

# Subject Overview Skegness Infant and Junior Academies

## Subject – Computing



**Our Curriculum Partners for Computing**



**Knowing More and Remembering More**

The first lesson for each unit of work is used to review children’s prior learning from previous units to prepare them for the new one. Opportunities for retrieval practise are included in Computing lessons to ensure knowledge is transferred into the long-term memory. These activities may be in the form of a retrieval task, use of challenge questions and opportunities for peer discussions that focus on prior learning. Additional opportunities on interactive programmes, such as Bedrock, Kahoot and Digial Leader sessions/assemblies, enable children to revisit key topic vocabulary.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	Time Travellers	Above and beyond	Telling Tales	A World Apart	Blue Planet	This is Me
<b>Nursery</b>	Understanding the World: Explore how things work.					
<b>Reception</b>	<p><b>PSED:</b> Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of ‘screen time’. <b>PD:</b> Develop their small motor skills so that they can use a range of tools competently, safely and confidently. <b>Expressive Arts and Design:</b> Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p> <p><b>Early Learning Goals:</b></p> <p><b>PSED Managing Self:</b> • 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. <b>Expressive Arts and Design</b> Creating with Materials: • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</p>					
<b>Curriculum Statements</b>	<p><b>Pupils should be taught to:</b></p> <p>1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>1.2 create and debug simple programs</p> <p>1.3 use logical reasoning to predict the behaviour of simple programs</p> <p>1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>1.5 recognise common uses of information technology beyond school</p> <p>1.6 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.</p>					
<b>Year 1</b>	<p><b>Topic Overview</b> Teach Computing- Technology all around us</p> <p><b>KS1 National Curriculum Links</b> 1.4 1.5 1.6</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To identify technology</li> <li>To identify a computer and its main parts</li> <li>To use a mouse in different ways</li> </ul>	<p><b>Topic Overview</b> Teach Computing- Creating Media- Digital writing</p> <p><b>KS1 National Curriculum Links</b> 1.4 1.6</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To use a computer to write</li> <li>To add and remove text on a computer</li> </ul>	<p><b>Topic Overview</b> Teach Computing- Creating Media- Digital painting</p> <p><b>KS1 National Curriculum Links</b> 1.4</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To describe what different freehand tools do</li> <li>To use the shape tool and the line tools</li> </ul>	<p><b>Topic Overview</b> Teach Computing- Data and information- Grouping data</p> <p><b>KS1 National Curriculum Links</b> 1.4 1.6</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To label objects</li> <li>To identify that objects can be counted</li> </ul>	<p><b>Topic Overview</b> Teach Computing- Programming A- Moving a robot</p> <p><b>KS1 National Curriculum Links</b> 1.1 1.2 1.3 1.5</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To explain what a given command will do</li> </ul>	<p><b>Topic Overview</b> Teach Computing- Programming B- Programming animations</p> <p><b>KS1 National Curriculum Links</b> 1.1 1.2 1.3 1.4</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To choose a command for a given purpose</li> </ul>

		<ul style="list-style-type: none"> <li>To use a keyboard to type on a computer</li> <li>To use the keyboard to edit text</li> <li>To create rules for using technology responsibly</li> </ul> <p><b>Key vocabulary</b> Technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.</p> <p><b>Key enrichment experiences:</b> Managing online information</p>	<ul style="list-style-type: none"> <li>To identify that the look of text can be changed on a computer</li> <li>To make careful choices when changing text</li> <li>To explain why I used the tools that I chose</li> <li>To compare typing on a computer to writing on paper</li> </ul> <p><b>Key vocabulary</b> Keyboard, keys, space, backspace, capital letters, bold, italic, underline, font</p> <p><b>Key enrichment experiences:</b> Joint computing project</p> <p>Online bullying</p>	<ul style="list-style-type: none"> <li>To make careful choices when painting a digital picture</li> <li>To explain why I chose the tools I used</li> <li>To use a computer on my own to paint a picture</li> <li>To compare painting a picture on a computer and on paper</li> </ul> <p><b>Key vocabulary</b> Paint programme, paintbrush, erase, fill, undo, shape tools, brush size</p> <p><b>Key enrichment experiences:</b> Safer Internet Day</p> <p>Self-image and identity</p> <p>Privacy and security</p>	<ul style="list-style-type: none"> <li>To describe objects in different ways</li> <li>To count objects with the same properties</li> <li>To compare groups of objects</li> <li>To answer questions about groups of objects</li> </ul> <p><b>Key vocabulary</b> Object, label, data, more, less, most, fewest, least, the same</p> <p><b>Key enrichment experiences:</b> Joint E-Safety Project</p> <p>Online relationships</p>	<ul style="list-style-type: none"> <li>To act out a given word</li> <li>To combine forwards and backwards commands to make a sequence</li> <li>To combine four direction commands to make sequences</li> <li>To plan a simple program</li> <li>To find more than one solution to a problem</li> </ul> <p><b>Key vocabulary</b> Bee-Bot, forwards, backwards, commands, directions, left, right, algorithm</p> <p><b>Key enrichment experiences:</b></p> <p>Online reputation</p> <p>Health, well-being and lifestyle</p>	<ul style="list-style-type: none"> <li>To show that a series of commands can be joined together</li> <li>To identify the effect of changing a value</li> <li>To explain that each sprite has its own instructions</li> <li>To design the parts of a project</li> <li>To use my algorithm to create a program</li> </ul> <p><b>Key vocabulary</b> ScratchJr, command, programming, block, joining, run, reset, predict, design</p> <p><b>Key enrichment experiences:</b> Copyright and ownership</p>
Year 2		<p><b>Topic Overview</b> Teach computing- Computing systems and networks- IT AROUND US</p> <p><b>KS1 National Curriculum Links</b> 1.4 1.5 1.6</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To recognise the uses and features of information technology</li> <li>To identify information technology in the school</li> <li>To identify information technology beyond school</li> <li>To explain how information technology helps us</li> </ul>	<p><b>Topic Overview</b> Teach computing- Creating media digital photography</p> <p><b>KS1 National Curriculum Links</b> 1.4 1.5 1.6</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To use a digital device to take a photograph</li> <li>To make choices when taking a photograph</li> <li>To describe what makes a good photograph</li> </ul>	<p><b>Topic Overview</b> Teach computing- Creating media- Making Music</p> <p><b>KS1 National Curriculum Links</b> 1.4</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To say how music can make us feel</li> <li>To identify that there are patterns in music</li> <li>To describe how music can be used in different ways</li> <li>To show how music is made from a series of notes</li> <li>To create music for a purpose</li> </ul>	<p><b>Topic Overview</b> Teach computing- Programming A Robot Algorithms</p> <p><b>KS1 National Curriculum Links</b> 1.1 1.2 1.3 1.4</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To describe a series of instructions as a sequence</li> <li>To explain what happens when we change the order of instructions</li> <li>To use logical reasoning to</li> </ul>	<p><b>Topic Overview</b> Teach computing- Data and information- Pictograms</p> <p><b>KS1 National Curriculum Links</b> 1.5 1.6</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To recognise that we can count and compare objects using tally charts</li> <li>To recognise that objects can be represented by pictures</li> <li>To create a pictogram</li> </ul>	<p><b>Topic Overview</b> Teach computing- Programming B An introduction to quizzes</p> <p><b>KS1 National Curriculum Links</b> 1.1 1.2 1.3</p> <p><b>Key Criteria</b></p> <ul style="list-style-type: none"> <li>To explain that a sequence of commands has a start.</li> <li>To explain that a sequence of commands has an outcome.</li> <li>To create a program using a given design.</li> <li>To change a given design.</li> </ul>

		<ul style="list-style-type: none"> <li>To explain how to use information technology safely</li> <li>To recognise that choices are made when using information technology</li> </ul> <p><b>Key vocabulary</b> Information technology, computer, barcode, scanner/scan</p> <p><b>Key enrichment experiences:</b> Managing online information</p>	<ul style="list-style-type: none"> <li>To decide how photographs can be improved</li> <li>To decide how photographs can be improved</li> <li>To recognise that photos can be changed</li> </ul> <p><b>Key vocabulary</b> Device, digital, landscape, portrait, focus, background, editing</p> <p><b>Key enrichment experiences:</b> Joint computing project Online bullying</p>	<ul style="list-style-type: none"> <li>To review and refine our computer work</li> </ul> <p><b>Key vocabulary</b> Emotions, pattern, rhythm, pulse, pitch, tempo, create, beat</p> <p><b>Key enrichment experiences:</b> Safer Internet Day Self-image and identity Privacy and security</p>	<p>predict the outcome of a program</p> <ul style="list-style-type: none"> <li>To explain that programming projects can have code and artwork</li> <li>To design an algorithm</li> <li>To create and debug a program that I have written</li> </ul> <p><b>Key vocabulary</b> Instruction, sequence, algorithm, order, prediction, debugging</p> <p><b>Key enrichment experiences:</b> Joint E-Safety Project Online relationships</p>	<ul style="list-style-type: none"> <li>To select objects by attribute and make comparisons</li> <li>To recognise that people can be described by attributes</li> <li>To explain that we can present information using a computer</li> </ul> <p><b>Key vocabulary</b> Common, data, tally, pictogram, attribute, block diagram</p> <p><b>Key enrichment experiences:</b> Online reputation Health, well-being and lifestyle</p>	<ul style="list-style-type: none"> <li>To create a program using my own design.</li> <li>To decide how my project can be improved.</li> </ul> <p><b>Key vocabulary</b> Sequence, command, modify, algorithm, debug, code</p> <p><b>Key enrichment experiences:</b> Copyright and ownership</p>
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Statement Number	National Curriculum Statement
2.1	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
2.2	use sequence, selection, and repetition in programs; work with variables and various forms of input and output
2.3	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
2.4	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
2.5	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
2.6	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
2.7	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

**Year 3**

Topic Overview	<b>Topic Overview</b> Computing systems and networks – <b>Connecting computers</b>	<b>Topic Overview</b> Programming- <b>Sequencing sounds</b>	<b>Topic Overview</b> Creating Media- <b>Desktop Publishing</b>	<b>Topic Overview</b> Programming- <b>Events and actions in programs</b>	<b>Topic Overview</b> Data and Information- <b>Branching Databases</b>	<b>Topic Overview</b> Creating Media- <b>Stop-frame animation</b>
Key Criteria						
Key vocabulary	<b>KS2 National Curriculum Links</b> 2.2, 2.4, 2.6	<b>KS2 National Curriculum Links</b> 2.1, 2.2, 2.3, 2.6	<b>KS2 National Curriculum Links</b> 2.6, 2.6	<b>KS2 National Curriculum Links</b> 2.1, 2.2, 2.3, 2.6	<b>KS2 National Curriculum Links</b> 2.6, 2.7	<b>KS2 National Curriculum Links</b> 2.6, 2.7
Key enrichment experiences	<b>Key Criteria</b> <ul style="list-style-type: none"> <li>To explain how digital devices function</li> <li>To identify input and output devices</li> <li>To recognise how digital devices can change the way we work</li> <li>To explain how a computer network can be used to share information</li> <li>To explore how digital devices can be connected</li> <li>To recognise the physical components of a network</li> </ul> <b>Key vocabulary</b> input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point  <b>Key enrichment experiences</b>	<b>Key Criteria</b> <ul style="list-style-type: none"> <li>To explore a new programming environment</li> <li>To identify that commands have an outcome</li> <li>To explain that a program has a start</li> <li>To recognise that a sequence of commands can have an order</li> <li>To change the appearance of my project</li> <li>To create a project from a task description</li> </ul> <b>Key vocabulary</b> Scratch, programming, blocks, commands, code, sprite, motion, turn, point in direction, algorithm, bug, debug, code.  <b>Key enrichment experiences</b>	<b>Key Criteria</b> <ul style="list-style-type: none"> <li>To recognise how text and images convey information</li> <li>To recognise that text and layout can be edited</li> <li>To choose appropriate page settings</li> <li>To add content to a desktop publishing publication</li> <li>To consider how different layouts can suit different purposes</li> <li>To consider the benefits of desktop publishing</li> </ul> <b>Key vocabulary</b> text, images, communicate, font, landscape, portrait, orientation, placeholder, template, layout,  <b>Key enrichment experiences</b>	<b>Key Criteria</b> <ul style="list-style-type: none"> <li>To explain how a sprite moves in an existing project</li> <li>To create a program to move a sprite in four directions</li> <li>To adapt a program to a new context</li> <li>To develop my program by adding features</li> <li>To identify and fix bugs in a program</li> <li>To design and create a maze-based challenge</li> </ul> <b>Key vocabulary</b> motion, event, sprite, algorithm, logic, move, resize, action, debugging, errors, code, test, debug,  <b>Key enrichment experiences</b>	<b>Key Criteria</b> <ul style="list-style-type: none"> <li>To create questions with yes/no answers</li> <li>To identify the object attributes needed to collect relevant data</li> <li>To create a branching database</li> <li>To explain why it is helpful for a database to be well structured</li> <li>To identify objects using a branching database</li> <li>To compare the information shown in a pictogram with a branching database</li> </ul> <b>Key vocabulary</b> attribute, table, objects, branching, database, structure, compare, order, organise  <b>Key enrichment experiences</b>	<b>Key Criteria</b> <ul style="list-style-type: none"> <li>To explain that animation is a sequence of drawings or photographs</li> <li>To relate animated movement with a sequence of images</li> <li>To plan an animation</li> <li>To identify the need to work consistently and carefully</li> <li>To review and improve an animation</li> <li>To evaluate the impact of adding other media to an animation</li> </ul> <b>Key vocabulary</b> animation, flip book, stop-frame, frame, sequence, image, photograph, onion skinning, evaluation, delete, media, transition.  <b>Key enrichment experiences</b>

Year 4	Topic Overview Computing systems and networks- <b>The Internet</b>	Topic Overview Programming- <b>Repetition in shapes</b>	Topic Overview Creating Media- <b>Photo editing</b>	Topic Overview Programming- <b>Repetition in games</b>	Topic Overview Data and Information- <b>Data Logging</b>	Topic Overview Creating Media- <b>Audio Production</b>
	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links
	Key Criteria	Key Criteria	Key Criteria	Key Criteria	Key Criteria	Key Criteria
Year 5	Topic Overview Computing systems and networks- <b>Systems and Searching</b>	Topic Overview Programming- Selection in <b>Physical Computing</b>	Topic Overview Creating Media- <b>Video Production</b>	Topic Overview Programming- <b>Selection in quizzes</b>	Topic Overview Data and Information- <b>Flat file databases</b>	Topic Overview Creating Media- <b>Vector Drawing</b>
	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links
	Key Criteria	Key Criteria	Key Criteria	Key Criteria	Key Criteria	Key Criteria
Year 6	Topic Overview Computing systems and networks- Sequencing sounds	Topic Overview Programming- Sequencing sounds	Topic Overview Creating Media- Desktop Publishing	Topic Overview Programming- Events and actions in programs	Topic Overview Data and Information- Branching Databases	Topic Overview Creating Media- Stop-frame animation
	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links	KS2 National Curriculum Links
	Key Criteria	Key Criteria	Key Criteria	Key Criteria	Key Criteria	Key Criteria
	Key vocabulary	Key vocabulary	Key vocabulary	Key vocabulary	Key vocabulary	Key vocabulary
	Key enrichment experiences	Key enrichment experiences	Key enrichment experiences	Key enrichment experiences	Key enrichment experiences	Key enrichment experiences