



# Two Mile Ash School Computing



# INTENT

National Curriculum

**Confident Individuals**

**Responsible Citizens**

**Successful Learners**

The computing curriculum at Two Mile Ash aims to give all children the opportunity to build skills that will support them in the future. They will be able to embrace and utilise technology effectively and safely in order to develop their learning within the subject. We want pupils to be able to develop life skills that give them the opportunity to adapt their knowledge to everyday life, where technology is integrated into the world around them.

Children will become more autonomous and confident learners with their use of technology through the implementation of a whole school curriculum offer allowing them to access more devices and aspects of technology that is embedded in an interdisciplinary way. We encourage our staff to adapt their lessons to meet the needs of their children, accordingly, allowing all children to be included and successful learners.

An integral part of computing at TMA is being able to stay safe online, equipping our children with the knowledge they need to make the best use of the internet and technology in a safe, considered and respectful way, so they are able to reap the benefits of the online world.

Computing at Two Mile Ash is not only taught as a stand-alone lesson but presents the opportunity to enrich other subjects across the curriculum, giving them the tools to best express their understanding of their learning. This ensures that our children become digitally literate – able to use, and express themselves through communication technology as active participants in a digital world.

# Essential Objectives (Our End Points)

What we want children to be able to do or know by the time they leave.

**Confident Individuals**

**Responsible Citizens**

**Successful Learners**

## Essential Objectives

### Computing

- To Code

- To Connect

- To Communicate

- To Collect

# Long Term Plan (What's taught when)

<p>MILESTONE 2</p> <p>Autumn Term</p>	<p>MILESTONE 2</p> <p>Spring Term</p>	<p>MILESTONE 2</p> <p>Summer Term</p>
<p><b><u>Year 3 Digital Citizenship (e-safety)</u></b></p> <ul style="list-style-type: none"> <li>• Use technology safely, respectfully and responsibly</li> <li>• Understand the importance of communicating safely online</li> <li>• Understand how to respond when concerned with content or contact on the internet</li> <li>• Understand the need to check information</li> </ul> <p><b><u>Digital Literacy (basic skills)</u></b></p> <ul style="list-style-type: none"> <li>• Uses technology and digital content successfully</li> <li>• Understand how computers function</li> </ul> <p><b><u>Year 4 Digital Citizenship (e-safety)</u></b></p> <ul style="list-style-type: none"> <li>• Use technology safely, respectfully and responsibly</li> <li>• Understand the importance of communicating safely online</li> <li>• Understand how to respond when concerned with content or contact on the internet</li> <li>• Understand the need to check information</li> </ul> <p><b><u>Autumn 2:</u></b></p> <p><b><u>EO: To Code:</u></b></p> <ul style="list-style-type: none"> <li>• To understand what animation is</li> <li>• To create a scene for an animation</li> <li>• Use specified screen coordinates to control movement.</li> <li>• Create and edit sounds. Control when they are heard, their volume, duration and rests.</li> </ul> <p><b><u>EO: To Communicate:</u></b></p>	<p><b><u>Year 3</u></b></p> <p><b><u>Spring 1</u></b></p> <p><b><u>EO: To Connect:</u></b></p> <ul style="list-style-type: none"> <li>• Understand how online services work.</li> <li>• Understand the term 'copyright'.</li> </ul> <p><b><u>EO: To Communicate</u></b></p> <ul style="list-style-type: none"> <li>• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> </ul> <p><b><u>Spring 2</u></b></p> <p><b><u>EO: To Code</u></b></p> <ul style="list-style-type: none"> <li>• Use specified screen coordinates to control movement.</li> <li>• Create and edit sounds. Control when they are heard, their volume, duration and rests.</li> <li>• Control the shade of pens.</li> <li>• Use IF THEN conditions to control events or objects.</li> </ul> <p><b><u>Year 4</u></b></p> <p><b><u>Spring 1</u></b></p> <p><b><u>EO: To Code</u></b></p> <ul style="list-style-type: none"> <li>• Use specified screen coordinates to control movement.</li> <li>• Create and edit sounds. Control when they are heard, their volume, duration and rests.</li> <li>• Control the shade of pens.</li> <li>• Use IF THEN conditions to control events or objects.</li> </ul>	<p><b><u>Year 3</u></b></p> <p><b><u>Summer 1</u></b></p> <p><b><u>EO: To collect</u></b></p> <ul style="list-style-type: none"> <li>• Devise and construct databases using applications designed for this purpose in areas across the curriculum.</li> </ul> <p><b><u>Summer 2</u></b></p> <p><b><u>EO: To Code</u></b></p> <ul style="list-style-type: none"> <li>• Events: Specify conditions to trigger events.</li> <li>• Sensing: 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).</li> <li>• Variables and lists: Use variables to store a value.</li> <li>• Use the functions define, set, change, show and hide to control variables.</li> </ul> <p><b><u>Year 4</u></b></p> <p><b><u>Summer 1</u></b></p> <p><b><u>EO: To collect</u></b></p> <ul style="list-style-type: none"> <li>• Devise and construct databases using applications designed for this purpose in areas across the curriculum.</li> </ul> <p><b><u>Summer 2</u></b></p> <p><b><u>EO: To connect</u></b></p> <ul style="list-style-type: none"> <li>• Understand that comments made online that are hurtful or offensive are the same as bullying.</li> </ul>

<ul style="list-style-type: none"> <li>• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> </ul>	<p><b><u>EO: To communicate:</u></b></p> <ul style="list-style-type: none"> <li>• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> </ul> <p><b><u>Spring 2</u></b></p> <p><b><u>EO: To Code</u></b></p> <ul style="list-style-type: none"> <li>• Use specified screen coordinates to control movement.</li> <li>• Create and edit sounds. Control when they are heard, their volume, duration and rests.</li> <li>• Set the appearance of objects and create sequences of changes</li> <li>• Specify conditions to trigger events.</li> <li>• Create conditions for actions by sensing proximity or by waiting for a user input</li> </ul> <p><b><u>EO: To communicate:</u></b></p> <ul style="list-style-type: none"> <li>• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how online services work.</li> <li>• Give examples of the risks posed by online communications.</li> </ul> <p><b><u>EO: To communicate</u></b></p> <ul style="list-style-type: none"> <li>• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> </ul>
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MILESTONE 3 Autumn Term	MILESTONE 3 Spring Term	MILESTONE 3 Summer Term
<p><b><u>Year 5 Digital Citizenship (e-safety)</u></b></p> <ul style="list-style-type: none"> <li>• Use technology safely and responsibly</li> <li>• Understand the importance of communicating safely online</li> <li>• Understand how to respond when concerned with content or contact on the internet</li> <li>• Understand the need to check information</li> </ul> <p><b><u>Information Technology (blogging)</u></b></p> <ul style="list-style-type: none"> <li>• Understand the importance of communicating safely online Use technology safely and responsibly</li> <li>• Uses technology and digital content successfully</li> <li>• Uses software to create, manipulate and present digital content</li> <li>• Understands the potential for information technology for collaboration when computers are networked</li> <li>• Evaluate the successfulness of solutions</li> </ul> <p><b><u>Digital Literacy</u></b></p> <ul style="list-style-type: none"> <li>• Use search technologies Understand networks and the internet</li> </ul> <p><b><u>Year 6 – Autumn 1</u></b></p> <p><b><u>EO: To Connect – E-safety</u></b></p> <ul style="list-style-type: none"> <li>• Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.</li> <li>• Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission from the copyright holder.</li> <li>• Understand the effect of the online comments and show responsibility and sensitivity when online.</li> </ul>	<p><b><u>Year 5</u></b></p> <p><b><u>Spring 1 - iCrypto</u></b></p> <p><b><u>EO: To communicate:</u></b></p> <ul style="list-style-type: none"> <li>• Choose the most suitable application and devices for the purpose of communication.</li> <li>• Use many of the advanced features in order to create high-quality, professional or efficient communications.</li> </ul> <p><b><u>Spring 2 - iWeb</u></b></p> <p><b><u>EO: To connect</u></b></p> <ul style="list-style-type: none"> <li>• Understand how simple networks are set up and used.</li> </ul> <p><b><u>EO: To Code:</u></b></p> <ul style="list-style-type: none"> <li>• Use the Boolean operators ()&lt;() ()=() ()&gt;() ()and() ()or() not() to define conditions.</li> </ul> <p><b><u>Year 6 – iData</u></b></p> <p><b><u>Spring 1</u></b></p> <p><b><u>EO: To collect:</u></b></p> <ul style="list-style-type: none"> <li>• Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.</li> </ul> <p><b><u>INetwork</u></b></p> <p><b><u>Spring 2</u></b></p> <p><b><u>EO: To Communicate:</u></b></p> <ul style="list-style-type: none"> <li>• Choose the most suitable applications and devices for the purposes of communication.</li> <li>• Use many of the advanced features in order to create high quality, professional or efficient communications.</li> </ul>	<p><b><u>Year 5</u></b></p> <p><b><u>Summer 1 – iProgram (Unit1) - Scratch</u></b></p> <p><b><u>EO: To code</u></b></p> <p><b><u>Summer 2 – iDraw</u></b></p> <p><b><u>EO: To code</u></b></p> <ul style="list-style-type: none"> <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> </ul> <p><b><u>Year 6 -I program unit 2</u></b></p> <p><b><u>EO: To code</u></b></p> <ul style="list-style-type: none"> <li>• Set IF conditions for movements. Specify types of rotation giving the number of degrees.</li> <li>• Change the position of objects between screen layers (send to back, bring to front).</li> <li>• Combine the use of pens with movement to create interesting effects.</li> <li>• Use IF-THEN-ELSE conditions to control events.</li> <li>• Variables and lists: Use list to create a set of variables.</li> <li>• Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.</li> </ul> <p><b><u>IApp</u></b></p> <p><b><u>EO: To code</u></b></p>

<p><b><u>Autumn 2</u></b> <b><u>EO: To Code</u></b></p> <ul style="list-style-type: none"> <li>• Set events to control other events by 'broadcasting' information as a trigger.</li> <li>• Use IF-THEN-ELSE conditions to control events.</li> <li>• Use list to create a set of variables.</li> <li>• Use the Boolean operators ()&lt;() ()=() ()&gt;() ()and() ()or() not() to define conditions.</li> <li>• Set IF conditions for movements. Specify types of rotation giving the number of degrees.</li> <li>• Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.</li> </ul>	<p><b><u>EO: To connect:</u></b></p> <ul style="list-style-type: none"> <li>• Understand how simple networks are set up and used.</li> </ul>	<ul style="list-style-type: none"> <li>• Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.</li> <li>• Use list to create a set of variables.</li> <li>• Change the position of objects between screen layers (send to back, bring to front).</li> <li>• Combine the use of pens with movement to create interesting effects</li> <li>• Set events to control other events by 'broadcasting' information as a trigger.</li> <li>• Use IF-THEN-ELSE conditions to control events.</li> <li>• Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.</li> <li>• Use list to create a set of variables.</li> </ul>
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# Progression of Knowledge and Skills

## Essential Objective: To code

	MILESTONE 1 - End of Year 2		MILESTONE 2 - End of Year 4	MILESTONE 3 - End of Year 6
Motion	Skill	<ul style="list-style-type: none"> <li>Control motion by specifying the number of steps to travel, direction and turn.</li> </ul>	<ul style="list-style-type: none"> <li>Use specified screen coordinates to control movement.</li> </ul>	<ul style="list-style-type: none"> <li>Set IF conditions for movements. Specify types of rotation giving the number of degrees.</li> </ul>
Looks	Skill	<ul style="list-style-type: none"> <li>Add text strings, show and hide objects and change the features of an object.</li> </ul>	<ul style="list-style-type: none"> <li>Set the appearance of objects and create sequences of changes.</li> </ul>	<ul style="list-style-type: none"> <li>Change the position of objects between screen layers (send to back, bring to front).</li> </ul>
Sound	Skill	<ul style="list-style-type: none"> <li>Select sounds and control when they are heard, their duration and volume.</li> </ul>	<ul style="list-style-type: none"> <li>Create and edit sounds. Control when they are heard, their volume, duration and rests.</li> </ul>	<ul style="list-style-type: none"> <li>Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.</li> </ul>
Draw	Skill	<ul style="list-style-type: none"> <li>Control when drawings appear and set the pen colour, size and shape.</li> </ul>	<ul style="list-style-type: none"> <li>Control the shade of pens.</li> </ul>	<ul style="list-style-type: none"> <li>Combine the use of pens with movement to create interesting effects.</li> </ul>
Events	Knowledge	<ul style="list-style-type: none"> <li>Specify user inputs (such as clicks) to control events.</li> </ul>	<ul style="list-style-type: none"> <li>Specify conditions to trigger events.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to set events to control other events by 'broadcasting' information as a trigger.</li> </ul>
Control	Knowledge	<ul style="list-style-type: none"> <li>Specify the nature of events (such as a single event or a loop).</li> </ul>	<ul style="list-style-type: none"> <li>Know how to use IF THEN conditions to control events or objects.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to use IF THEN ELSE conditions to control events or objects.</li> </ul>
Sensing	Skill	<ul style="list-style-type: none"> <li>Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).</li> </ul>	<ul style="list-style-type: none"> <li>Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or</li> </ul>	<ul style="list-style-type: none"> <li>Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.</li> </ul>



			a line or responses to questions).	
Variables & Lists	Skill	• From Year 3 onwards.	Use variables to store a value. • Use the functions define, set, change, show and hide to control the variables.	• Use lists to create a set of variables
Operators	Knowledge	• From Year 3 onwards.	• Know how to use the Reporter operators () + () () - () () * () () / () to perform calculations.	• Know how to: Use the Boolean operators () < () () = () () > () () and() () or() Not() to define conditions. 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 ().

# Yr4 Spring 2 iProgram Unit4 Knowledge Organiser



## Essential Objectives:

- To code
- To communicate

## Key vocabulary

custom block - a script that runs whenever you use the block

procedure - the blocks you put together

computational thinking - pattern recognition. Looking for similarities between and within problems and solutions.

broadcast - it is a message that is sent to one or more sprites. The message is used to trigger a script to run.

backdrop - is an image that can be shown on the Stage

synchronise - to make things happen in the order we want

remix - to modify someone else's project to add your own ideas; the resulting project is called a "remix".

## How Scratch broadcasts work



when this sprite clicked  
broadcast fly



when I receive fly  
move 10 steps  
next costume

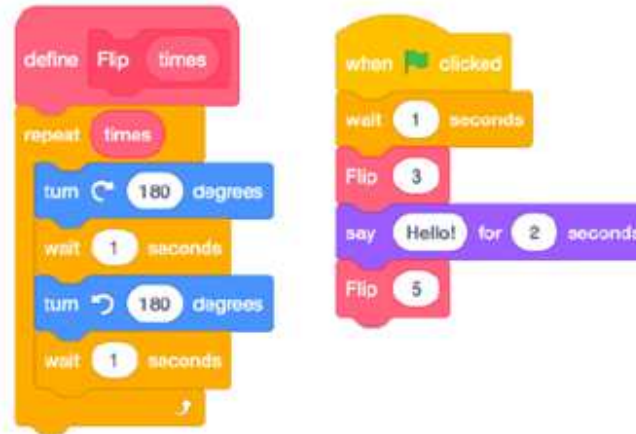
## COMPUTING KNOWLEDGE

Understand the need to reuse code in programming

Know that action can be programmed to synchronise

Understand that broadcast can be used to change scenes in Scratch

Know that code can be remixed and reused to create new content



## Cross curricular knowledge links:

- English - Storytelling - Spiderwick



# SCRATCH



## COMPUTING SKILLS

To create custom blocks (procedures) in Scratch

To change scenes in Scratch

To create a project with changing backdrops

To detect and correct errors in a number of computer program

To develop a collaborative storytelling project

Link From	Link To
<b>Year 3 -</b> <u>iProgram</u> Unit 1 - use sequence, selection and repetition in programs (Scratch) <u>iAlgorithm</u> - sorting and splitting. How problems can be solved.	<b>Year 5 -</b> <u>iProgram</u> - designing and developing computer games. To use conditional (if) statements. To use variables in programs

# Yr. 6 Spring 1 Computing Knowledge Organiser



A	B	C	D	E	F	G
Packed Lunches						
1						
2						
3	20	rice cakes	at	£0.20	each	will cost £6.00
4	10	cartons of apple juice	at	£0.47	each	will cost £4.70
5	30	oranges	at	£0.36	each	will cost £11.40
6	4	packets of crisps	at	£0.30	each	will cost £1.20
7	1	sandwiches	at	£0.55	each	will cost £0.55
8	7	biscuits	at	£0.17	each	will cost £1.19
9						
10						
11	Altogether I will spend					£24.04

## Essential Objective:

To collect

Sum	Symbol Used in a Spreadsheet	Example
Adding	+	= A1 + B2
Subtracting	-	= A1 - B2
Multiplying	*(star)	= A1 * B2
Dividing	/	= A1 / B2

## Key Vocabulary

<b>Spreadsheet Worksheet</b>	Data arranged in columns and rows
<b>Column</b>	The rows and columns that make up a spreadsheet
<b>Row</b>	A vertical set of cells
<b>Cell</b>	A horizontal set of cells
<b>Cell reference</b>	An individual entry in a spreadsheet
<b>Data</b>	The column letter and row number that identifies a specific cell information stored in a cell (e.g. values, formulas, functions, labels, images)
<b>Formula</b>	A sequence inside a cell used to produce a value
<b>Range</b>	A set of cells across rows and/or columns
<b>SUM</b>	Add up the values in one or more cells

## KNOWLEDGE

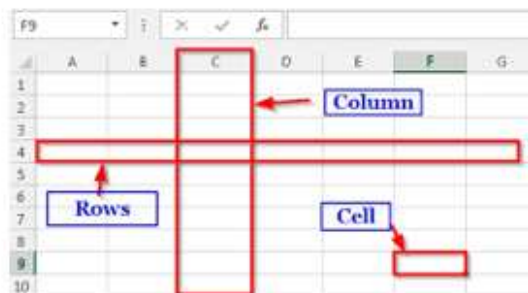
Understand and explain what spreadsheets can be used for and why they are effective for numerical data.

Know how to enter a formula to calculate totals.

Know that graphs and charts can be created and easily be changed from spreadsheet data.

Understand what the SUM function can be used for.

Explain how to use a spreadsheet to model a costing exercise.



### Cross curricular knowledge links:

Maths - multiplication, addition, division, subtraction and problem solving. Budgeting.



## Key Questions

What is the cell reference of this data?	E.g. A3
What formula did you use to calculate this value?	E.g. =SUM(J1:J9)
What information does graph/chart represent?	E.g. sport preferences in the class
What questions can be answered using this graph/chart?	E.g. How much snacks cost for a party
What data could you change to test different possibilities? e.g. modelling the cost of a party	E.g. number of people, type of snacks, number of snacks, price of each item

### Link From



**Y4-** Devise and construct applications designed for this purpose in areas across the curriculum.

### Link To



**K53-** selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users.

# Vocabulary Progression

MILESTONE 2 - End of Year 4			MILESTONE 3 - End of Year 6		
Year 3 Autumn	Year 3 Spring	Year 3 Summer	Year 5 Autumn	Year 5 Spring	Year 5 Summer
Password	World wide web	Field	Reputation	Cryptography	Sequence
Username	Network	Record	Unreliable	Encrypt	Selection
Privacy	Internet	Data	Reliable	Decrypt	Condition
Internet	Hyperlink	Database	2-step verification	Cipher	Repeat
Unreliable	Search	Search	Social media	Key	Boolean
Phishing	URL	Sort	Avatar	Shift	Variable
Secure	IP Address	Simulation	Phishing	Binary	Coordinates
Technology	Web Browser	Rules	Personal details	Frequency Analysis	x-y axis
Search engine	Copyright	Choice	Digital footprint	World Wide web	
QWERTY	Program	Variables	Plagiarism	HTML	
Keyboard	Sequence		Copyright	CSS	
Touch typing	Selection		Blog	Element	
Bold	Repeat		URL	Tags	
Italics	Coordinates		Reference		
Underline	x-y axis		Editing		
Formatting	Import		Upload		
Highlighting	Test		Publish		
Saving	Debug		Applications		
Cutting			Broadcasting		
Pasting			Code		
Inserting			Coding		
			Sprite		
			Blocks		
			Soundbite		
			Clip		



<b>Year 4 Autumn</b>	<b>Year 4 Spring</b>	<b>Year 4 Summer</b>
Digital citizen	Program	data
Reputation	Sequence	database
Private	Selection	record
Personal	Condition	file
Register	Repeat	field
Identity thief	Test	search
Phishing	Debug	sort
Privacy	Custom block	chart
Reliable	Procedure	binary
Search Engine	Computational Thinking	
Animation	Broadcast	email
Frame	Backdrop	to
Frame Rate	Synchronise	from
Frames per second - FPS	Remix	attachment
CGI		inbox
		server
		telecommunications

Tempo		
Fading		
Manipulate		
Filter		
<b>Year 6 Autumn</b>	<b>Year 6 Spring</b>	<b>Year 6 Summer</b>
Internet	Spreadsheet	Sequence
Posts	Worksheet	Selection
Risk	Column	Condition
Platform	Row	Repeat
Emotion	Cell	Boolean
Apps - Instagram, twitter, tiktok	Cell reference	Variable
Sequence	Data	Procedure
Selection	Formula	Test
Condition	Range	Debug
Repeat	SUM	App
Boolean	Network	Component
Variable	Router	Program
Procedure	Internet	Code
Test	World Wide Web	Operating system
Debug	IP address	Event
	URL	Algorithm
	Data	Coordinate
	Packet	Interface
	Search Engine	Bug
	Rank	Systematically
	HTML	

## Assessment Criteria



# Computing Milestone 2



### COMPUTING - MILESTONE 2 Essential Objective: To code (using Scratch)

KEY INDICATORS	BASIC (Y3 WA, Y4 WT)	ADVANCING (Y3 GD, Y4 WA)	DEEP (Y4 GD)
Motion: Use specified screen coordinates to control movement.	There is some awareness that movement may be controlled around specified screen coordinates.	There is some experimentation with controlling movement around specified screen coordinates.	There is a good understanding that screen coordinates may be used to control movement.
Looks: 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.	There is experimentation with setting the appearance of objects and sequences of changes.	There is a good understanding of how to set the appearance of objects and in creating sequences of changes.
Sounds: Create and edit sounds. Control when they are heard, their volume, duration and rests.	There is some awareness of how to create and edit sound	There is experimentation with creation and editing of sound.	There is a good understanding of how to create and edit sound.
Draw: Control the shade of pens.	There is some awareness that shape of tools may be altered.	There is experimentation with altering the shape of tools.	There is a good understanding of how to alter the shape of tools to create different effects.
Events: Specify conditions to trigger events.	There is some awareness of triggers for events.	There is experimentation with various triggers for events.	There is a good understanding of how to specify triggers for events.
Control: Use IF-THEN conditions to control events or objects.	There is some awareness that IF-THEN conditions may be set.	There is some experimentation with IF_THEN conditions.	There is a good understanding of how to use IF-THEN conditions.
Sensing: 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.	There is some experimentation with sensing proximity of user input to trigger actions.	There is a good understanding that proximity and user inputs may be used to trigger actions.

Variables and lists: Use variables to store a value.	Some awareness of the term 'variable' that variables may be set to store a value.	There is some experimentation with using variables to store a value.	The term variable is understood, and used to store a value.
Use the functions define, set, change, show and hide to control variables.	There is some awareness of the functions to control variables.	There is some experimentation with controlling variables.	There is good understanding of how and when to use functions to control variables.
Operators: Use the Reporter operators (+)(-)(/)(*) To perform calculations.	Some calculations are performed using basic reporter operations.	Calculations using basic reporter operations are generally accurate.	Accurate and well applied calculations are performed using basic reporter operations.

COMPUTING - MILESTONE 2 Essential Objective: To communicate			
KEY INDICATORS	BASIC (Y3 WA, Y4 WT)	ADVANCING (Y3 GD, Y4 WA)	DEEP (Y4 GD)
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.	There is some interesting experimentation with formats and styles for communicating ideas.	There is a good understanding that ideas need to be presented in interesting and easy-to understand formats.

COMPUTING - MILESTONE 2 Essential Objective: To collect			
KEY INDICATORS	BASIC (Y3 WA, Y4 WT)	ADVANCING (Y3 GD, Y4 WA)	DEEP (Y4 GD)
Devise and construct databases using applications designed for this purpose in areas across the curriculum.	There are some attempts to devise databases.	There are some good examples of databases creations across the curriculum.	There are many good examples of well-planned databases that have been created across the curriculum.

COMPUTING - MILESTONE 2 Essential Objective: To connect			
KEY INDICATORS	BASIC (Y3 WA, Y4 WT)	ADVANCING (Y3 GD, Y4 WA)	DEEP (Y4 GD)
Give examples of the risks posed by online communications.	Some examples of online risks are offered, when questioned.	Whilst online, there is growing awareness of how to keep safe.	Many good examples of how to keep safe whilst online are provided.
Understand the term 'copyright'.	There is some awareness of the term 'copyright' and what it means.	The term 'copyright' is generally understood.	The term 'copyright' is understood and the understanding of its meaning applied to a number of contexts.

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.	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.
To 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.	There is some awareness of how online services work.	There is a growing understanding of how familiar online services work.	Many good examples of how online services work are provided.



## Computing Milestone 3



### COMPUTING - MILESTONE 3 Essential Objective: To code (using Scratch)

KEY INDICATORS	BASIC (Y5 WA, Y6 WT)	ADVANCING (Y5 GD, Y6 WA)	DEEP (Y6 GD)
Motion: Set IF conditions for movements. Specify types of rotation giving the number of degrees.	There is some experimentation with conditions and degrees of movement.	There is some good examples of the use of conditions and degrees of movement.	There are many well-executed examples of the use of conditions and degrees of movements.
Looks: Change the position of objects between screen layers (send to back, bring to front).	There is some experimentation with screen layers.	There are some good examples of effective manipulation of objects between screen layers.	Screen layers are used effectively to control the position and visibility of objects.
Sound: Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.	There is some experimentation with importing and editing sounds.	There are some good examples of importing and editing sounds.	There is a good understanding of the process of sound import and subsequent editing of the sound to create interesting effects.
Draw: Combine the use of pens with movement to create interesting effects.	There is some experimentation with combining tools with movement.	Some interesting effects are gained through combining tools with movement.	Some excellent effects are gained through well-planned combinations of tools and movement.



Events: Set events to control other events by 'broadcasting' information as a trigger.	There is some awareness of how to broadcast events.	There are some good examples of broadcast events.	There are many very good examples of choosing, using and explaining broadcast events.
Control: Use IF-THEN-ELSE conditions to control events.	There is some awareness of the use of IF-THEN-ELSE conditions.	There are some good examples of the use IF-THEN-ELSE conditions to control events or objects.	There is thorough understanding of the control conditions IF-THEN-ELSE.
Sensing: 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.	There are some good examples of using a range of sensing tools to control events or actions.	There are many very good well-chosen examples of, with explanations for, the use of sensing tools to control events or actions.
Variables and lists: Use list to create a set of variables.	There are some awareness of how to create a set of variables.	There are some good examples of set of variables in a range of situations.	There is a thorough understanding of how to create and use set of variables.
Operators: Use the Boolean operators ( )<( ) ( )=( ) ( )>( ) ( )and( ) ( )or( ) not( ) to define conditions.	There is some understanding of the use of Boolean operators to define conditions.	There are some good examples of Boolean operators to define conditions.	There is thorough understanding of the use of operators to perform calculations and to refine the reporting of results.
Use the reporter operators ( )=( ) ( )-( ) ( )*( ) ( )/( ) To perform calculations. Pick random ( ) to ( ) join ( ) ( ) Mod ( ) (this reports the remainder after division calculation). Round ( ) ( ) of ( )	There is some understanding of the use of operators to perform calculations and to refine the reporting of results.	There are some good examples of the use of operators to perform calculations and to refine the reporting of results.	There is a thorough understanding of the use of operators to perform calculations and to refine the reporting of results.

COMPUTING - MILESTONE 3 Essential Objective: To communicate			
KEY INDICATORS	BASIC (Y5 WA, Y6 WT)	ADVANCING (Y5 GD, Y6 WA)	DEEP (Y6 GD)
Choose the most suitable application and devices for the purpose of communication.	Some choices are made in selecting and using apps and devices for communicating ideas.	Good choices are made in selecting and using apps and devices for communicating ideas.	Excellent choices are made in selecting and using apps and devices for communicating ideas.
Use many of the advanced features in order to create high-quality, professional or efficient communications.	Some high-quality work is produced.	There are many examples of high-quality work.	There are widespread and very good examples of high-quality work.

## COMPUTING - MILESTONE 3

### Essential Objective: To collect

KEY INDICATORS	BASIC (Y5 WA, Y6 WT)	ADVANCING (Y5 GD, Y6 WA)	DEEP (Y6 GD)
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.	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.

## COMPUTING - MILESTONE 3

### Essential Objective: To connect

KEY INDICATORS	BASIC (Y5 WA, Y6 WT)	ADVANCING (Y5 GD, Y6 WA)	DEEP (Y6 GD)
Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.	Some examples of risks of online communities and the measures to take to minimise risks are given.	There is 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.
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.	There is good understanding that copyright theft is illegal.	There is a thorough understanding that copyright theft is illegal.
Understand the effect of the online comments and show responsibility and sensitivity when online.	Online comments are responsible and sensitive.	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
Understand how simple networks are set up and used.	There is an awareness of how simple networks are set up and used.	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.