



Computing Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Computing Systems and networks- Technology all around us. (Classroom) -Identify technology - Identify a computer and its main parts - Use a mouse in different ways - Use a keyboard to type on a computer - Use the keyboard to edit text - Create rules for using technology responsibly	Typing Games (Computing Suite) Typing Games -Practice logging in -Resources to teach username and password log ins	Digital Painting (Computing Suite) Describe what different freehand tools do - Use the shape tool and the line tools - Make careful choices when painting a digital picture - Explain why I chose the tools I used - Use a computer on my own to paint a picture - Compare painting a picture on a computer and on paper	Programming A- Moving a robot- Code and Go Mouse (Classroom) -Explain what a given command will do -Act out a given word -Combine forwards and backwards commands to make a sequence -Combine four direction commands to make sequences -Plan a simple program -Find more than one solution to a problem	Digital Writing- Microsoft Word. (Computing Suite) -Use a computer to write - Add and remove text on a computer - Identify that the look of text can be changed on a computer - Make careful choices when changing text - Explain why I used the tools that I chose - Compare typing on a computer to writing on paper	Programming B- Programming animations Scratch Jr. (iPad in the classroom) -Choose a command for a given purpose -Show that a series of commands can be joined together -Identify the effect of changing a value -Explain that each sprite has its own instructions -Design the parts of a project -Use my algorithm to create a program

Year 2

**Creating media-
Digital Music**

(Computing Suite)

- How music can make us feel.
- Identify that there are patterns in music - Show how music is made from a series of notes
- Show how music is made from a series of notes
- Create music for a purpose
- Review and refine our computer work

**Computing systems
and networks- IT
around us.**

(Classroom)

- Identify examples of computers. Identify the uses of computers.
- Identify examples of IT.
- Find examples of technology.
- Demonstrate how IT devices work together.
- Identify the uses of IT.
- Use IT for different activities and purposes.

**Programming A-
Robot algorithms
Scratch Jr.**

(Classroom)

- Describe a series of instructions as a sequence
- Explain what happens when we change the order of instructions
- Use logical reasoning to predict the outcome of a program (series of commands)
- Explain that programming projects can have code and artwork
- Design an algorithm - Create and debug a program that I have written

**Data and Information-
Pictograms.**

(Computing Suite)

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

**Programming- Lego
Spike (Great
Adventures x7 lessons)**

(Classroom)

- Explain that a sequence of commands has a start
- Explain that a sequence of commands has an outcome
- Create a program using a given design
- Change a given design
- Create a program using my own design
- Decide how my project can be improved

**Creating media-
Digital Photography**

(Computing Suite)

- Use a digital device to take a photograph
- Make choices when taking a photograph
- Describe what makes a good photograph
- Decide how photographs can be improved
- Use tools to change an image
- Recognise that photos can be changed

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	Computing Systems and networks/ Online Safety -To know what cyberbullying is and how to address it. -Understand how websites use advertisements to promote products. -To create strong passwords and understand privacy settings. -To safely send and receive emails. -To explore different ways children can communicate online. -To use knowledge about online safety to plan a party online.	Creating Media- Desktop Publishing. -Create a project from a task description - Recognise how text and images convey information - Recognise that text and layout can be edited - Choose appropriate page settings - Add content to a desktop publishing publication - Consider how different layouts can suit different purposes - Consider the benefits of desktop publishing	Programming- Lego Spike (Amazing Amusement park x8 lessons) -Explain how a sprite moves in an existing project - Create a program to move a sprite in four directions - Adapt a program to a new context - Develop my program by adding features - Identify and fix bugs in a program - Design and create a maze-based challenge	Data and Information- Branching databases. -Investigate yes/no questions. -Create a group of objects within an existing group. -Select an attribute to separate objects into groups. -Arrange objects into a branching database. -Create yes/no questions to use in a branching database.	Creating media- Stop Frame animation. -Explain that animation is a sequence of drawings or photographs - Relate animated movement with a sequence of images - Plan an animation Identify the need to work consistently and carefully - Review and improve an animation - Evaluate the impact of adding other media to an animation	Programming A- Sequencing Sounds Programming B- Events and actions in programs. - Explore a new programming environment - Identify those commands have an outcome - Explain that a program has a start - Recognise that a sequence of commands can have an order - Change the appearance of my project

Year 4

Computing systems and networks- The Internet

- I can identify how a message can hurt someone's feelings.
- I can say how I should respond to hurtful messages.
- I can use a search engine accurately.
- I understand the term 'plagiarism' and how to avoid it.
- To create a safe online profile.
- To explain how to be a responsible digital citizen.
- To create an online safety character.

Creating Media- Audio Production

- Identify that sound can be digitally recorded
- Use a digital device to record sound
- Explain that a digital recording is stored as a file
- Explain that audio can be changed through editing
- Show that different types of audio can be combined and played together
- Evaluate editing choices made

**Programming A- Repetition in shapes
Programming B- Repetition in games**

- Identify that accuracy in programming is important
- Create a program in a text-based language
- Explain what 'repeat' means
- Modify a count-controlled loop to produce a given outcome
- Decompose a task into small steps
- Create a program that uses count controlled loops to produce a given outcome

Data and Information- Data logging

- Suggest questions that can be answered by using a given data set.
- Identify data can be collected over time.
- Know that data can be collected using sensors.
- Identify that data from sensors can be recorded.
- Identify intervals used to collect data.
- Sort data to find information.
- Use a data logger to collect data.
- Analyse data collected.

Programming- Lego Spike (Happy Traveller x7 lessons)

- Develop the use of count-controlled loops in a different programming environment
- Explain that in programming there are infinite loops and count controlled loops
- Develop a design that includes two or more loops which run at the same time
- Modify an infinite loop in a given program Design a project that includes repetition
- Create a project that includes repetition

Creating Media- Photo editing

- Explain that digital images can be changed
- Change the composition of an image
- Describe how images can be changed for different uses
- Make good choices when selecting different tools
- Recognise that not all images are real
- Evaluate how changes can improve an image

Year 5

Computing systems and networks- systems and searching- online safety

- To identify spam emails.
- To identify and write citations for websites I use for research.
- Create strong passwords.
- Recognise when, why and how photographs we see online may be editing.
- To apply online safety rules to real life scenarios.

Creating Media- Vector Graphics

- Identify that drawing tools can be used to produce different outcomes
 - Create a vector drawing by combining shapes
- Use tools to achieve a desired effect
 - Recognise that vector drawings consist of layers
 - Group objects to make them easier to work with
- Evaluate my vector drawing

Programming A- Selection in physical computing (crumble controllers)

- Control a simple circuit connected to a computer
- Write a program that includes count controlled loops
- Explain that a loop can stop when a condition is met
- Explain that a loop can be used to repeatedly check whether a condition has been met – Design a physical project that includes selection
- Create a program that controls a physical computing project

Programming- Lego Spike (Quirky creations x8 lessons)

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

Data and Information- Flat file databases

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

Artificial Intelligence lesson

- Know that AI systems are made by companies
- Understand the dangers of personifying AI
- Know that an output from AI systems must be checked
- Understand that humans train AI systems with data
- Have a basic understanding of how AI systems work and what they are capable of
- Know why I should not share personal information with an AI system
- Know why AI systems can show bias in their results
- Explain different AI tools around me
- Have a basic understanding of how a large language model works
- Explain when an AI system should not be used

Year 6	Computing systems and networks- online safety -Find similarities and differences between in person and cyberbullying. -Identify strategies to deal with cyberbullying. -Identify secure websites. -Understand the benefits and pitfalls of online relationships. -Identify information that should not be shared. -Identify how the media play a powerful role in sharing ideas. -Apply online safety knowledge to my online activities. -Create a quiz about online safety.	Creating media- Web page creation. -Review an existing website and consider its structure - Plan the features of a web page - Consider the ownership and use of images (copyright) - Recognise the need to preview pages - Outline the need for a navigation path	Data and Information- Introduction to Spreadsheets -Identify questions which can be answered using data - Explain that objects can be described using data - Explain that formulas can be used to produce calculated data - Apply formulas to data, including duplicating - Create a spreadsheet to plan an event - Choose suitable ways to present data	Creating Media- 3d Modelling -Use a computer to create and manipulate 3D digital objects - Compare working digitally with 2D and 3D graphics - Construct a digital 3D model of a physical object - Identify that physical object can be broken down into a collection of 3D shapes - Design a digital model by combining 3D objects - Develop and improve a digital 3D model	Programming A- Variables in games -Define a 'variable' as something that is changeable - Explain why a variable is used in a program - Choose how to improve a game by using variables - Design a project that builds on a given example - Use my design to create a project - Evaluate my project	Programming B- Lego Spike (Crazy Carnival games x7 lessons) -Create a program to run on a controllable device - Explain that selection can control the flow of a program - Update a variable with a user input -Use an conditional statement to compare a variable to a value -Design a project that uses inputs and outputs on a controllable device -Develop a program to use inputs and outputs on a controllable device.
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