

Nursery

Knowledge	Skills	Attitude
<p>Communication & Language Development</p> <ul style="list-style-type: none"> Understanding – follow instructions with several ideas or actions <p>Physical Development</p> <ul style="list-style-type: none"> Moving and handling <p>Mathematics Development</p> <ul style="list-style-type: none"> Solving problems <p>Making Relationships</p> <ul style="list-style-type: none"> Play cooperatively taking turns <p>Understanding the world -</p> <ul style="list-style-type: none"> Technology Recognise that a range of technology is used in places such as homes and schools Select and use technology for particular purposes <p>Expressive arts & design</p> <ul style="list-style-type: none"> Exploring & using media and Materials <p>Being imaginative</p>	<p>Computer Science</p> <ul style="list-style-type: none"> Ask the children to ‘program’ each other to find hidden objects (programming) Play Simon Says (algorithms/debugging) <p>Ask the children to come up with a set of instructions (pictures of arrows) to navigate a partner around a simple obstacle course in PE (algorithms)</p> <ul style="list-style-type: none"> Take a simple ‘problem’ and split it into smaller steps – e.g. to dress a teddy (computational thinking - decomposition) <p>Information Technology</p> <ul style="list-style-type: none"> Encourage children to operate devices and equipment in school, sometimes with adult support Tour the school photographing the various ICT equipment Encourage children to speculate about why things happen or how things work Model and enable the use of real and imaginary technologies, including online tools <p>Digital Literacy</p> <ul style="list-style-type: none"> Ask the children to match images to a Sound Supervise the children choosing appropriate images for a specific purpose (e.g. images of trains) Provide opportunities for children to represent/express ideas & feelings using technology Listen to stories, music, watch animations using digital devices 	<ul style="list-style-type: none"> Understand that the internet can be used to play and learn Understand to take turns when using technology Know that care is needed when using equipment

Reception

Knowledge	Skills	Attitude
<p>Communication & Language Development</p> <ul style="list-style-type: none"> Understanding – follow instructions with several ideas or actions <p>Physical Development</p> <ul style="list-style-type: none"> Moving and handling <p>Mathematics Development</p> <ul style="list-style-type: none"> Solving problems <p>Making Relationships</p> <ul style="list-style-type: none"> Play cooperatively taking turns <p>Understanding the world -</p> <ul style="list-style-type: none"> Technology Recognise that a range of technology is used in places such as homes and schools Select and use technology for particular purposes <p>Expressive arts & design</p> <ul style="list-style-type: none"> Exploring & using media and Materials Being imaginative 	<p>Computer Science</p> <ul style="list-style-type: none"> Record instructions for friends (programming) Listen to and follow recorded instructions Explore playing with programmable toys (e.g. Beebots, remote controlled cars etc.) (programming) Use simple software applications to make something happen (e.g. BeeBot iPad app) <p>Information Technology</p> <ul style="list-style-type: none"> Provide opportunities for children to use a range of devices such as cameras, mobile devices, audio recording devices Enable children interact with computer systems using different inputs – e.g. by using a mouse, voice, speech or touch Ask the children to use a keyboard to copy or write a title or caption for work Discuss how technology is used at school and at home Model how to and support the saving and retrieval of children’s work <p>Digital Literacy</p> <ul style="list-style-type: none"> Provide opportunities for children to explore a range of computer applications, e.g. drawing apps, age appropriate games etc. Follow shortcuts, favourites or weblinks to explore simple websites Model using web pages to find things out Play with imaginary technologies in role-play 	<ul style="list-style-type: none"> Understand that a password protects a device from someone else using it Understand that an adult should be present when they access online material Know who to go to for help if they need it when using the world wide web

Year 1

Knowledge	Skills	Attitude
<ul style="list-style-type: none">• can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.• Can use common uses of information technology.	Computer Science <ul style="list-style-type: none">• Explore and understand what algorithms are• Create simple programs	<ul style="list-style-type: none">• Are responsible users of information and communication technology.• To use technology safely and respectfully.• keeping personal information private.
	Information Technology <ul style="list-style-type: none">• Use technology purposefully to create digital content• Use technology purposefully to store digital content• Use technology purposefully to retrieve digital content	
	Digital Literacy <ul style="list-style-type: none">• Use technology safely• Keep personal information private• Recognise common uses of information technology beyond school	

Year 2

Knowledge	Skills	Attitude
<ul style="list-style-type: none"> • 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. 	<p>Computer Science</p> <ul style="list-style-type: none"> • Understand that algorithms are implemented as programs on digital devices • Understand that programs execute by following precise and unambiguous instructions • Debug simple programs • Use logical reasoning to predict the behaviour of simple programs 	<ul style="list-style-type: none"> • Are responsible users of information and communication technology. • To use technology safely and respectfully. • keeping personal information private.
	<p>Information Technology</p> <ul style="list-style-type: none"> • Use technology purposefully to organise digital content • Use technology purposefully to manipulate digital content 	
	<p>Digital Literacy</p> <ul style="list-style-type: none"> • Use technology respectfully • Identify where to go for help and support when they have concerns about content or contact 	

Year 3

Knowledge	Skills	Attitude
<ul style="list-style-type: none"> • 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 	Computer Science <ul style="list-style-type: none"> • Write programs that accomplish specific goals • Use sequence in programs • Work with various forms of input • Work with various forms of output 	<ul style="list-style-type: none"> • Are responsible users of information and communication technology. • Are competent and users of information and communication technology. • 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.
	Information Technology <ul style="list-style-type: none"> • Use search technologies effectively • Use a variety of software to accomplish given goals • Collect information • Design and create content • Present information 	
	Digital Literacy <ul style="list-style-type: none"> • Use technology responsibly • Identify a range of ways to report concerns about contact 	

Year 4

Knowledge	Skills	Attitude
<ul style="list-style-type: none"> • 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 	<p>Computer Science</p> <ul style="list-style-type: none"> • Design programs that accomplish specific goals • Design and create program • Debug programs that accomplish specific goals • Use repetition in programs • Control or simulate physical systems • Use logical reasoning to detect and correct errors in programs • Understand how computer networks can provide multiple services, such as the world wide web • Appreciate how search results are selected 	<ul style="list-style-type: none"> • Are responsible users of information and communication technology. • Are competent and users of information and communication technology. • 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.
	<p>Information Technology</p> <ul style="list-style-type: none"> • Select a variety of software to accomplish given goals • Select, use and combine internet services • Analyse information • Evaluate information • Collect data • Present data 	
	<p>Digital Literacy</p> <ul style="list-style-type: none"> • Understand the opportunities computer networks offer for communication • Identify a range of ways to report concerns about content • Recognize acceptable / unacceptable behaviour 	

Year 5

Knowledge	Skills	Attitude
<ul style="list-style-type: none"> • 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 	<p>Computer Science</p> <ul style="list-style-type: none"> • Solve problems by decomposing them into smaller parts • Use selection in programs • Work with variables • Use logical reasoning to explain how some simple algorithms work • Use logical reasoning to detect and correct errors in algorithms • Understand computer networks including the internet • Appreciate how search results are ranked 	<ul style="list-style-type: none"> • Are responsible users of information and communication technology. • Are competent and users of information and communication technology. • To use technology safely and respectfully. • keeping personal information private. • identify where to go for help and support when they have
	<p>Information Technology</p> <ul style="list-style-type: none"> • Combine a variety of software to accomplish given goals • Select use and combine software on a range of digital devices • Analyse data • Evaluate data • Design and create systems 	
	<p>Digital Literacy</p> <ul style="list-style-type: none"> • Understand the opportunities computer networks offer for collaboration • Be discerning in evaluating digital content 	

Year 6

Knowledge	Skills	Attitude
<ul style="list-style-type: none"> • 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 	<p>Computer Science</p> <ul style="list-style-type: none"> • Use computational abstractions • Model state of real world problems • Use a programming language to solve computational problems • Understand simple Boolean logic • Understand how numbers can be represented in binary • Understand the hardware components that make up computer systems • Understand how text can be represented digitally in the form of binary digits • Understand how pictures can be represented digitally in the form of binary digits 	<ul style="list-style-type: none"> • Are responsible users of information and communication technology. • Are competent and users of information and communication technology. • 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 Information other online technologies.
	<p>Information Technology</p> <ul style="list-style-type: none"> • Undertake creative projects with challenging goals • Use multiple applications • [Work with] applications across a range of devices • Collect data 	
	<p>Digital Literacy</p> <ul style="list-style-type: none"> • Understand a range of ways to use technology respectfully • Recognise inappropriate content • Recognise inappropriate contact • Recognise inappropriate conduct • Know how to report concerns • Reuse digital artefacts for a given audience • Attend to usability of digital artefacts • Understand a range of ways to use technology safely 	