Nevill Road Infant School
Computing Curriculum

National Curriculum Subject Content

EYFS

ESSENTIAL OBJECTIVES / ESSENTIAL OPPORTUNITIES

Children at the expected level of development will:

Personal, Social and emotional (ELG)

- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- Explain the reasons for rules, know right from wrong and try to behave accordingly.

Expressive Art and Design: (ELG)

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

KEY STAGE 1

ESSENTIAL OBJECTIVES	ESSENTIAL OPPORTUNITIES
- To understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. - To analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. - To evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. - To be responsible, competent, confident and creative users of information and communication technology.	- To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. - To create and debug simple programs. - To use logical reasoning to predict the behaviour of simple programs - To use technology purposefully to create, organise, store, manipulate and retrieve digital content. - To recognise common uses of information technology beyond school. - To 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.

NCCE SCHEME – Year 1 and Year 2

Nevill Road Infant School
Computing Curriculum

BREADTH OF STUDY	EYFS	Y1	Y2
Informational Technology Use technology purposefully to create, organise, store, manipulate and retrieve digital content **Digital Writing** **Digital Painting** **Grouping Data** **Digital Photography** **Digital Music** **Pictograms**	Can I use different digital devices? Can I recognise that you can access content on a digital device? Can I use a mouse, touchscreen or appropriate access device to target and select options on screen. Can I recognise a selection of digital devices? Can I recognise the basic parts of a computer, e.g. mouse, screen, and keyboard? Can I select a digital device to fulfil a specific task, e.g. to take a photo?	**Digital Painting:** Can I describe what different freehand tools do? Can I use the shape tool and the line tools and explain why I chose the tools I used. Can I make careful choices when painting a digital picture? Can I use a computer on my own to paint a picture and compare painting a picture on a computer and on paper? **Digital Writing:** Can I add and remove text on a computer. Can I identify that the look of text can be changed on a computer. Can I make careful choices when changing text? Can I explain why I used the tools that I chose? Can I compare typing on a computer to writing on paper? Can I use a computer to write sentences about the Great Fire of London? **Grouping Data – Maths Link:** Can I label objects? Can I identify that objects can be counted? Can I describe objects in different ways? Can I count objects with the same properties? Can I compare groups of objects and answer questions about groups of objects?	**Digital Photography:** Can I use a digital device to take a photograph and make choices when taking a photograph? Can I describe what makes a good photograph and decide how photographs can be improved. Can I use tools to change an image? **Digital Music:** Can I say how music can make us feel? Can I identify that there are patterns in music? Can I show how music is made from a series of notes? Can I show how music is made from a series of notes? Can I create a piece of music using Chrome Music Lab.? Can I review and refine my computer work? **Pictograms:** Can I recognise that we can count and compare objects using tally charts? Can I recognise that objects can be represented as pictures? Can I explain that we can present information using a computer and make a pictogram?

Nevill Road Infant School
Computing Curriculum

| Computer Science

Programming

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions

Use logical reasoning to predict the behaviour of simple programs

Create and debug simple programs

<mark>Moving a Robot Introduction to animation</mark>

<mark>Robot Algorithms Introduction to quizzes</mark>

Computational Thinking | Can I explore technology?
Can I recognise the success or failure of an action?
Can I follow simple instructions to control a digital device (programmable cars, Codapillars)?
Can I recognise that we control computers?
Can I input a short sequence of instructions to control a device?
Can I repeat an action with technology to trigger a specific outcome? | **Programming A – Moving a Robot:**
Can I explain what a given command will do?
Can I act out a given word?
Can I combine forwards and backwards commands to make a sequence?
Can I combine four direction commands to make sequences?
Can I find more than one solution to a problem?
Can I plan a simple program and find more than one solution to a problem when using Beebots.

Programming B – Introduction to animation:
Can I choose a command for a given purpose?
Can I show that a series of commands can be joined together?
Can I identify the effect of changing a value?
Can I explain that each sprite has its own instructions?
Can I design the parts of a project in Scratch?
Can I use my algorithm to create a program?
Can I make a sprite create a simple 2D shape by giving it the correct Scratch instructions? | **Programming A – Robot Algorithms**
Can I describe a series of instructions as a sequence?
Can I explain what happens when we change the order of instructions?
Can I use logical reasoning to predict the outcome of a program (series of commands)?
Can I explain that programming projects can have code and artwork?
Can I design, create and debug an algorithm that I have written on Scratch Jr?

Programming B – Introduction to Quizzes:
Can I explain that a sequence of commands has a start and an outcome?
Can I create and change a program using a given design.
Can I create a program using my own design and decide how my project can be improved.
Can I debug, improve and compare my program (quiz) to my design.
Can I find errors, debug and improve a faulty Scratch program. |
|---|---|---|---|
| **Digital Literacy Online Safety**

Recognise common uses of information | Can I describe what makes a good friend?
Can I explain the reasons for rules, to know right from wrong and try to behave accordingly? | **Technology around Us:**
Can I use a mouse in different ways?
Can I use a keyboard to type on a computer?
Can I use the keyboard to edit text?
Can I create rules for using technology responsibly? | **IT around us:**
Can I recognise the uses and features of information technology and that choices are made when using information technology?
Can I identify the uses of information technology in the school? |

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 **Technology Around us** **IT Around us**		Can I identify technology and explain what it is. Can I identify a computer and its main parts? **Online Safety:** Can I explain what personal information is? Can I identify what might make someone a trustworthy person? Can I think about someone's character to help make an informed judgement about them? Can I use an informed judgement to decide if someone is trustworthy or not. Can I demonstrate my knowledge of e-safety? Can I explain what the 'uh-oh' feeling means when online and how I should deal with it.	Can I explain how to use information technology safely? Can I identify information technology beyond school? Can I explain how information technology helps us? **Online Safety:** Can I give an example of how to deal with an e-safety worry? Can I explain why I should keep my personal details private online? Can I say what to do when someone online asks things about me. Can I make sure I always check with an adult before taking part in games that involve other internet users? Can I suggest ways to make our school community safer online? Can I explain why it is important to think about other people's feelings whether online or face-to-face?

Nevill Road Infant School
Computing Curriculum

KEY END-POINT ASSESSMENT			
	EYFS	**Y1**	**Y2**
Informational Technology Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Can I select a digital device to fulfil a specific task, e.g. to take a photo?	Can I use a computer on my own to paint a picture and compare painting a picture on a computer and on paper? Can I use a computer to write sentences about the Great Fire of London? Can I compare groups of objects and answer questions about groups of objects?	Can I use a digital device to take a photograph and make choices when taking a photograph? Can I create a piece of music using Chrome Music Lab.? Can I explain that we can present information using a computer and make a pictogram?
Computer Science Programming Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Use logical reasoning to predict the behaviour of simple programs Create and debug simple programs	Can I follow simple instructions to control a digital device (programmable cars, Codapillars)?	Can I plan a simple program and find more than one solution to a problem when using Beebots? Can I make a sprite create a simple 2D shape by giving it the correct Scratch instructions?	Can I design, create and debug an algorithm that I have written on Scratch Jr? Can I debug, improve and compare my program (quiz) to my design?

Nevill Road Infant School
Computing Curriculum

Computational Thinking			
Digital Literacy Online Safety 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	Can I describe what makes a good friend? Can I explain the reasons for rules, know right from wrong and try to behave accordingly? (ELG)	Can I identify technology and explain what it is? Can I identify a computer and its main parts? Can I explain what the 'uh-oh' feeling means when online and how I should deal with it?	Can I identify a computer and its main parts? Can I explain how information technology helps us? Can I explain why it is important to think about other people's feelings whether online or face-to-face?