



Key Stage 1 National Curriculum Expectations	Key Stage 2 National Curriculum Expectations
Pupils should be taught to: - understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions; - create and debug simple programs; - use logical reasoning to predict the behaviour of simple programs; - use technology purposefully to create, organise, store, manipulate and retrieve digital content; - recognise common uses of information technology beyond school; - 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.	Pupils should be taught to: - design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts; - use sequence, selection, and repetition in programs; work with variables and various forms of input and output; - use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs; - understand computer networks including the internet; how they can provide multiple services, such as the world wide web, and the <u>opportunities they offer for communication and collaboration</u>; - use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content; - 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; use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

At Thomas Harding Junior School Computing is split into 5 different categories: **E-Safety**, **Programming**, **Multimedia**, **Technology in Our Lives** and **Data Handling**. Below are the end points taken from the National Curriculum.



Unit	E Safety			
	Year 3	Year 4	Year 5	Year 6
Media Balance & Well-Being	To understand when it's appropriate to use technology and when it's not.	To understand the effects of their actions online and to understand online responsibilities.	Children make informed choices about media usage.	To be able to make and follow a personalised plan for healthy media usage.
Privacy & Security	To understand the kinds of information they should keep to themselves when they use the internet.	To be able to make passwords that are secure and memorable.	To understand the difference between what's personal and what's best left private.	To understand how to avoid clickbait online and how companies try to entrap users.
Digital Footprint & Identity	To compare different trails and think critically about what kinds of information they want to leave behind.	To think critically about the online identities they are creating.	To understand how they can contribute to a positive digital reputation, both for themselves and for others.	Learners think critically about how gender stereotypes can affect the ways they view themselves and others.
Relationships & Communication	To think critically about the different ways they connect with others, both in person and online.	To strengthen online communities by creating norms that everyone pledges to uphold.	To understand how to keep their gaming experiences fun, healthy and positive.	To understand both the benefits and the risks of online-only friendships.
Cyberbullying, Digital Drama & Hate Speech	To know how to deal with online meanness when they see it.	To learn strategies to use when confronted with cyberbullying	To know appropriate ways to take action and resolve conflicts,	To understand what is -- and what isn't -- cyberbullying and give

ASPIRE

Thomas Harding Computing End Points

			from being upstanders to helping others in need.	them the tools they'll need to combat the problem.
News & Media Literacy	To understand why it's important to give credit and the right ways to do it when they use words, images or ideas that belong to others.	I think about the reliability of information I read on the World Wide Web evaluating digital content; To understand that not everything is real on the internet and be able to recognise some photos and videos that have been altered digitally. To understand why people alter videos and photos.	To understand about the rights and responsibilities they have when it comes to the images they create and use.	To understand the structure of online news articles.

Data Handling			
Year 3	Year 4	Year 5	Year 6
Data Logging	Branching Database	Flat-file database	Spreadsheets
To explain that data gathered over time can be used to answer questions	To create questions with yes/no answers	To navigate and sort a computer based databases	To identify questions which can be answered using data
To use a digital device to collect data automatically	To create a branching database	To outline how grouping and then sorting data allows us to answer questions	To explain that objects can be described using data

ASPIRE

Thomas Harding Computing End Points

To explain that a data logger collects 'data points' from sensors over time	To explain why it is helpful for a database to be well structured	To explain that tools can be used to select specific data	To explain that formulas can be used to produce calculated data
To use data collected over a long duration to find information	To identify objects using a branching database	To explain that computer programs can be used to compare data visually	To apply formulas to data, including duplicating
To identify the data needed to answer questions		To apply my knowledge of a database to ask and answer real-world questions	To create a spreadsheet to plan an event
To use collected data to answer questions			To choose suitable ways to present data

Programming			
Year 3	Year 4	Year 5	Year 6
To explore a new programming environment	To develop the use of count-controlled loops in a programming environment	To explain how selection is used in computer programs	To define a 'variable' as something that is changeable
To identify that commands have an outcome	To explain that in programming there are infinite loops and count-controlled loops	To relate that a conditional statement connects a condition to an outcome	To explain why a variable is used in a program
To explain that a program has a start	To develop a design that includes two or more loops which run at the same time	To explain how selection directs the flow of a program	To choose how to improve a game by using variables
To recognise that a sequence of commands can have an order	To modify an infinite loop in a given program	To design a program which uses selection	To design a project that builds on a given example
To change the appearance of my project	To design a project that includes infinite loops and count-controlled loops.	To create a program which uses selection	To use my design to create a project

ASPIRE

Thomas Harding Computing End Points

To create a project from a task description	To create a project that includes repetition	To evaluate my program	To evaluate my project
---	--	------------------------	------------------------

Technology in our lives			
Year 3	Year 4	Year 5	Year 6
Connecting Computers	The Internet	Sharing information	Internet communication
To explain how digital devices function	To describe how networks physically connect to other networks	To explain that computers can be connected together to form systems	To identify how to use a search engine
To identify input and output devices	To recognise how networked devices make up the internet	To recognise the role of computer systems in our lives	To describe how search engines select results
To explain how a computer network can be used to share information	To outline how websites can be shared via the World Wide Web (WWW)	To recognise how information is transferred over the internet	To explain how search results are ranked
To explore how digital devices can be connected	To describe how content can be added and accessed on the World Wide Web (WWW)	To explain how sharing information online lets people in different places work together	To recognise why the order of results is important, and to whom
To recognise the physical components of a network	To recognise how the content of the WWW is created by people	To contribute to a shared project online	To recognise how we communicate using technology
	To evaluate the consequences of unreliable content		To evaluate different methods of online communication
Google Classroom Introduction			
To familiarise themselves with new technology/software.			

To communicate respectfully online.			
-------------------------------------	--	--	--

Multimedia			
Year 3	Year 4	Year 5	Year 6
Stop Motion Animation	Audio Editing	Video Editing	Web Page Creation
To explain that animation is a sequence of drawings or photographs.	To identify that sound can be digitally recorded	To explain what the medium of video is, analyse and compare examples of video	To review an existing website and consider its structure
To plan an animation.	To use a digital device to record sound	To use a digital device to record video	To look at the different layout features available in Google Sites and plan their own web page
Crop and arrange clips to create a short film.	To explain that a digital recording is stored as a file	To capture video using a range of techniques	To consider the ownership and use of images (copyright)
To add other media and effects into their animations, such as music and text.	To explain that audio can be changed through editing	To create a storyboard	To recognise the need to preview pages
To evaluate their final film.	To show that different types of audio can be combined and played together	To identify that video can be improved through reshooting and editing.	To outline the need for a navigation path
	To evaluate editing choices made	To consider the impact of the choices made when making and sharing a video.	To recognise the implications of linking to content owned by other people
Multimedia – Microsoft Office	Photo Editing	Vector Drawing	3D Modelling
To add and edit content to a word document.	To change the composition of an image	To create a vector drawing by combining shapes	To design a digital model by combining 3D objects

ASPIRE

Thomas Harding Computing End Points

To present text, images and other objects with a purposeful layout.			
---	--	--	--