The **BIG** Picture

Working collaboratively in a responsible and considerate way as well as looking at a range of collaborative tools.

NC Objectives- Key Stage 2
Pupils should be taught:

- 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

Unit Outcome

Pupils who are **secure** will be able to:

- Understand the need to be thoughtful when working on a collaborative document.

- Use comments to suggest changes to a document and understand how to resolve comments.

- Use a variety of different slide styles to convey information including images and transitions.

- Create a Google Form with a range of different questions types that will provide different types of answers, e.g. text, multiple choice or numerical values.

- Export data to a spreadsheet, highlighting data, using conditional formatting and calculating averages and sums of numbers.

Key vocabulary

Animations	Average	Presentations	Resolved
Bar chart	Collaboration	Reviewing comments	Share
		Slides	Software
Comment	Contribution	Spreadsheets	Suggestions
Data	Edited	Survey	Teamwork
Email account	Format	Themes	Transitions
Freeze	Icon		
Images	Insert		
Link	Multiple choice		
Numerical data	Pie chart		

Key Skills

- Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration.

- Use online software for documents, presentations, forms and spreadsheets.

- Using software to work collaboratively with others.

- Understanding that software can be used collaboratively online to work as a team.

- Recognising what appropriate behaviour is when collaborating with others online.

Key Knowledge
To know that:

- "log iTo understand that software can be used collaboratively online to work as a team.

- To know what type of comments and suggestions on a collaborative document can be helpful.

- To know that you can use images, text, transitions and animation in presentation slides.
- n" and "log out" means to begin and end a connection with a computer
- A computer and mouse can be used to click, drag, fill and select and also add backgrounds, text, layers, shapes and clip art.
- Passwords are important for security and to keep us safe.

The **BIG** Picture

Learning the basics of programming in Scratch, children will create a simple script, use decomposition and understand what variables are.

NC Objectives- Key Stage 2
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Unit Outcome

Pupils who are **secure** will be able to:

- Understand how to create a simple script in Scratch – be able to change sprite and prevent the sprite from rotating.

- Use decomposition to identify key features and understand how to decipher actions that make the quiz game work.

- Understand what a variable is and how to use the 'say' and 'ask' blocks.

- Create a variable and be able to use a variable to record a score.

- Understand what a variable is and how it works within a program.

Key vocabulary

Broadcast block	Code blocks
Conditional	Coordinates
Decomposition	Features
Game	Information
Negative numbers	Orientation
Parameters	Position
Program	Project
Script	Sprite
Stage	Tinker
	Variables

Key Skills

- Using decomposition to solve a problem by finding out what code was used.

- Using decomposition to understand the purpose of a script of code.

- Creating algorithms for a specific purpose.

- Coding a simple game.

- Incorporating variables to make code more efficient.

- Remixing existing code.

Key Knowledge

- To understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch.

- To know what a conditional statement is in programming.

- To understand that variables can help you to create a quiz on Scratch.

The **BIG** Picture

Developing their research, word processing, and collaborative working skills whilst learning how web pages and web sites are created, exploring how to change layouts, embed images and videos and link between pages.

NC Objectives- Key Stage 2
Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
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Unit Outcome

Pupils who are **secure** will be able to:

•Use most of the tabs (e.g. insert, pages, themes) on Google Sites on their website.

•Create a clear plan for their web page and begin to create it.

•Create a professional looking web page with useful information and a clear style, which is easy for the user to read and find information from.

•Create a clear plan by referring back to their checklist.

•Create four web pages with a range of features on their website.

Key vocabulary

Assessment	Audience	Plan	Progress
Checklist	Collaboration	Published	Record
Content	Contribution	Review	Style
Create	Design	Subpage	Tab
Embed	Evaluate	Theme	Web page
Features	Google SItes	Website	World Wide Web
Hobby	Homepage		
Hyperlinks	Images		
Insert	Online		

Key Skills

•Building a web page and creating content for it.

•Designing and creating a webpage for a given purpose.

•Using software to work collaboratively with others.

Key Knowledge

•To know that a website is a collection of pages that are all connected.

•To know that websites usually have a homepage and subpages as well as clickable links to new pages, called hyperlinks.

•To know that websites should be informative and interactive.

The **BIG** Picture

Editing the HTML and CSS of a web page to change the layout of a website and the text and images.

NC Objectives- Key Stage 2
Pupils should be taught:

- 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
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Unit Outcome

Pupils who are **secure** will be able to:

- Add text between the heading and paragraph tags.

- Easily activate the goggles to investigate a web page.

- Explain how they altered the HTML to create their own posters.

- Change the colours and sizes of their object elements. Explain how they created their story.

- Adapt the basic elements of a story within a web page using the 'Inspect Elements' tool.

- Change an image within a web page and create their own news story, replacing the text and images of a webpage.

Key vocabulary

Code	Component
Content	Copyright
CSS	End tag
Fake news	Hacking
Heading	Headline
Hex code	HTML
Input	Internet browser
Output	Paragraph
Permission	Remixing
Script	Start tag
Tags	Text
URL	Webpage

Key Skills

- Remixing existing code.

- Building a web page and creating content for it.

- Understanding that information found by searching the internet is not all grounded in fact.

- Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others.

Key Knowledge

- To understand and identify examples of HTML tags.

- To understand what changing the HTML and CSS does to alter the appearance of an object on the web.

- To understand that copyright means that those images are protected and to understand that we should do a "creative commons" image search if we wish to use images from the internet.

- To know what "fake news" is and ways to spot websites that carry this type of misinformation.

- To know what the "inspect" elements tool is and ways of using it to explore and alter text and images.

The **BIG** Picture

Developing the four areas of computational thinking through a range of plugged and unplugged activities.

NC Objectives- Key Stage 2
Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
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Unit Outcome

Pupils who are secure will be able to:

- Understand that problems can be solved more easily using computational thinking.

- Understand what the different code blocks do and create a simple game.

- Understand the terms 'pattern recognition' and 'abstraction' and how they help to solve a problem.

- Create a Scratch program which draws a square and at least one other shape.

- Understand how computational thinking can help to solve problems and apply computational thinking to problems they face.

Key vocabulary

Abstraction	Algorithm
Code	Computational thinking
Decomposition	Input
Logical reasoning	Output
Pattern recognition	Script
Sequence	Variable

Key Skills

- Using decomposition to solve a problem by finding out what code was used.

- Using decomposition to understand the purpose of a script of code.

- Identifying patterns through unplugged activities.

- Using past experiences to help solve new problems.

- Using abstraction to identify the important parts when completing both plugged and unplugged activities.

- Creating algorithms for a specific purpose.

- Using abstraction and pattern recognition to modify code.

Key Knowledge

- To know that combining computational thinking skills can help you to solve a problem.

- To understand that pattern recognition means identifying patterns to help them work out how the code works.

- To understand that algorithms can be used for a number of purposes e.g. animation, games design etc.

The **BIG** Picture

Researching and storing data using spreadsheets, designing a weather station which gathers and records data and learning how weather forecasts are made. Children use tablets or digital cameras to present a weather forecast.

NC Objectives- Key Stage 2
Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
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Unit Outcome

Pupils who are **secure** will be able to:

- Search the web efficiently to find temperatures of different cities and record this accurately.

- Design a weather station that gathers and records sensor data, explaining how it works and the units of measurement it would use.

- Design an automated machine that uses selection to respond to sensor data.

- Search for and record weather forecast information in a spreadsheet and explain how this data is collected.

- Create a video which includes weather forecast information.

Key vocabulary

Accurate	Backdrop	Script	Sensitive
Climate zone	Cold	Sensor data	Solar panel
Collaboration	Condensation	Tablet/Digital camera	Temperature
Cylinder	Degrees	Thermometer	Tornado
Evaporation	Extreme weather	Warm	Weather
Forecast	Heat sensor	Weather forecast	Wind
Lightning	Measurement		
Pinwheel	Presenter		
Rain	Satellite		

Key Skills

- Using tablets or digital cameras to film a weather forecast.

- Understanding that weather stations use sensors to gather and record data that predicts the weather.

- Using keywords to effectively search for information on the internet.

- Searching the internet for data.

- Designing a device that gathers and records sensor data.

- Recording data in a spreadsheet independently.

- Sorting data in a spreadsheet to compare using the 'sort by…' option.

- Understanding that data is used to forecast weather.

Key Knowledge

- To know that computers can use different forms of input to sense the world around them so that they can record and respond to data ('sensor data').

- To know that a weather machine is an automated machine that respond to sensor data.

- To understand that weather forecasters use specific language, expression and pre-prepared scripts to help create weather forecast films.

The **BIG** Picture

Learning how to navigate the internet in an informed, safe and respectful way.

NC Objectives- Key Stage 2

Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
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- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
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Unit Outcome

Pupils who are **secure** will be able to:

- Describe how to search over multiple platforms and are aware of the accuracy of the results presented.

- Describe some of the methods used to persuade people to buy online.

- Explain the difference between fact, opinion and belief and recognise these online.

- Explain what a bot is and give examples of different bots.

- Explain some positive and negative distractions of using technology and small strategies on how to reduce the amount of time spent on technology.

Key vocabulary

Accuracy	Advantages
Advertisements	Belief
Bot	Chatbot
Computer	Distractions
Fact	Hashtag
Implications	In-app purchases
Influencer	Opinion
Program	Recommendations
Reliable	Risks
Screen time	Search results
Snippets	Sponsored
	Trustworthy

Key Skills

- Understanding why some results come before others when searching.

- Understanding that information found by searching the internet is not all grounded in fact.

- Learning to make judgements about the accuracy of online searches.

- Identifying forms of advertising online.

- Reflecting on the positives and negatives of time online.

- Identifying respectful and disrespectful online behaviour.

- Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others

Key Knowledge

- To understand some of the methods used to encourage people to buy things online.

- To understand that technology can be designed to act like or impersonate living things.

- To understand that technology can be a distraction and identify when someone might need to limit the amount of time spent using technology.

- To understand what behaviours are appropriate in order to stay safe and be respectful online.