

## Curriculum drivers

The curriculum is underpinned by the school's Curriculum Drivers: **Knowledge**, **Skills**, **Community** and **Self**. The spiritual, moral, social and cultural development of our pupils and their understanding of the core values of our society are woven through the curriculum.

# Computing Basic/Advancing/Deep

EYFS	Year 1 and 2	Year 3 and 4	Year 5 and Year 6
<p>ICT IS NO LONGER PART OF ANY OF THE NEW ELGS</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>§ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>§ create and debug simple programs</li> <li>§ use logical reasoning to predict the behaviour of simple programs</li> <li>§ use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>§ recognise common uses of information technology beyond school</li> <li>§ 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.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>§ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>§ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>§ 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</li> <li>§ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>§ 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</li> <li>§ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	
	<p>Online safety – search images/keywords, create, name and date work, personal info to keep safe, make good choices online            Internet search engines – use of one word            Paint            Turtle logo – turn left and right, ½ and ¼ turns            Scratch – change size of character, move different speeds and distances, repeat,            Beebot            Presentation skills</p>	<p>Online safety – cyberbullying, strong passwords and privacy settings, diff ways to communicate, responding to hurtful messages, accurate use of search engines, plagiarism, safe online profile            Turtle logo (rotate, repeat, draw shapes, change colour/width of line, fill, add labels)            Scratch (Questions and Quizzes)            Animation            Word processing            Databases (Textease)            Drawing and desktop publishing            Presentation skills – hyperlinks, add theme, transitions and animations, audio and video            Internet research – word order, sharing webpages, communicate online</p>	<p>Online safety – identify spam emails, citations for websites used, strong passwords, recognise when, why and how online photos may have been edited, sim and diff between in-person and cyberbullying, identifying secure websites, role of media in shaping ideas about girls and boys            Film making            Spreadsheets            Scratch (story and developing a game)            Kodu (controlling a character)            Flowol(flowcharts)            3D Modelling Sketch Up            Create a webpage</p>

Vocabulary		Algorithm Coding De-bug E-Safety Program Sequence Rules Online Private Information Email Videos Camera stills Sounds Image bank Word bank Space bar Purpose Online tools Communicate Photographs Video Sound Data Pictogram Digitally Graphs Charts Save Retrieve	Appropriate / Inappropriate sites Cyberbullying Digital footprint Keyword searching Instructions Buttons Robots Patterns Program Forward Backward Right-angle turn Predict Paint effects Templates Animation Documents Index finger typing Enter/return Caps lock Backspace Information sources Communication Purposes Website content Capturing moments Magnified images Questions Data collection	E-Safety rules Secure Passwords Gaming Blogs Report abuse button Input device Network Output device Search Engine Sequence instructions Sequence debugging Test + improve Logo commands Sequence programming Creating + modifying Specific purpose Photo modifying Keyboard shortcuts Bullet points Spell check Constructive feedback Questioning Database Construct Contribute Recording data Data logger Present data Database creation	Type + edit logo commands Sensors Open-ended problems Bugs in programs Complex programming Multimedia Presentations Alignment Brush size Repeats Reflections Green screening Amend Copy Paste School network Devices Computer parts Collaborate Appropriate online communication Search tools Appropriate websites Owner Different networks Information collection Reliability Owners Database searches Inaccurate data	Responsible online communication Virus Threat Explore procedures Refine procedures Variable Hardware + software control Change inputs Different outputs Articulate solutions Commands Predicting outputs Plan, program, test & review a program Program writing Control mimics + devices Sensors Measure input Create variables Link errors Spreadsheets Complex searches (and/or: </>) Problem solving Present answers Analyse information Question data Interpret Generate Process	Online sharing Multimedia effects Multimedia modification Transitions Hyperlinks Editing tools Refining Appropriate online tools Audience Atmosphere Structure Copyright Information collection HTML code Storing Computing devices Internet parts Collaboration Responsibility Searching strategies Webpages Information movement Connecting devices Different audiences Research strategies Search result rankings Acknowledge resources Interpret Store Present information Plausibility Appropriate data tool Interrogate Investigations
<b>Learning Objective</b>	<b>EYFS</b>	<b>Key Indicators</b>	<b>Year 1 and 2</b>	<b>Key Indicators</b>	<b>Year 3 and 4</b>	<b>Key Indicators</b>	<b>Year 5 and 6</b>
<b>To code (using Scratch) Motion</b>		Control motion by specifying the number of steps to travel, direction and turn.	With support from a teacher, basic movement is controlled. <b>Generally, steps and direction of turn are understood.</b> <b>Precise movement is achieved using basic instructions.</b>	Use specified screen coordinates to control movement.	There is some awareness that movement may be controlled around specified screen coordinates. <b>There is some experimentation with controlling movement around specified screen coordinates.</b> <b>There is a good understanding that screen coordinates may be used to control movement.</b>	Set IF conditions for movements. Specify types of rotation giving the number of degrees.	There is some experimentation with conditions and degrees of movement. <b>There are some good examples of the use of conditions and degrees of movement.</b> <b>There are many well-executed examples of the use of conditions and degrees of movement.</b>
Looks		Add text strings, show and hide objects, and change the features of an object.	With the support of a teacher, the basic features of an object are altered. <b>There is some experimentation with variables to change the basic features of an object.</b> <b>There is a good understanding of how to change the basic features of an object.</b>	Set the appearance of objects and create sequences of changes.	There is some awareness of how to alter the appearance of objects and create sequences of changes. <b>There is some experimentation with setting the appearance of objects and sequences of changes.</b> <b>There is a good understanding of how to set the appearance of objects and in creating sequences of changes.</b>	Change the position of objects between screen layers (send to back, bring to front).	There is some experimentation with screen layers. <b>There are some good examples of effective manipulation of objects between screen layers.</b> <b>Screen layers are used effectively to control the position and visibility of objects.</b>
Sound		Select sounds and control when they are heard, their duration and volume.	With the support of structured activities, sounds are controlled. <b>There is some experimentation with controlling sound.</b> <b>There is a</b>	Create and edit sounds. Control when they are heard, their volume, duration and rests.	There is some awareness of how to create and edit sounds. <b>There is some experimentation with the creation and editing of sounds.</b> <b>There is a good understanding of how to create and edit sounds.</b>	Upload sounds from a file and edit them. Add effects such as fade in and out and control	There is some experimentation with importing and editing sounds. <b>There are some good examples of importing and editing sounds.</b> <b>There is a very good understanding of the process of sound import and the subsequent editing of the sound to create interesting effects.</b>

			good understanding of how to control sound.			their implementation.	
<b>Draw</b>		Control when drawings appear and set the pen colour, size and shape.	With the support of structured activities, drawings are created. <b>There is some experimentation with controlling draw tools.</b> There is a good understanding of how to control draw tools.	Control the shade of pens.	There is some awareness that the shape of tools may be altered. <b>There is some experimentation with altering the shape of tools.</b> There is a good understanding of how to alter the shape of tools to create different effects.	Combine the use of pens with movement to create interesting effects.	There is some experimentation with combining tools with movement. <b>Some interesting effects are gained through combining tools with movement.</b> Some excellent effects are gained through well-planned combinations of tools and movement.
<b>Events</b>		Specify user inputs (such as clicks) to control events.	With the support of structured activities, user inputs are specified. <b>There is some experimentation with user inputs to control events.</b> There is a good understanding of how to control events by specifying user inputs.	Specify conditions to trigger events.	There is some awareness of triggers for events. <b>There is some experimentation with various triggers for events.</b> There is a good understanding of how to specify triggers for events.	Set events to control other events by 'broadcasting' information as a trigger.	There is some awareness of how to broadcast events. <b>There are some good examples of broadcast events.</b> There are many very good examples of choosing, using and explaining broadcast events.
<b>Control</b>		Specify the nature of events (such as a single event or a loop).	With the support of a teacher, the nature of events is specified. <b>There is some experimentation with specifying the nature of events.</b> There is a good understanding of how and when to specify the nature of events.	Use IF-THEN conditions to control events or objects.	There is some awareness that IF-THEN conditions may be set. <b>There is some experimentation with IF-THEN conditions.</b> There is a good understanding of how to use IF-THEN conditions.	Use IF-THEN-ELSE conditions to control events.	There is some awareness of the use of IF-THEN-ELSE conditions. <b>There are some good examples of the use of IF-THEN-ELSE conditions to control events or objects.</b> There is a thorough understanding of the control conditions IF-THEN-ELSE.
<b>Sensing</b>		Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).	With the support of a teacher, user responses are explored. <b>There is some experimentation with the nature of user responses and the required user inputs.</b> There is a good understanding of how to seek a user response in a range of situations.	Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).	There is some awareness that actions may be controlled by proximity or user input. <b>There is some experimentation with sensing proximity or user input to trigger actions.</b> There is a good understanding that proximity and user inputs may be used to trigger actions.	Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.	There is some awareness that there are a range of sensing tools that may be used to control events or actions. <b>There are some good examples of using a range of sensing tools to control events or actions.</b> There are many very good well-chosen examples of, with explanations for, the use of sensing tools to control events or actions.
<b>Variables and lists</b>				Use variables to store a value.	There is some awareness of the term 'variable' and that variables may be set to store a value. <b>There is some experimentation with using variables to store a value.</b> The term variable is understood, and used to store a value.	Use lists to create a set of variables.	There is some awareness of how to create a set of variables. <b>There are some good examples of sets of variables in a range of situations.</b> There is a thorough understanding of how to create and use sets of variables.
				Use the functions define, set, change, show and hide	There is some awareness of the use of functions to control variables. <b>There is some experimentation with controlling variables.</b> There is a good understanding		

				to control the variables.	of how and when to use functions to control variables.		
<b>Operators</b>				Use the Reporter operators () +() () - () () / () to perform calculations.	Some calculations are performed using basic reporter operations. <b>Calculations using basic reporter operations are generally accurate.</b> Accurate and well applied calculations are performed using basic reporter operations.	Use the Boolean operators () < () () = () () > () (and()) (or()) Not() to define conditions.	There is some understanding of the use of Boolean operators to define conditions. <b>There are some good examples of the use of Boolean operators to define conditions.</b> There is a thorough understanding of how and when to use Boolean operators.
						Use the Reporter operators () + () () - () () * () / () to perform calculations. Pick Random () to () Join () () Letter () of () Length of () () Mod () (this reports the remainder after a division calculation). Round () () of ().	There is some understanding of the use of operators to perform calculations and to refine the reporting of results. <b>There are some good examples of the use of operators to perform calculations and to refine the reporting of results.</b> There is a thorough understanding of the use of operators to perform calculations and to refine the reporting of results.
<b>To communicate</b>		Understand online risks and the age rules for sites.	Online activity is closely monitored by a teacher. <b>There is some awareness of some online risks.</b> There is a growing awareness of some of the rules in place to minimise online risks.	Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	There are some attempts to create appropriate formats for communicating ideas. <b>There is some interesting experimentation with formats and styles for communicating ideas.</b> There is a good understanding that ideas need to be presented in interesting and easy-to-understand formats.	Choose the most suitable applications and devices for the purposes of communication.	Some choices are made in selecting and using apps and devices for communicating ideas. <b>Good choices are made in selecting and using apps and devices for communicating ideas.</b> Excellent choices are made in selecting and using apps and devices for communicating ideas.
		Use a range of applications and devices in order to communicate ideas, work and messages.	With guidance, a range of devices and apps are used to communicate with others. <b>There is a growing awareness of a range of devices and apps that are used to communicate with others.</b> There is a good understanding of a wide range of devices and apps that can be used to communicate with others.			Use many of the advanced features in order to create high-quality, professional or efficient communications.	Some high-quality work is produced. <b>There are many examples of high-quality work.</b> There are widespread and very good examples of high-quality work.

<b>To collect</b>		Use simple databases to record information in areas across the curriculum.	With the support of a teacher, simple databases are used. <b>There is a growing awareness of how databases are used. Many good examples of using databases across the curriculum are developing.</b>	Devise and construct databases using applications designed for this purpose in areas across the curriculum.	There are some attempts to devise databases. <b>There are some good examples of database creations across the curriculum. There are many good examples of well-planned databases that have been created across the curriculum.</b>	Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.	There is some awareness of how to devise, construct and manipulate data. <b>The manipulation of data is efficient and its presentation is becoming professional. The manipulation of data is very well thought out and reasoned well. There is a high degree of professional presentation of data.</b>
<b>To connect</b>		Understand online risks and the age rules for sites.	With the support of a teacher, some of the risks posed by online sites are explored. <b>There is a growing awareness that sites have age restrictions and some of the reasons for this are understood. Age rules for sites are understood and good examples of some online risks are given.</b>	Give examples of the risks posed by online communications.	Some examples of online risks are offered, when questioned. <b>Whilst online, there is a growing awareness of how to keep safe. Many good examples of how to keep safe whilst online are provided.</b>	Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.	Some examples of the risks of online communities and the measures to take to minimise risks are given. <b>There is a good understanding of the risks of online communities and the measures to take to minimise risks. There is a thorough understanding of the risks of online communities and the measures to take to minimise risks.</b>
				Understand the term 'copyright'.	There is some awareness of the term 'copyright' and what it means. <b>The term 'copyright' is generally understood. The term 'copyright' is understood and the understanding of its meaning applied to a number of contexts.</b>	Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission from the copyright holder.	There is an awareness that copyright theft is illegal. <b>There is a good understanding that copyright theft is illegal. There is a thorough understanding that copyright theft is illegal.</b>
				Understand that comments made online that are hurtful or offensive are the same as bullying.	There is some awareness that hurt and offence may be caused online. <b>In discussion, some good examples of how to behave respectfully towards others online are provided. There is a good understanding of how to behave respectfully towards others online.</b>	Understand the effect of the online comments and show responsibility and sensitivity when online.	Online comments are responsible and sensitive. <b>There is a good awareness of the effect of online comments. Comments made online are responsible and sensitive. Explanations show an in-depth understanding of the effect of irresponsible online comments. Comments made are responsible and sensitive.</b>
				Understand how online services work.	There is some awareness of how online services work. <b>There is a growing understanding of how familiar online services work. Many good examples of how online services work are provided.</b>	Understand how simple networks are set up and used.	There is an awareness of how simple networks are set up and used. <b>There is a good understanding of how simple networks are set up and used. There is a thorough understanding of how networks are set up and used.</b>