



The Ribblesdale Federation of Schools

Curriculum Handbook

(Updated for 2026 -2027 Curriculum)



Long Term Plan – Cycles of Units of Study

EYFS – Computing
Practitioners will: • Provide opportunities to use technology to solve problems. • Provide opportunities for pupils to use technology to produce creative outcomes. • Provide opportunities to take part in a variety of tasks with digital devices such as Beebots. • Provide opportunities to use toys such as remote control cars, walkie talkies and interactive pets. • Provide opportunities to use digital cameras, voice recorders or microphones and iPads.

Year 1 Computing – Long Term Overview						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
A 2026-27	Computing systems and networks Improving Mouse Skills	Creating media: Digital imagery	Programming 1 Algorithms Unplugged	Programming 2 Programming Bee Bots	Data Handling Introduction to data	Online Safety Yr 1

Year 2, 3, 4 Computing – Long Term Overview

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Yr A 2026-27	Online safety (Yr 3)	Computing systems and networks 2 Word processing	Data Handling: Comparison cards	Data Handling: Investigating weather	Creating media Stop motion	Computing systems and networks: Emailing

Years 5 and 6 Computing – Long Term Overview

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Yr A 2026-27	Online safety Y5	Programming: Music	Computing systems and networks: Search Engines	Data Handling: Big data 1	Data Handling: Big data 2	Computer systems and networks: Exploring AI

Computing

Intent

Our computing curriculum has been specifically tailored to meet the unique context of our schools. It is designed to be broad and balanced, providing all pupils with the opportunity to master their learning, deepen their knowledge and help them to understand the importance and real-world applications of computing. Technology is changing the lives of everyone. Through teaching computing, we equip our children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. We believe that computing is a fundamental part of our children's education to ensure they are prepared for the digital world in which we live.

Through our computing curriculum, we aim to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way in order to flourish. We aim to equip our pupils with the skills to thrive in the 21st-century workplace, fostering independence and confidence as they become autonomous users of technology who enjoy exploring and creating through computing. We want the use of technology to support learning across the entire curriculum and to ensure that our computing curriculum is accessible to every child.

Not only do we want them to be digitally literate and competent end-users of technology but through our computing lessons we want our pupils to develop creativity, resilience, problem-solving and critical thinking skills.

Implementation

We have chosen to implement the Kapow computing curriculum across the Federation as it ensures a broad and balanced coverage of the National Curriculum requirements. The Kapow Primary scheme is organised into five key areas, creating a cyclical route through which pupils can develop their computing knowledge and skills by revisiting and building on previous learning. We have mapped out the key areas in our long term plan in order to meet the needs of our mixed aged classes. The key areas are:

- Computer systems and networks
- Programming
- Creating media
- Data handling
- Online safety

Where appropriate, units within the Kapow scheme have been created to link to other subjects such as science, art and music to enable the development of further transferable skills and genuine cross-curricular learning.

The curriculum is broken down into units of learning with usually with one unit taught per half term. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work as well as unplugged and digital activities. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that they can be accessed by all learners.

Computing is timetabled weekly throughout the Federation and staff have access to laptops, iPads, microbits and Beebots to implement the curriculum. As our younger learners often take longer to master the different skills taught within the curriculum, they have the option of implementing the condensed Kapow computing curriculum. We are monitoring how this works with a view to implementing it across all the year groups. This condensed curriculum identifies the lessons that must be taught in order to meet the requirements of the National Curriculum. Having fewer lessons to teach enables teachers to break lessons down into smaller parts and take longer over each lesson or to teach them in smaller groups. Teachers use their professional judgement when making this decision.

Strong subject knowledge is essential for staff to be able to deliver a highly effective and robust computing curriculum. Each Kapow unit of learning includes teacher videos to develop subject knowledge and support ongoing CPD. The subject leader can also be approached for help and advice and we have contacts with our local secondary school, who are also happy to help us with CPD. We also have technical support from NYES Digital who attend our sites on a three week rotation.

Teachers ensure that computing capability is also achieved through core and foundation subjects and where appropriate, computing should be incorporated into all subjects. Teachers and pupils are aware of the importance of health and safety and pupils are always supervised when using technology and accessing the internet.

Internet Safety

We take internet safety extremely seriously and have an E-safety policy that provides guidance for teachers and children about how to use the internet safely. Online safety units of work are planned into the curriculum for all the year groups from Year 1 -6 and frequent reminders are given throughout computing lessons so that the children know how to stay safe when using technology. Our PSHE curriculum also supports the delivery of online safety. All the schools across the Federation take part in Safer Internet Day each year and our younger learners participate in this too. We also take advantage of opportunities offered to us by outside agencies who run assemblies and workshops about online safety.

Pupils with SEND

To support pupils with SEND to access a full computing curriculum, we use a range of approaches which include, but are not limited to: pre-teaching subject-specific vocabulary, use of visual aids, scaffolding resources such as writing frames, additional thinking time, additional adult support, task breakdown plans and targeted questioning.

EYFS

This subject leader handbook is for the National Curriculum. There is a separate EYFS handbook which shows the EYFS long-term curriculum. The EYFS curriculum is holistic and therefore a number of areas of learning will link to this subject and support children to be immersed in Computing.

Impact

Our computing curriculum is high quality, well thought out and planned to ensure progression. If children are keeping up with the curriculum, they are deemed to be making at least good progress and they will be developing a range of skills that are transferable to other curriculum areas. As pupils progress through KS1 and KS2 children will:

- Become increasingly confident in the application of their digital skills,
- Be increasingly efficient and effective communicators, collaborators and analysts,
- Show imagination and creativity in their use of ICT in different aspects of their learning and life beyond school.
- Understand E-safety and the risks involved when using the internet.

The impact of the computing curriculum offered within the Ribblesdale Federation is assessed continuously. Each Kapow lesson includes guidance to support teachers in assessing pupils against the learning objectives. By making these judgements, we can ensure that the necessary support is provided for all children to have a good understanding of the primary computing curriculum and allows us to effectively differentiate tasks for students.

Other methods of judging the impact of the computing curriculum offered are through the following methods:

- Pupil discussions and interviewing the pupils about their learning (pupil voice).
- Photo evidence and images of the pupils' practical learning.
- Monitoring of children's work.

National Curriculum

Key stage 1

Pupils should be taught to:

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.

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; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key stage 2

Pupils should be taught to:

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

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

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

Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.

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

select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

use technology safely, respectfully and responsibly;

recognise acceptable/unacceptable behaviour;

identify a range of ways to report concerns about content and contact.

Computing systems and networks - Improving Mouse Skills

In Year 1 we...

Skills

- Learn how to explore and tinker with hardware to find out how it works.
- Learn where keys are located on the keyboard.
- Use a basic range of tools within graphic editing software.
- Develop control of the mouse through dragging, clicking and resizing of images to create different effects.
- Develop understanding of different software tools.
- Recognise devices that are connected to the internet.
- Log in and out and save work on their own account.

Knowledge

- Know log in and log out means to begin and end a connection with a computer
- Know a computer and mouse can be used to click, drag, fill and select and also add backgrounds, text, layers, shapes and clip art.
- Know passwords are important for security and to keep us safe.

Creating media – digital imagery

In Year 1 we...

Skills

- Learn how to explore and tinker with hardware to find out how it works.
- Learn where keys are located on the keyboard.
- Learn how to operate a camera to take photos and videos.
- Develop the skills associated with sequencing in unplugged activities.
- Use a basic range of tools within graphic editing software.
- Take and edit photographs.
- Develop control of the mouse through dragging, clicking and resizing images to create different effects.
- Develop an understand of different software tools
- Search and download images from the internet safely.
- Learn when using the internet to search for images, learning what to do if they come across something online that worries them or makes them feel uncomfortable.

Knowledge

- Know holding a camera or device still and considering angles and light are important to taking good pictures.
- Know photographs can be edited, cropped and filtered.
- Know how to search safely for images online.

Programming 1 - Algorithms unplugged

In Year 1 we...

Skills

- Recognise that some devices are input devices and others are output devices.
- Learn that decomposition means breaking a problem down into smaller parts.
- Use decomposition to solve unplugged challenges.
- Develop the skills associated with sequencing in unplugged activities.
- Follow a basic set of instructions.
- Assemble instructions into a simple algorithm.
- Debug instructions when things go wrong.
- Debug an algorithm in an unplugged scenario..

Knowledge

- Know an algorithm is when instructions are put in an exact order.
- Know decomposition means breaking a problem into manageable chunks and that is important in computing.
- call errors in an algorithm bugs and fixing these is called debugging.

Programming 2 - Programming Bee-Bots

In Year 1 we...

Skills

- Learn how to explore and tinker with hardware to find out how it works.
- Learn how to operate a camera to take photos and videos.
- Use decomposition to solve unplugged challenges.
- Use logical reasoning to predict the behaviour of simple programs.
- Develop the skills associated with sequencing in unplugged activities.
- Follow a basic set of instructions.
- Assemble instructions into a simple algorithm.
- Programme a floor robot to follow a planned route.
- Learn to debug instructions when things go wrong. Using programming language to explain how a floor robot works.
- Learn to debug an algorithm in an unplugged scenario.

Knowledge

- Know the basic functions of a Bee-Bot.
- Know you can use a camera/tablet to make simple videos.
- Know algorithms move a Bee-Bot accurately to a chosen destination.

Data handling - Introduction to data

In Year 1 we...

Skills

- Learn how to explore and tinker with hardware to find out how it works.
- Recognise that some devices are input devices and others are output devices.
- Learn where keys are located on the keyboard.
- Develop control of the mouse through dragging, clicking and resizing of images to create different effects.
- Develop understanding of different software tools.
- Recognise devices that are connected to the internet.
- Understand that technology can be used to represent data in different ways: pictograms, tables, pie charts, bar charts, block graphs etc.
- Use data representations to answer questions about data.
- Use software to explore and create pictograms and branching databases.

Knowledge

- Know that charts and pictograms can be created using a computer.
- Know a branching database is a way of classifying a group of objects.
- know that computers understand different types of 'input'.

Online safety

In Year 1 we...

Skills

- Recognise devices that are connected to the internet.
- Understand that we are connected to others when using the internet.
- Understand some of the ways we can use the internet.
- learn what to do if they come across something online that worries us or makes us feel uncomfortable.
- Understand how to interact safely with others online.
- Recognise how actions on the internet can affect others.
- Recognise what a digital footprint is and how to be careful about posting online.
- Discuss ways to balance time spent online and offline.

Knowledge

- Know that the internet is many devices connected to one another.
- Know what to do if you feel unsafe or worried online – tell a trusted adult.
- Know that people you do not know on the internet (online) are strangers and are not always who they say they are.
- Know that to stay safe online it is important to keep personal information safe.
- Know that 'sharing' online means giving something specific to someone else via the internet and 'posting' online means placing information on the internet.

Online safety

In Year 2 we...	In Year 3 we...	In Year 4 we...
Key Skills • Begin to recognise how social media platforms are used to interact. • Begin to recognise that different information is shared online, including facts, beliefs and opinions. • Begin to learn how to identify reliable information when searching online. • Learn how to stay safe on social media. • Begin to consider the impact technology can have on mood. Key Knowledge To know: • That not everything on the internet is true: people share facts and opinions online. • Privacy settings limit who can access important personal information, such as names, ages, gender etc. • What social media is and that age restrictions apply.	Key Skills • Recognise how social media platforms are used to interact. • Recognise that different information is shared online, including facts, beliefs and opinions. • Learn how to identify reliable information when searching online. • Learn how to stay safe on social media. • Consider the impact technology can have on mood. Key Knowledge To know: • That not everything on the internet is true: people share facts, beliefs and opinions online. • The internet can affect people's moods and feelings. • Privacy settings limit who can access important personal information, such as names, ages, gender etc. • What social media is and that age restrictions apply.	Key Skills • Recognise how social media platforms are used to interact. • Recognise that different information is shared online, including facts, beliefs and opinions. • Explain how to identify reliable information when searching online. • Learn how to stay safe on social media. • Explain the impact technology can have on mood. Key Knowledge To know: • That not everything on the internet is true: people share facts, beliefs and opinions online. • The internet can affect people's moods and feelings. • Privacy settings limit who can access important personal information, such as names, ages, gender etc. • What social media is and that age restrictions apply.

Computing systems and networks: Word processing

In Year 2 we...	In Year 3 we...	In Year 4 we...
Key Skills • Develop confidence with the keyboard and the basics of touch typing. • Develop word processing skills, including altering text, copying and pasting and using keyboard shortcuts. • Use word processing software to type and reformat text. • Search for appropriate images to use in a document. • Understand what online information is. • Identify whether information is safe or unsafe to be shared online. Key Knowledge To know: • touch typing is the fastest way to type. • I can make text a different size and colour. • “copy and paste” is a quick way of duplicating text.	Key Skills • Develop confidence and fluency with the keyboard and the basics of touch typing. • Develop word processing skills, including altering text, copying and pasting and using keyboard shortcuts. • Use word processing software to type and reformat text. • Search for appropriate images to use in a document independently. • Understand what online information is. • Identify whether information is safe or unsafe to be shared online. Key Knowledge To know: • Touch typing is the fastest way to type. • I can make text a different style, size and colour. • “copy and paste” is a quick way of duplicating text.	Key Skills • Develop confidence and fluency with the keyboard and the basics of touch typing. • Develop word processing skills, including altering text, copying and pasting and using keyboard shortcuts and use confidently. • Use word processing software to type and reformat text confidently. • Search for appropriate images to use in a document independently. • Understand and explain what online information is. • Identify whether information is safe or unsafe to be shared online. Key Knowledge To know: • Touch typing is the fastest way to type. • I can make text a different style, size and colour confidently. • “copy and paste” is a quick way of duplicating text.

Data handling – Comparison cards databases

In Year 2 we...	In Year 3 we...	In Year 4 we...
Key Skills • Use logical thinking to explore more complex software, predicting and testing what it does. • Understand the vocabulary associated with databases: field, record and data. • Learn about the pros and cons of digital versus paper databases. • Sort and filter databases to retrieve information. • Create charts and graphs to understand data. Key Knowledge To know: • A database is a collection of data stored in an orderly manner. • Computer databases can be useful for sorting data. • Different visual representations of data can be made on a computer.	Key Skills • Use logical thinking to explore more complex software, predicting, testing and explaining what it does. • Understand the vocabulary associated with databases: field, record and data. • Learn about the pros and cons of digital versus paper databases. • Sort and filter databases to quickly retrieve information. • Create and interpret charts and graphs to understand data. Key Knowledge To know: • A database is a collection of data stored in a logical, structured and orderly manner. • Computer databases can be useful for sorting and filtering data. • Different visual representations of data can be made on a computer.	Key Skills • Use logical thinking to explore more complex software, predicting, testing and explaining what it does confidently. • Understand and explain the vocabulary associated with databases: field, record and data. • Learn about and explain the pros and cons of digital versus paper databases. • Sort and filter databases confidently to quickly retrieve information. • Create and interpret charts and graphs to understand data. Key Knowledge To know: • A database is a collection of data stored in a logical, structured and orderly manner. • Know that sorting and filtering data in a database can help answer questions and identify patterns. • Know that data can be represented in different ways, including tables, charts and graphs, and that different representations can be used for different purposes.

Data handling – Investigating the weather

In Year 2 we...	In Year 3 we...	In Year 4 we...
Key Skills • Use a tablet or camera to take pictures or record a short weather video. • Talk about ways people find out about the weather. • Use simple words to search for information with help from an adult. • Find simple weather information online. • Draw and talk about a simple tool that could help measure the weather. • Add information to a simple spreadsheet, table or chart on a computer. • Compare information by looking at a table, chart, or pictogram. • Know that people use weather information to help them decide what to do. Key Knowledge To know: • Computers can help us collect and use information. • Some machines can do things automatically. • Weather forecasts tell us what the weather might be like. • People use weather forecasts to help them plan what to do and what to wear.	Key Skills • Use a tablet or digital camera to record a simple weather report. • Understand that weather stations use equipment to measure and collect weather information. • Use simple keywords to search for information online with support. • Find information and data on the internet safely. • Design a simple weather-measuring device. • Enter data into a spreadsheet with guidance. • Use a spreadsheet to organise data and compare information. • Understand that weather information can help people make predictions about the weather. Key Knowledge To know: • Computers can collect information from the world around them. • Some machines can automatically respond to information they collect. • Weather forecasts give people information about what the weather might be like. • Weather presenters use clear language to explain weather information.	Key Skills • Use tablets or digital cameras to film a weather forecast. • Understand that weather stations use sensors to gather and record data that predicts the weather. • Use keywords to effectively search for information on the internet. • Search the internet for data. • Design a device that gathers and records sensor data. • Record data in a spreadsheet independently. • Sort data in a spreadsheet to compare using the 'sort by...' option. • Understand that data is used to forecast weather. Key Knowledge To know: • Computers can use different forms of input to sense the world around them so that they can record and respond to data ('sensor data'). • A weather machine is an automated machine that respond to sensor data. • Understand that weather forecasters use specific language, expression and pre-prepared scripts to help create weather forecast films.

Creating media – Stop motion

In Year 2 we...	In Year 3 we...	In Year 4 we...
Key Skills • Use greater control when taking photos with cameras, tablets or computers. • Use logical thinking to explore software, predicting, testing and explaining what it does. Key Knowledge To know: • An animation is made up of a sequence of photographs. • Small changes in my frames will create a smoother looking animation. • Which software creates simple animations and some of its features e.g. onion skinning.	Key Skills • Take clear photos using cameras, tablets or computers, making choices about angle, distance and framing. • Explore and use software independently, making predictions, testing ideas and explaining what happens. • Explain how and why different digital tools are used for specific tasks. Key Knowledge To know: • Animations are created from a sequence of still images shown quickly one after another. • Making small changes between frames creates a smoother and more realistic animation. • Animation software has tools and features, such as onion skinning, to help create and edit animations. • Planning an animation before creating it can help make the final animation more effective. • Different types of animations can be created using digital technology.	Key Skills • Take high-quality photos using cameras, tablets or computers, making purposeful choices about composition, angle and framing. • Use logical thinking to explore new software, making predictions, testing ideas and explaining outcomes. • Compare different digital tools and explain which is most suitable for a task. • Use software confidently and independently to achieve a specific goal. Key Knowledge To know: • Animations are created from a sequence of still images displayed rapidly to create the illusion of movement. • How the number of frames and the size of changes between them affect the smoothness and speed of an animation. • How animation software features, such as onion skinning, copying frames and playback controls, support the creation and editing of animations. • Different animation techniques can be used to achieve different effects. • The importance of planning, reviewing and refining an animation to improve its quality and effectiveness.

Computer networks and systems - Emailing

In Year 2 we...	In Year 3 we...	In Year 4 we...
Key Skills • Log in to an email account with support. • Write and send a simple email to a known recipient. • Understand that emails can include pictures or files. • Read and reply to a simple email with support. • Know that we should be kind and polite when communicating online. • Understand that some messages online may not be from people we know. • Know that if something online makes us feel worried or upset, we should tell a trusted adult. Key Knowledge To know: • That email is a way of sending messages using a computer or tablet. • That an attachment is a picture or file that can be sent with an email. • That we should use kind and polite words when sending messages online. • That cyberbullying means being unkind to someone using a computer, tablet or phone.	Key Skills • Learn to log in and out of an email account. • Write an email including a subject, 'to' and 'from'. • Send an email with an attachment. • Reply to an email. • Understand the purpose of emails. • Learn about cyberbullying. • Learn that not all emails are genuine, recognise when an email might be fake and what to do about it. Key Knowledge To know: • That email stands for 'electronic mail.' • An attachment is an extra file added to an email. • emails should contain appropriate and respectful content. • cyberbullying is bullying using electronics such as a computer or phone.	Key Skills • Independently log in and out of an email account securely. • Compose emails using appropriate subject lines, recipients and well-structured content. • Send emails with attachments and understand when attachments are useful. • Reply to and forward emails appropriately. • Understand how email can be used to communicate and collaborate safely with others. • Recognise the importance of respectful online communication and understand how to respond to incidents of cyberbullying. • Identify common signs of suspicious, spam or phishing emails and know how to report or deal with them safely. • Begin evaluating whether information received in emails is trustworthy and reliable. Key Knowledge To know: • That email stands for electronic mail and is a digital method of communication. • That attachments are files added to emails, such as documents, images or presentations. • That emails should contain clear, appropriate and respectful language and follow basic rules of digital etiquette.

		• That cyberbullying is bullying through digital technologies, including email, messaging apps, online games and social media.
--	--	--

Online safety

In Year 5 we...

Key skills

- Understand that passwords need to be strong and that apps require some form of password.
- Recognise some types of online communication and know who to go to if they need help with any communication matters online.
- Search for simple information about a person, such as their birthday or key life moments.
- Know what bullying is and that it can occur both online and in the real world.
- Recognise when health and well-being are being affected in either a positive or negative way through online use.
- Offer some advice and tips to combat the negative effects of online use.

Key knowledge

To know

- Possible dangers online and how to stay safe.
- The pros and cons of online communication.
- That information on the internet might not be true or correct and ways of checking validity.
- What to do if they experience bullying online.
- How to use an online community safely.

In Year 6 we...

Key skills

- Understand and explain why passwords need to be strong and why apps require some form of password.
- Recognise and name some types of online communication and know who to go to if they need help with any communication matters online.
- Search for simple information about a person, such as their birthday or key life moments.
- Know and explain what bullying is and that it can occur both online and in the real world.
- Recognise when health and well-being are being affected in either a positive or negative way through online use.
- Offer some advice and tips to combat the negative effects of online use.

Key knowledge

To know

- Possible dangers online and how to stay safe.
- The pros and cons of online communication.
- That information on the internet might not be true or correct and ways of checking validity.
- What to do if they experience bullying online.
- How to use an online community safely.

Programming - Music

In Year 5 we...

Key skills

- Recognise examples of programming elements in real-life applications.
- Look at programming blocks and considering how they could be used in a program.
- Decompose a program independently when given a specific outcome or task to achieve.
- Alter existing code with a new, specific outcome in mind.
- Independently use loops to make code more efficient in block-based programs.
- Use nested loops to make code more efficient.
- Explain what a program does and how it works, referring to the inputs and outputs.
- Become more efficient and effective at debugging their programs.
- Systematically identify mistakes, problems or bugs in a program.

Key knowledge

To know

- Programmers often save time when creating code by taking code from one program and turning it into another.
- Nested loops are loops within loops.
- Running a program to identify errors should be done before checking the code.
- Errors in a program could be a result of forgetting to end a loop.

In Year 6 we...

Key skills

- Recognise examples of programming elements in real-life applications.
- Look at programming blocks and explain how they could be used in a program.
- Decompose a program confidently when given a specific outcome or task to achieve.
- Alter existing code with a new, specific outcome in mind confidently.
- Independently use loops to make code more efficient in block-based programs.
- Use nested loops to make code more efficient.
- Explain what a program does and how it works, referring to the inputs and outputs confidently.
- Become more efficient and effective at debugging their programs.
- Systematically identify mistakes, problems or bugs in a program.

Key knowledge

To know

- Programmers often save time when creating code by taking code from one program and turning it into another.
- Nested loops are loops within loops.
- Running a program to identify errors should be done before checking the code and explain why you do it this way around.
- Errors in a program could be a result of forgetting to end a loop. Explain what the problem is

Computer systems and networks: Search engines

In Year 5 we...

Key skills

- Develop search skills to help find relevant information on the internet.
- Learn how to use search engines effectively to find information, focus on keyword searches and evaluate search returns.
- Learn about different forms of communication that have developed with the use of technology.
- Recognise that information on the Internet might not be true or correct and learning ways of checking validity.

Key knowledge

To know

- How search engines work.
- Anyone can create a website; therefore, people should take steps to check the validity of websites.
- Web crawlers are computer programs that crawl through the internet.
- What copyright is.

In Year 6 we...

Key skills

- Use a range of advanced search techniques to find accurate and relevant information online.
- Apply effective search strategies, including the use of keywords, phrases and filters, to improve search results.
- Understand how digital technologies have transformed communication and collaboration in everyday life.
- Evaluate the credibility, reliability and potential bias of online content and identify ways to verify information from multiple sources.

Key knowledge

To know

- How search engines crawl, index and rank web pages.
- That online content can be created by anyone and should be evaluated for reliability, accuracy and bias.
- That web crawlers are automated programs that gather information from websites for search engines.
- What copyright is and how it affects the use of digital content.

Data Handling – Big data 1

In Year 5 we...	In Year 6 we...
Key skills • Identify barcodes, QR codes and RFID and describe where they are used. • Identify technology that can scan and access information from barcodes and QR codes. • Describe the basic purpose of barcodes, QR codes and RFID systems. • Collect and examine data using digital devices and software. • Organise and sort data within a spreadsheet. • Recognise that data can be used to solve problems and make informed decisions. Key knowledge To know • Barcodes and QR codes store data that can be read by computers and mobile devices. • Infrared is one way that devices can send and receive information. • RFID allows data to be transferred wirelessly between a tag and a reader. • Digital information can be protected to help keep personal data safe from unauthorised access.	Key skills • Understand and identify barcodes, QR codes and RFID. • Identify devices and applications that can scan or read barcodes, QR codes and RFID. • Understand how barcodes, QR codes and RFID work. • Gather and analyse data in real time. • Create formulas and sort data within spreadsheets. • Learn how 'big data' can be used to solve a problem or improve efficiency. Key knowledge To know • Data contained within barcodes and QR codes can be used by computers. • Infrared waves are a way of transmitting data. • Radio Frequency Identification (RFID) is a more private way of transmitting data. • Data is often encrypted so that even if it is stolen it is not useful to the thief.

Data Handling – Big data 2

In Year 5 we...

Key skills

- Recognise that problems can occur when files are transferred, downloaded or updated and understand the importance of checking files work correctly.
- Understand that computer networks allow devices to share information and resources.
- Use search tools and word processing software to research information and create a presentation.
- Enter, organise and sort data within a spreadsheet.
- Explore how everyday devices can connect to the internet and share information.
- Understand that collecting and using data can help answer questions and solve simple problems.

Key knowledge

To know

- Data can be sent across networks in small parts to help it reach its destination correctly.
- Regular software and security updates help keep devices safe.
- Wi-Fi connects devices to the internet through a wireless network, while mobile data uses a mobile phone network.

In Year 6 we...

Key skills

- Understand how corruption can happen within data during transfer (for example when downloading, installing, copying and updating files).
- Understand that computer networks provide multiple services.
- Use search and word processing skills to create a presentation.
- Create formulas and sorting data within spreadsheets.
- Learn about the Internet of Things and how it has led to 'big data'.
- Learn how 'big data' can be used to solve a problem or improve efficiency.

Key knowledge

To know

- Data can become corrupted within a network but this is less likely to happen if it is sent in 'packets'.
- Devices that are not updated are most vulnerable to hackers.
- The difference between mobile data and WiFi.

Computer systems and networks – Exploring AI

In Year 5 we...

Key skills

- Identify examples of AI in everyday life.
- Explore how AI tools can generate text and images.
- Use simple problem-solving skills when working with AI applications.
- Test and improve prompts to achieve different AI outputs.
- Understand the importance of using AI safely, responsibly and respectfully.

Key knowledge

To know

- AI stands for Artificial Intelligence and is used in many everyday technologies.
- AI learns from information and can identify patterns to help it make decisions or create content.
- AI can be used to create and edit written text.
- AI can generate images and other visual content.
- AI can help people create digital content, such as simple webpages and presentations.
- AI should be used responsibly and that people need to think carefully about the information it produces.

In Year 6 we...

Key skills

- Identify different types of AI and their applications in everyday life.
- Explore text-based and image-based AI tools to understand how they generate content.
- Apply coding skills like decomposition and pattern recognition to interact with AI applications.
- Analyse the effectiveness of prompts and refining them for improved AI outputs.
- Explore ethical considerations around AI use and its impact on society.

Key knowledge

To know

- AI is artificial intelligence and is used in everyday life.
- AI is trained on data to recognise patterns and generate outputs.
- AI can be used to generate written content.
- AI can be used to create visual content like pictures.
- AI can help generate basic HTML code to create the structure and layout of a website.
- There are ethical issues surrounding AI, including data privacy, bias and responsible use.

Agreed End Points

We have plotted end points for each year group to ensure that children keep on track for the end of Key Stage end points. In this way we can get children ready for the next stage of their education

Year 1	Year 2
• Follow a simple set of instructions. • Give instructions to make something happen on a computer. • Spot and fix a simple mistake in a program. • Use a computer or tablet to create pictures, text or other work. • Save and find my work with help. • Name ways that people use technology every day. • Keep personal information private. • Tell a trusted adult if something online makes me feel worried or unsafe.	• Follow and create a simple set of instructions. • Write and test a simple program. • Find and fix simple mistakes in my program. • Predict what a simple program will do. • Use a computer or tablet to create and save work. • Organise and find information using digital tools. • Keep my personal information safe. • Ask a trusted adult for help if something online worries me.

Year 3	Year 4
• Write and test a simple program. • Use a loop to repeat instructions. • Find and fix simple mistakes in my code. • Explain how devices can connect to the internet. • Collect and present information using digital tools. • Create and save digital work independently. • Keep my personal information safe online. • Know what to do if something online makes me feel worried or uncomfortable.	• Create, test and debug a simple program. • Use loops and simple decisions in my code. • Explain how computers connect and share information. • Collect and present data using digital tools. • Create digital projects using a range of media. • Keep myself safe online and protect my personal information. • Use technology responsibly and respectfully. • Explain my thinking when solving computing problems

Year 5	Year 6
• Create a program using variables, loops and decisions. • Debug code independently. • Explain how the internet and websites work. • Gather and analyse data using digital tools. • Create multimedia presentations for a chosen audience. • Stay safe online and explain how to protect personal information.	• Design and create a program using variables, loops and selection. • Debug and improve my code independently. • Explain how the internet works and how information is shared online. • Use data to answer questions and solve problems. • Create digital content for a specific purpose and audience. • Evaluate online information for reliability. • Stay safe online and help others to do the same. • Use technology responsibly and respectfully.