions. Recognise how internet use can affect and upset others. Identify which information is appropriate to share and post online and which is not.	kindness offline activity	responsible digital citizen	

Sequence of Learning	Success Criteria	Vocabulary
1 – To recognise what the internet is and how to use it safely.	I can identify when something makes me feel uncomfortable online. I know who to go to when I need help online. I can offer advice on how to stay safe online.	device, going online, internet, online safety, pop up, responsible digital citizen, report, unkind
2 – To identify how people's feelings and emotions can be affected by online content.	I can suggest how a character might be feeling. I can identify a trusted adult and how they can help. I can share advice on ways to stay happy and safe online.	device, internet, personal information, pop up, stranger, trusted adult.
3 – To recognise how to treat others, both online and in person.	I can describe how other people may feel in different situations. I can recognise how actions on the internet can affect others. I can identify that feelings are the same whether online or in the real world.	feelings, in-person interactions, kindness online interactions

	4 - To recognise the importance of being careful when posting and sharing online.	I can understand the meaning of 'sharing' and 'posting' information online. I can understand what 'digital footprint' means. I can identify my own digital footprint.	app, appropriate, digital footprint, going online, posting online, sharing online, website.
	5 – To discuss ways to balance time spent online and offline.	I can name offline and online activities I enjoy. I can identify how different activities make me feel. I can make a plan to balance my screen time with other offline activities.	internet, online activity, online experience, offline activity, screen time, technology.

Ravenscar	Unit Name: What Is A Computer?	Strand: Computing Systems and Networks		
	National curriculum objectives	Key Vocabulary		
	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school. Use logical reasoning to predict the behaviour of simple programs.	Battery Buttons Camera Computer Desktop Device	Laptop Monitor Mouse Output Paying till Scanner	

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Computing Sequence of Learning – EYFS and Key Stage 1

	Unit Outcomes Name some computer peripherals and their function. Recognise that buttons cause effects. Explain that technology follows instructions. Recognise different forms of technology. Design an invention which includes inputs and outputs. Explain the role of computers in the world around them.		Digital Digital recorder Electricity Function Input Invention Keyboard	Screen System Tablet Technology Video Wires	
	Sequence of Learning	**Success Criteria**		**Vocabulary**	
	1 – To recognise the parts of a computer.	I can name the key parts of a computer. I can explain the purpose of different computer parts. I can explain that a keyboard contains lots of buttons.		buttons, computer, desktop, keyboard, laptop, monitor, mouse.	
		I can understand that people control technology.		device, input, output, robot, technology	

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Computing Sequence of Learning – EYFS and Key Stage 1

	2 – To recognise how technology is controlled.	I can understand that technology follows instructions. I can predict what technology will do.	
	3 – To recognise technology.	I can suggest what might have a computer inside. I can explain why I think this. I can suggest what the technology does.	battery, camera, computer, digital content, electricity, photograph, screen, tablet, technology, wire.
	4 – To create a design for an invention.	I can include an input and output as part of my invention. I can explain how it works, including how to control it. I can label my design clearly.	design, input, invention, output, plan.
	5 – To understand the role of computers.	I can explain where computers are used. I can suggest what their job is. I can understand that computers work together.	computer, digital recorder, role, scanner, system, technology, till, video.

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Computing Sequence of Learning – EYFS and Key Stage 1

<table>
<tr><td rowspan="4">Ravenscar</td><td colspan="2">Unit Name: Algorithms and Debugging</td><td colspan="3">Strand: Programming</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.

Create and debug simple programs.

Use logical reasoning to predict the behaviour of simple programs.</td><td>Abstraction

Algorithm

Artificial intelligence

Bug

Clear

Correct

Data</td><td>Debug

Decompose

Error

Key features

Loop

Predict

Unnecessary</td><td></td></tr>
<tr><td colspan="2">Unit Outcomes

Decompose a game to predict the algorithms.

Give a definition for 'decomposition'.

Write clear and precise algorithms.

Create algorithms to solve problems.

Use loops in their algorithms to make their code more efficient.

Explain what abstraction is.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To decompose a game to predict the algorithms that are used.	I can understand what the terms decomposition and algorithm mean. I can decompose a game to predict algorithms. I can plan algorithms for a more complex game.	algorithm decomposition predict
	2 – To understand that computers can use algorithms to make predictions (machine learning)	I can explain what an algorithm is. I can explain that computers use algorithms to make predictions. I can write a clear and precise algorithm.	algorithm artificial intelligence data key features
	3 – To plan algorithms that will solve problems.	I can devise and create algorithms to solve problems. I can include loops in my algorithms (count controlled). I can visualise directions from a 2D environment.	algorithm loop
	4 – To understand what abstraction is.	I can explain what abstraction is. I can give an example of when abstraction might be useful.	abstraction key features unnecessary
	5 – To understand what debugging is.	I can understand the meaning of the word debugging. I can listen to my peer's verbal instructions. I can perform a task by following step by step instructions.	bug correct debug error

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<table>
<tr><td>Ravenscar</td><td>Unit Name: Word Processing</td><td colspan="3">Strand: Computing Systems and Networks</td></tr>
<tr><td rowspan="3"></td><td>National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Use technology safely and respectfully, keeping personal information private.

Recognise common uses of information technology beyond school.</td><td>Backspace
Bold
Copy
Copyright
Cut
Delete
Forward button
Highlight
Home row
Home screen Image
Import
Italics
Keyboard
Keyboard character</td><td>Keyboard shortcut
Keyword
Layout
Navigate
Paste
Redo
Search
Space bar
Text
Text effects
Touch typing
Underline
Undo
Word processing</td><td></td></tr>
<tr><td>Unit Outcomes
Explain which are the home row keys and how to find them for typing.

Use the spacebar and backspace correctly.

Type and make simple alterations to text using buttons on a word processor.

Search for, import and alter appropriate images for a text document.

Modify text in a document.

Use copy and paste to copy text from one document to another.

Explain what information is safe to be shared online.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To begin to learn to touch type	I can find keys on a computer keyboard. I can type capital letters using 'shift' I can identify that the keyboard is an important input device.	backspace, delete, keyboard, space bar, touch typing, word processing
	2 – To understand how to use a word processor.	I can type a sentence into a word processor. I can select text and make it bold or italic. I can explain how to make other changes to a document.	bold, highlight, italic, redo, underline, undo.
	3 – To understand how to add images to a text document.	I can use keyboard shortcuts to alter text. I can search for and find an appropriate image. I can import and alter an image in a document.	bold, back button, forward button, image, import, italic, layout, navigate, text, text effects.
	4 – To create a poetry book using sources from the internet.	I can use text styles to create headings and subtitles. I can copy and paste text into a document. I can identify the importance of crediting source materials.	author, copy, copyright, cut, keyword, paste, search.

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<table>
<tr><td rowspan="3">Ravenscar</td><td>Unit Name: Programming Scratch Jr</td><td colspan="3">Strand: Programming</td></tr>
<tr><td>National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td>Using logical reasoning to predict the behaviour of simple programs.

Create and debug simple programs.

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

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</td><td>algorithm
animation
blocks
bug
button
CGI
Computer code
code
debug
fluid</td><td>icon
imitate
instructions
loop
'on tap'
programming
repeat
ScratchJr
sequence
sound recording</td><td></td></tr>
<tr><td></td><td>Unit Outcomes
Explore a new application independently.

Explain what the blocks on ScratchJr do and use them for a purpose.

Recognise a loop in coding and why it is useful.

Use a code to create an animation of an animal moving.

Use code to follow and create an algorithm.

Program code to run 'on tap'.

Explain the role of the blocks in a program they have created.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To explore a new application.	I can predict what something new will do. I can explore something independently. I can explain what I found using ScracthJr.	block, code, ScratchJr.
	2 – To create an animation	I can use the programming blocks for a purpose. I can recognise a loop in programming. I can think about how animals move. I can use my programming skills to represent an animal moving.	animation, code, loop, repeat
	3 – To use characters as buttons.	I can design a musical instrument. I can program code to run 'on tap'. I can select appropriate blocks for my purpose.	button, block, code
	4 – To follow and algorithm.	I can use an algorithm to help with my programming. I can sequence the blocks appropriately. I can explain what each block in the program does.	algorithm, block, code, loop, sequence.
	5 – To plan and use code to create an algorithm.	I can explain what an algorithm is. I can choose the code to match my algorithm. I can use an algorithm to write a computer program.	algorithm, code, program

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<table>
<tr><td rowspan="4">Ravenscar</td><td colspan="2">Unit Name: Stop Motion</td><td colspan="3">Strand: Creating Media</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Recognise common uses of information technology beyond school

Use technology safely and respectfully, keeping personal information private.</td><td>animate
animation
animator
background
decompose
digital camera
duration
flipbook
focus</td><td>frames
import
moving images
object
plan
save
still images
upload</td><td></td></tr>
<tr><td colspan="2">Unit Outcomes
Create a flip book animation.

Take clear, in-focus photographs using a digital camera.

Upload images from the school network.

Decompose a story into smaller parts to plan a stop motion animation.

Create stop motion animations with small changes between images</td><td colspan="3"></td></tr>
<tr><td>Sequence of Learning</td><td>Success Criteria</td><td colspan="3">Vocabulary</td></tr>
<tr><td>1 – To understand what animation is.</td><td>I understand and explain what animation means.</td><td colspan="3">animation, still images, moving images, flip book, frames, drawing.</td></tr>
</table>

		I understand how to create a short animation using a flip book. I can talk about how animation began.	
	2 – To understand what stop motion animation is.	I can explain what 'stop motion' means I understand how to create a short animation using animation software I understand what 'onion skinning' is and how animators use it I can use onion skinning to make small changes to my object to make my animation smooth.	stop motion, animation, digital device, frame, animator.
	3 – To take clear photographs using a digital camera.	I can use a digital camera to take photographs I understand how to take a good photograph	background, object, digital camera, animate, focus.
	4 – To create a stop motion animation.	I can find and upload images from the school network. I can change the duration of my images. I can save my work.	import, upload, save, duration animate.
	5 – To plan my stop motion animation.	I can work collaboratively with others to plan an animation. I can think carefully about keeping my idea simple and easy to animate. I can decompose my story into smaller parts.	animation, planning
	6 – To create a stop motion animation.	I can use my planning sheet to structure my animation. I can work collaboratively. I can create an animation of at least 10 frames.	debug, frames, duration, focus, evaluate, collaboration, fluid

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<table>
<tr><td rowspan="4">Ravenscar</td><td colspan="2">Unit Name: International Space Station</td><td colspan="3">Strand: Data Handling</td></tr>
<tr><td colspan="2">National curriculum objectives</td><td colspan="3">Key Vocabulary</td></tr>
<tr><td colspan="2">Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</td><td>Algorithm
Astronaut
Data
Digital
Digital content
Experiment
Galaxy
Insulation
Interactive map
International Space Centre
International Space Station</td><td>Interpret
Laboratory
Monitor
Planet
Satellite
Sensor
Space
Temperature
Thermometer
Water reservoir</td><td></td></tr>
<tr><td colspan="2">Unit Outcomes
Describe and explain how astronauts' survival needs are met aboard the ISS.

Identify and digitally draw items which fulfil basic human needs when aboard the ISS.

Read the correct temperature on a thermometer.

Design a display showing everything that needs to be monitored by sensors on the ISS.

Create an algorithm that addresses all plants' needs.

Explain how space exploration can benefit life on Earth.

Read data to identify whether a planet might be habitable.</td><td colspan="3"></td></tr>
</table>

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Computing Sequence of Learning – EYFS and Key Stage 1

	Sequence of Learning	Success Criteria	Vocabulary
	1 – To understand how computers can help humans survive in space.	I can consider human survival needs. I can retrieve digital content from an interactive map. I can consider how a computer is used to monitor data relating to human survival needs.	digital content, interactive map, International Space Station, satellite, space, survival.
	2 – To create a digital drawing of essential items for life in space.	I know the items that astronauts need to survive in the habitat of the ISS. I can use mouse and keyboard skills to draw and add text to a project. I can identify the importance of exercise, eating healthily and staying clean. I can consider how computers would monitor items on the ISS.	astronaut, dehydrated food, essential, leisure, monitor, rehydrate, sensor, survival, transport.
	3 – To understand the role of sensors on the ISS.	I can read temperatures using a thermometer. I understand that sensors monitor the ISS to make sure the astronauts are safe and healthy. I can design a display to show the data that the sensors collect.	air conditioning, ammonia, astronaut, crew, data, insulation, monitor, sensor, temperature, urine, waste water.
	4 – To create an algorithm for growing a plant in space.	I know plants need to grow. I can create an algorithm for growing a plant. I can explain how space exploration benefits human life on Earth.	algorithm, astronaut, data, experiment, galaxy, laboratory, monitor, sensors, space exploration, water reservoir.

	5 – To interpret data.	I know that water is very important to life on Earth. I can interpret data. I can identify temperatures within a range to decide if they are a Goldilocks planet.	data, Goldilocks zone, interpret, temperature.

Ravenscar	Unit Name: Online Safety	Strand: Online Safety		
	National curriculum objectives	**Key Vocabulary**		
	Use technology safely, respectfully, and responsibly Recognise acceptable/unacceptable behaviour. Identify a range of ways to report concerns about content and contact.	accepting consent denying permission fake giving permission offline online password permission	personal information pop-up pressure private information real reliable sharing online source trusted adult	
	Unit Outcomes			
	Explain what is meant by online information. Recognise what information is safe to be shared online. Explain why we need passwords and what makes a strong password.			

	Understand that they need to ask permission before sharing content online and explain why. Understand that they have the right to deny their permission to information about them being shared online. Say who they can ask for help with online worries. Use some strategies to work out if online information is reliable or not.			

Sequence of Learning	Success Criteria	Vocabulary
1 – To decide which information is safe to share online.	I can explain what online information is. I can explain what information is safe to share online. I can recognise that information shared online stays there forever. I can identify who to talk to if something is shared that makes me feel sad or worried.	consent, offline, online, permission, personal information, sharing online, trusted adult.
2 – To practise keeping information safe and private online.	I can identify why passwords are used. I can develop a strong password. I can classify information as private. I can explain how to keep information private online.	password, personal information, private information
3 – To recognise when to deny permission online.	I can identify what denying permission means.	accepting, denying permission, giving permission, permission, pressure, trusted adult.

		I can name ways to get help if I feel pressured online. I can explain why I should deny permission.	
	4 – To recognise that not everything online is true.	I can identify whether information is true or false. I can explain why people may post things online that are not true. I can check the reliability of online information.	fake, pop-up, real, reliable, source.