

Studying Computing at Kingsway Primary

At Kingsway Primary School, we believe that computing is an essential part of the curriculum. New technologies and the digital world are becoming an integral part of the young people's lives, both within school and in their lives outside of school. It is essential that all pupils gain the confidence and capability they need in this subject to prepare them for the challenges of a rapidly developing and challenging technological world. In addition, the teachers at Kingsway aim to ensure all learners are responsible, safe and positive when they are using technology in any setting.

Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists. We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. We want our pupils to be fluent with a range of tools to best express their understanding and hope by, Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

Our curriculum is divided into four main themes:

- ❖ Computing systems and networks
- ❖ Creating media
- ❖ Programming

The aims of teaching Computing, as outlined in the National Curriculum are to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation

- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

Cycle B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1/2		Year 2- Computing systems and networks IT around us		Year 2- Digital Photography		Robot Algorithms (A)
Year 3/4		Year 3- computing systems and networks - connecting computers		Year 4 - creating media - photo editing		Year 4- programming A
Year 5/6		Year 6- Computing Systems and networks- communication and collaboration		Year 5- creating media- vector graphics		Year 6 programming physical computing

Cycle A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1/2		Y1 - Digital Painting		Y1 - Digital writing		Y1 - Programming animations
Year 3/4		Y3 Creating Media Animation		Y3 Desktop Publishing		Year 3 Programming B
Year 5/6		Year 6-Creating media- web page creation		Year 6- Creating Media- 3D modelling		Year 5- Programming A Selection in physical computing

Computing Skills Progression

Info Tech	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Skill: To explain how and why technology is used.	I can take part in whole class use of technology and computers.	I can identify the main parts of a computer.	I can describe the uses of computers.	I can identify network devices around me.	I can outline how information can be shared via the world wide web (www).	I can recognise how information is transferred across the internet.	I can use a search engine. I can identify how to communicate on the internet.
Skill: Keyboard skills	I can begin to find the correct letters on a keyboard/p rint off a keyboard.	I can use a mouse/trackpad to click and select. I can use a keyboard to type and edit text. ** is recapped and added upon in subsequent years	I can use a mouse/trackpad to click and select. I can use a keyboard to type and edit text.	I can use a mouse/trackpad to click, drag select etc. I can use a keyboard to type and edit text.	I can use a mouse/trackpad to click, drag select etc. I can use a keyboard to type and edit text.	I can use a mouse/trackpad to click, drag, select, right click etc. I can use a keyboard to type and edit text., and can use some basic keyboard shortcuts.	I can use a mouse/trackpad to click, drag, select, right click etc. I can use a keyboard to type and edit text., and can use some basic keyboard shortcuts.
Skill: understanding of how information is shared across the internet.	I can take part in whole class use of technology and computers.	I can identify information technology in school.. I can identify how technology can help people.	I can identify information technology in and beyond school. I can show how to use information technology safely.	I can identify input and output devices in basic systems. I can explain how a computer network can be used to share information.	I can describe the types of and how content/media that can be added, created and shared by people.	I can recognise input, process and output in larger computer systems. I can explain that information is transferred in packets. I can recognise that data is	I can compare the results from different search engines I can explain IP addresses, DNS servers and how they transfer information. I can classify internet

				I can explain the role of a switch, server and wireless network point.		transferred using agreed protocols	communication by messenger/recipient/audience
Skill: evaluating content and e-safety	Conversations/discussions over e-safety			I can explain how networks can be connected to other networks.	I can evaluate the reliability of content and the consequences of unreliable content.	I can evaluate different methods of online communication	I can keep myself safe from targeted adverts.

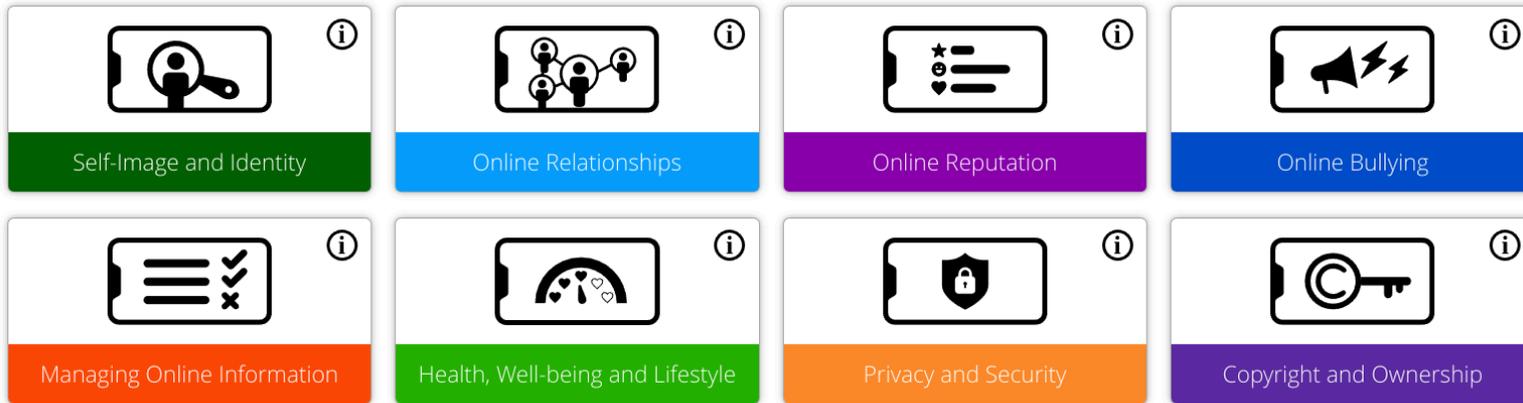
Create Media	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Art Skill: keyboard and tool use.	I can draw on a device (no mouse)	Digital Painting I can use freehand tools. I can use shape, line and fill tools for precision. I can use the undo button. I can use a mouse to click and drag.	Taking Photos I can use zoom to change the composition of a photo. I can use filters to edit the features of a photograph.	Animation I can use the onion skinning tool to review subject position I can add media to enhance animation.	Edit Photos I can change the composition of an image (arrange, rotate, flip crop and cut apart). I can adjust colours, apply filters and add effects to an image.	Vector Drawing I can add, delete or move an object in a vector drawing. I can move objects between the layers of a drawing. I can group and ungroup, duplicate, modify, reposition and combine objects.	3D Modelling I can alter the view of a 3D space. I can place, select, delete and duplicate an object in 3D. I can reposition, rotate, resize, and recolour objects. I can use placeholder objects to create holes. I can change the scale of an object.
Digital Art		I can select the	I can capture an	I can review and	I can make	I can use	I can recognise the

<p>Skill: considering composition</p>		<p>correct tool based on my desired outcome.</p>	<p>image in landscape and portrait.</p> <p>I can consider lighting before taking a photograph.</p>	<p>alter the sequence of frames as an animation.</p> <p>I can review a completed project and make improvements.</p>	<p>decisions on how and when to manipulate an image for a certain purpose.</p>	<p>alignment and size guides to create a consistent drawing.</p> <p>I can evaluate the effectiveness of my drawing and of others'.</p>	<p>similarities between real-life and 3D in order to make a realistic, like-like creation.</p> <p>I can recognise that 3D models can be printed in 3D.</p>
<p><i>Publishing</i></p> <p>Skill: Keyboard and tool use.</p>	<p>Begin</p> <p>I can explore keyboards / typing</p>	<p>Digital Writing</p> <p>I can use letter, number, backspace and space keys.</p> <p>I can use punctuation and special characters.</p> <p>I can select and change text.</p> <p>I can move the cursor to a chosen location.</p>		<p>Desktop Publishing</p> <p>I can change the page orientation.</p> <p>I can add and edit text as a placeholder.</p> <p>I can add, move, resize, rotate and remove images.</p> <p>I can choose effective fonts and apply effects to text.</p>			<p>Web-page creation</p> <p>I can recognise the relationship between HTML and visual display.</p> <p>I can add text and change the style of text.</p> <p>I can embed media.</p> <p>I can insert hyperlinks.</p> <p>I can find copyright free images (database)</p>
<p><i>Publishing</i></p> <p>Skill: considering composition</p>		<p>I can change the appearance of my text to suit my desired outcome.</p>		<p>I can consider the layout of my work.</p> <p>I recognise the benefits of using a DTP software.</p> <p>I can recognize</p>			<p>I can create a clear navigation path.</p> <p>I can make a website fit for a purpose.</p> <p>I can evaluate my</p>

				which text and images suit my audience.			own and others' finished work.
Audio/Video Skill: Keyboard and tool use.	I can use a record button (no mouse)				Audio Production I can record sound and play it back. I can import audio into a project. I can delete selections of audio. I can change the volume of tracks in a project. I can edit and layer music to reach a desired effect.	Video Production I can record using a device from different angles. I can use pan, tilt and zoom tools. I can split, trim and crop to edit a video. I can export my final piece.	
Audio/Video Skill: Considering composition.	I can use a record button (no mouse)				I can choose the effects of layering to suit my needs. I can review and refine mine and others' finished song.	I can use filming techniques for my desired outcome. I can review and refine mine and others' finished video.	

Programming	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>I can follow and create simple instructions (programming thinking) E.g. Code and Go Mouse</p>	<p>Moving a Robot AND Programming animations I can choose a series of words and commands that can be enacted as a program.</p> <p>I can build a sequence of commands in steps.</p> <p>I can run a simple program on a device.</p>	<p>Robot Algorithms AND Programming Quizzes I can choose a series of words and commands that can be enacted as a sequence</p> <p>I can create a program and predict its outcome.</p> <p>I can debug a program that I have written.</p> <p>I can explain what happens when we change the order of instructions.</p>	<p>Sequencing Sounds AND Events and actions in programs I can build a sequence of commands to produce a given outcome..</p> <p>I can explain that programs start because of an input.</p> <p>I can combine commands in a program.</p> <p>I can alter the order of commands to alter a program's output.</p> <p>I can identify</p>	<p>Sequencing in shapes and repetition in games I can use a text based programming language.</p> <p>I can build a sequence of commands to produce a given outcome..</p> <p>I can combine commands in a program.</p> <p>I can use a count-controlled loop and an indefinite loop to produce a given outcome.</p> <p>I can use tools</p>	<p>Selection in physical computing and selection in quizzes I can use a text based programming language.</p> <p>I can connect a microcontroller to a device.</p> <p>I can build a sequence of commands to produce a given outcome..</p> <p>I can create a condition-controlled loop.</p> <p>I can experiment with a repeat-until loop.</p>	<p>Variables in games and sensing I can use a text based programming language.</p> <p>I can connect a microcontroller to a device.</p> <p>I can build a sequence of commands to produce a given outcome..</p> <p>I can identify and change the value of variables in an existing program.</p> <p>I can identify the correct place in a program to</p>

				<p>that different sequences can achieve the same or different outputs.</p>	<p>to enable more than one process to run concurrently.</p> <p>I can alter existing animations and games using repetition.</p>	<p>I can create an if...then... else... condition to produce given outcomes.</p>	<p>set a variable.</p> <p>I can update a variable with a use input.</p> <p>I can use a variable in a conditional statement to control the flow of a program.</p>
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Year 1/2

<u>Cycle A</u>					
Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 2 Online relationships		Year 2 Managing Online Information	Year 2 Self Image and identify and Year 2 Online bullying	Year 2 online reputation and Year 2 Health, Wellbeing and lifestyle	Year 2 Privacy and Security and Year 2 Copyright and ownership
<u>Cycle B</u>					
Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 1 Online relationships and Online Bullying		Self Image and identity	Year 1 Health Wellbeing and Lifestyle and Copyright and ownership	Year 1 Privacy and Security	Year 1 Managing Online Information and Year 1 Online reputation

Year 3/4

<u>Cycle A</u>					
Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Online Relationships	Health, Wellbeing & Lifestyle	Privacy & Security	Self image & Identity	Managing online information	Copyright & Ownership
<u>Cycle B</u>					
Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Online Relationships	Online Bullying	Privacy & Security	Self image & Identity	Managing online information	Online Reputation

Year 5/6

<u>Cycle A</u>					
Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 5- Online Relationships	Year 5- Online bullying	Year 5- Managing online information		Year 5- self-image and identity/ online reputation	Year 5- privacy and security/copywrite and ownership
<u>Cycle B</u>					
Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 6- self-image and identity/ online reputation	Year 6- online relationships and online bullying	Year 6- online reputation and health, wellbeing and lifestyle	Year 6- privacy and security	Year 6- Managing online information	