Curriculum Model for Computing

Possibilities *This driver helps pupils to build aspirations and identify available opportunities for their future lives*	**Initiative** *This driver helps pupils to grow as independent learners and develops resourcefulness in a variety of situations*	**Community & Environment** *This driver develops a sense of belonging and nurtures curiosity about, and empathy for, local, national and global issues*	**Health & Well-being** *This driver underpins every aspect of our curriculum. It helps to guide children's life choices and nurtures emotional growth*
Digitally literate Use, express and develop ideas through ICT	Decision making Logical reasoning – predicting behaviour of simple programmes	Active participation in a digital world Collaboration	Keeping safe online Screen time management

Characteristics of a computer network specialist

- Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- An understanding of the connected nature of devices.
- The ability to communicate ideas well by using applications and devices throughout the curriculum.
- The ability to collect, organise and manipulate data effectively.

At the end of Key Stage One the children will know …

- what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.
- how to write and test simple programs.
- how to reason logically and predict the behaviour of simple programs.
- how to organise, store, manipulate and retrieve data in a range of digital formats.
- how to communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school.

The children will be able to …

Communicate
Understand online risks and the age rules for sites
Use a range of applications and devices in order to communicate ideas, work and messages.

Collect
Use simple databases to record information in areas across the curriculum

Connect
Understand online risks and the age rules for sites.

Code
Control motion by specifying the numbers of steps to travel, direction and turn.
Add text strings, show and hide objects, and change the features of an object.
Select sounds and control when they are heard, their duration and volume.
Control when drawings appear and set the pen colour, size and shape.
Specify user inputs (such as clicks) to control events.
Specify the nature of events (such as a single event or a loop.
Create conditions for actions by waiting for user input (such as responses to questions like: What is your name?).

		Milestone 1		
		Basic	**Advancing**	**Deep**
To communicate		• Online activity is closely monitored by a teacher • With guidance, a range of devices and apps are used to communicate with others.	• There is some awareness of some online risks. • There is a growing awareness of a range of devices and apps that are used to communicate with others	• There is a growing awareness of some of the rules in place to minimise online risks. • There is a good understanding of a wide range of devices and apps that can be used to communicate with others.
To collect		• With the support of a teacher, simple databases are used.	• There is a growing awareness of how databases are used.	• Many good examples of using databases across the curriculum are developing.
To connect		• With the support of a teacher, some of the risks posed by online sites are explored.	• 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.
To code	Motion	• With support from a teacher, basic movement is controlled.	• Generally, steps and direction of turn are understood.	• Precise movement is achieved using basic instructions.
	Looks	• With the support of a teacher, the basic features of an object are altered.	• There is some experimentation with variables to change the basic features of an object.	• There is a good understanding of how to change the basic features of an object.
	Sound	• With the support of structured activities, sounds are controlled.	• There is some experimentation with controlling sound.	• There is a good understanding of how to control sound.
	Draw	• With the support of structured activities, drawings are created.	• There is some experimentation with controlling draw tools.	• There is a good understanding of how to control draw tools.
	Events	• With the support of structured activities, user inputs are specified.	• There is some experimentation with user inputs to control events.	• There is a good understanding of how to control events by specifying user inputs.
	Control	• With the support of a teacher, the nature of events is specified.	• There is some experimentation with specifying the nature of events.	• There is a good understanding of how and when to specify the nature of events.
	Sensing	• With the support of a teacher, user responses are explored.	• There is some experimentation with the nature of user responses and the required user inputs.	• There is a good understanding of how to seek a user response in a range of situations.