Year 3 Computing Autumn 1 Computing systems and networks 1: Networks	
Previous learning	
Before starting this unit, you might want to check that children can recall that: People control technology. Buttons are a form of input that gives a computer instructions about what to do (output). Computers often work together. Something created on a computer can be more easily saved and shared than a paper version.	
Substantive Knowledge in Computing	**Disciplinary knowledge in Computing**
By the end of KS2, children will know how different technology is used in our lives; they will have developed knowledge of Digital Literacy; they will understand the basic principles of programming and coding and they will know how to stay safe using the internet.	Our Computing curriculum will equip children not only with the skills and knowledge to learn and grow in the digital world we live in, but more importantly in a safe and secure manner. They will be able to apply the British Values of democracy, tolerance, mutual respect, rule of law and liberty when using digital systems.

Lesson 1	What is a network?
	To recognise what a network is. I can explain the purpose of a network. I can name the key parts of a network. I can explain the difference between a wired and wireless connection. I can identify which components can be connected.

Lesson 2	A file's journey
	To demonstrate how information moves around a network. I can discuss the journey of a file. I can explain parts of a network. I can identify real-world networks.

Lesson 3	How a website works
	To demonstrate how a website works. I can recognise that the internet is a network. I can list the parts of a network needed for a website to work. I can recognise the role of the cloud.

Lesson 4	Routers
	To explore the role of a router. I can recognise the role that a router plays in a network. I can give examples of how a router is used. I can explain what a router does.

Lesson 5	What is packet data?
	To identify the role of packet data. I can recognise that data is transferred across the internet.

	I can explain that routers connect to send information. I can demonstrate that data can be too big to send whole.

Vocabulary
Device, file, internet, network, network switch, packet data, router, server, the cloud, user, WiFi, wired, wireless, wireless access point

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Year 3
Computing
Autumn 2
Programming: scratch

Previous learning

Before starting this unit, you might want to check that children can recall that:

An algorithm is when instructions are put in an exact order.
Decomposition means breaking a problem into manageable chunks.
Coding is writing in a special language so the computer understands what to do.
The programming blocks control the character in ScratchJr.

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Lesson 1	Tinkering with Scratch
	To explore a programming application. I can identify that Scratch is a coding application. I can predict what I think different code will do. I can explore an application independently.
Lesson 2	**Using loops**
	To use repetition (a loop) in a program. I can understand and explain what a loop is. I can recognise when a loop is used. I can choose an appropriate loop.
Lesson 3	**Making an animation**
	To program an animation. I can decompose a project. I can remix a project. I can select the correct blocks to achieve my goals.
Lesson 4	**Storytelling**
	To program a story. I can choose appropriate blocks. I can continue someone else's program. I can debug my own program.
Lesson 5	**Programming a game**
	To program a game.

	I can explain the purpose of an algorithm. I can decompose a problem. I can use an algorithm to code a program.
Vocabulary	
algorithm, animation, application, code, code block, debug, decompose, game, interface, loop, predict, program, remixing code, repetition code, review, Scratch, sprite, tinker	

Year 3
Computing
Spring 1
Computing systems and networks 2: Emailing

Previous learning

Before starting this unit, you might want to check that children can recall that:

What is a computer network? (A group or system of interconnected devices.)
What is a router? (A device that provides internet access to a network.)
What is 'The Cloud'? (Data and files are stored and accessed on servers via the internet.)
How do most households access the internet? (Via a phone line.)

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Lesson 1	**Communicating with technology**
	To understand how we communicate with technology. I can discuss early methods of communication. I can identify which method of communication suits each purpose. I can explain what an email is.
Lesson 2	**Sending an email**
	To understand what emails are and how to send one I can log in and log out of my email account. I can write an email to my teacher. I can identify that emails can be used to send information around the world.
Lesson 3	**Adding attachments**
	To know how to create an email with an attachment. I can log into my email account. I can send an email with an attachment.
Lesson 4	**Be kind online**
	To understand the importance of being kind online. I can use positive language within an email. I can recognise when online behaviour is unkind. I can be a responsible digital citizen.

Lesson 5	Fake emails
	To recognise when an email is not genuine.
	I can recognise when an email might be fake. I can recall that I shouldn't click on links in an email unless I know what it is. I can identify what to do if I suspect an email is fake.

Vocabulary
Attachment, Bcc (Blind carbon copy), Cc (Carbon copy), Compose, Content, Cyberbullying, Document, Domain, Download, Email, Email account, Email address, Emoji, Emotions, Fake, Font, Genuine, Hacker, Icons, Inbox, Information, Link, Log in, Log out, Negative language, Password, Personal information, Positive language, Reply, Responsible digital citizen, Scammer, Settings, Send, Sign in, Spam email, Subject bar, Theme, Tone, Username, Virus, WiFi

Year 3 Computing Spring 2 Computing systems and networks 3: Journey inside a computer

Previous learning
Before starting this unit, you might want to check that children can recall that: What does the space bar on the keyboard do? (Inserts room between letters and words.) What is an email attachment? (A file that is added to an email.) What should you do if you receive an unexpected email from an unknown person with unknown links/attachments? (Be cautious and inform a trusted adult for advice.)

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Lesson 1	Inputs and output
	To recognise basic inputs and outputs. I can identify some inputs and outputs. I can recall that a computer follows instructions. I can explain what the computer is doing.

Lesson 2	Building a paper laptop
	To decompose a laptop. I can suggest a laptop's inputs and outputs. I can recall that a laptop is made up of many parts. I can use logic to explain the purpose of some parts.

Lesson 3	Following instructions
	To understand the purpose of computer parts. I can explain that a computer is made up of many parts. I can suggest the purpose of each part. I can follow an algorithm.

Lesson 4	Computer memory

	To understand the purpose of computer parts. I can explain that a computer is made up of many parts. I can suggest the purpose of each part. I can use a QR code.
Lesson 5	**Dismantling a tablet**
	To decompose a tablet computer. I can recall that a tablet is a computer. I can compare similarities and differences across different types of computer. I can use logic to suggest what's inside a computer.

Vocabulary
Algorithm, Assemble, CPU (central processing unit), Data, Decompose, Desktop, Disassemble, GPU (graphics, processing unit), Hard drive, HDD (hard disk drive), Infinite loop, Input, Keyboard, Laptop, Memory, Microphone, Monitor, Mouse, Output, Photocopier, Program, QR Code, RAM (random access memory), ROM (read only memory), Storage, Tablet device, Technology, Touchscreen, Touchpad

Year 3 Computing Summer 1 Creating media: Video trailers
Previous learning
Before starting this unit, you might want to check that children can recall that: What does 'app' mean? (Application.) What does 'edit' mean? (To change and amend.) What happens when something 'fades to black'? (The media fades to a black screen.)

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Lesson 1	**Planning a book trailer**
	To plan a book trailer. I can describe the purpose of a book trailer. I can identify the key events in a story. I can plan a book trailer.
Lesson 2	**Filming**
	To take photos or videos that tell a story. I can frame shots differently to create the effect I want. I can use digital devices to record video or take photos.
Lesson 3	**Editing the trailer**
	To edit a video. I can import videos and photos into film editing software. I can record sounds using digital devices.

	I can add sound effects and music to a video.
Lesson 4	**Transitions and text**
	To add text and transitions to a video. I can add text to my video. I understand what transitions are in film. I can incorporate different transitions in my video.
Lesson 5	**Video review**
	To evaluate video editing. I can explain what makes a successful video. I can explain what makes a successful book trailer. I can think about how I share book recommendations.
Vocabulary
Application, Camera angle, Clip, Cross blur, Cross fade, Cross zoom, Desktop, Digital device, Dip to black, Directional wipe, Edit, Film, Film editing software, Graphics, Import, Key events, Laptop, Music, Photo, Plan, Recording, Sound, effects, Storyboard, Time code, Trailer, Transition, Video, Voiceover

Year 3 Computing Summer 2 Data handling: Comparison cards databases
Previous learning
Before starting this unit, you might want to check that the children can recall: The key features of a spreadsheet. How to input simple data into a spreadsheet. Information can be interpreted from a spreadsheet. How computers are used for monitoring and data handling in real-life situations. How to create visual representations of data.

Substantive Knowledge in Computing	Disciplinary knowledge in Computing
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Lesson 1	**Records, fields and data**
	To understand the terminology around databases. I know what field, record and data mean. I can compare numbers. I can scan a record for relevant information
Lesson 2	**Race against the computer**
	To compare paper and computerised databases. I understand what a paper database is and can name examples. I understand what a computerised database is. I can compare the advantages and disadvantages of paper and computerised databases.

Lesson 3	Sorting and filtering
	To sort, filter and interpret data. I can input data into a database. I know how to sort data. I can filter data by a particular value. I can create questions that can be answered using information from a database. I can interpret information.
Lesson 4	Representing data
	To represent data in different ways. I can create a graph and chart in Google Sheets. I can name different types of charts. I understand the purpose of visual representations of data.
Lesson 5	Planning a holiday
	To sort data for a purpose. I understand that databases are used for different purposes. I know how to sort and filter data. I can explain what information is useful in an online database.
Vocabulary	
Categorise, Category, Chart, Data, Database, Excel, Fields, Filter, Graph, Information, Interpret, PDF, Questionnaire, Record, Representation, Sort, Spreadsheet	