



Computing KS2 National Curriculum

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 opportunities they offer for communication and collaboration
- 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.



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Computing Implementation

Computing is taught as an area of learning in its own right, as well as integrated with other curriculum areas where appropriate. There is also flexibility to seize opportunities to celebrate and acknowledge significant events.

Year 3 Computing Implementation – Key Concepts

The Key Concepts of Computing at Whinstone are:

- Programming
- Data handling
- Communication
- Computer networks and research
- Multimedia
- Online Safety

In Year 3 Computing is taught in discrete lessons under the following broad topic headings:

There is a discrete lesson (first lesson of each half term) reinforcing and developing Online Safety

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Databases	Internet Research & Communication Editing with imovie/clips/Garageband	Desktop Publishing Word Processing	Online safety and presentations	2Email 2Logo	Programming with Toys and Scratch



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Topic Specific Vocabulary					
Programming	Data Handling	Communication	Computer Networks & Research	Multimedia	Online Safety
<p>(Turtle 2Logo- on Purple Mash) right, left, forward, backward, rotate, repeat, sound, (2Logo commands...)fd, bk, rt, lt, rpt, pd, pu, setpc, setps)</p> <p>(Scratch and Dot and Dash) Scratch, blocks, stage, scripts, sprite, algorithm, backdrop, costumes, coordinates, drawing, repeat blocks, cloning, speech bubble, thought bubble, tempo, volume, projects, turn, spin, red flag, motion, loops, Repeat, forever loops, repeat x times loops, forever if loops</p> <p>(Beebots) left, right, right turn, left turn, forward, backward</p>	<p><u>Databases</u> Database, design, field, record, lock, sort, group, arrange, statistics, reports, collaboration, search,</p>	<p><u>Email</u> Email address, to, from, cc (carbon copy), subject, spam, email header, email body, email client, attachment, block, deliver, accept, domain name, download, email bouncers, email header, forward, internet, open, subject line</p>	<p><u>Internet Research and Communication</u> Search engine, effective search, internet, network, browser, world wide web, digital footprint</p>	<p><u>Editing with iMovie/Clips</u> Import, timeline, title, ending credits Clips, transitions, effects, play full screen, delete Loops</p> <p><u>Word Processing</u> Type, right hand, left hand, shift, capital letter, undo, redo, backspace, delete, space bar, full stop, number keys, question mark, save, open Enter Key, Open a new page, Print, Cursor, Mouse and Arrow Keys Select a piece of text by Clicking and Dragging, Font Colour, Size, Style Bold, Italic, Underline, caps lock Horizontal Alignment, Vertical Alignment, Bullet Points, Bold, Italics,</p> <p><u>Drawing and desktop publishing</u> Copy, paste, paint, thickness, thin, fill, text, shapes, tools, select, save, open, shade, effects, art style,</p>	<p>Cyberbullying/bullying, digital, device, email, social media, posts, comments, website, Internet, Digital, device, email, social media, posts, comments, website, Internet, advert, product, target, digital footprint, emojis, acronyms, text speak,</p>



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				<p><u>Presentations</u> Animation, background, clip art, design template, effects, slide, slide layout, slide show, slide sorter, slide view, title slide, transitions</p>	
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These key concepts, knowledge and vocabulary will be taught and reinforced through the development of these specific skills. These Key Concepts and vocabulary will be revisited and repeated throughout a child's journey of Computing at Whinstone.

Programming	Data Handling	Communication	Computer Networks & Research	Multimedia	Online Safety*
<p>Is able to type a short sequence of instructions and to plan ahead when programming devices on and off screen.</p>	<p>Can use a simple collaborative database (the structure of which has been set up for them) to enter and save and save information on a given subject.</p> <p>Can follow straight forward lines of enquiry to search their data for their own purposes.</p> <p>Can talk about their experiences of using Computing to process data compared with other methods.</p>	<p>Knows different ways that people communicate online</p> <p>Uses a 'closed' email program to introduce email, send attachments and add recipient/s</p>	<p>Understands how search engines work</p> <p>Knows the most effective way to search on the internet</p>	<p>Uses word processing to type and change text</p> <p>Uses a wider range of punctuation, editing and formatting skills to improve their work</p> <p>Discuss how they have changed their work and how it can be improved</p> <p>Records and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include green</p>	<p>Understands the importance of having a different presence online to keep themselves safe</p> <p>Understands the difference between a 'friend' in real life against one online</p> <p>Knows how to search online more effectively</p> <p>Is becoming more discerning online, beginning to recognise fake news/information</p> <p>Is beginning to be more aware of the negative impact of too much time on technology</p> <p>Is beginning to understand how people 'own' work online, and how use without permission can cause problems</p>



				screen. Begin to show an awareness of the intended audience and seek feed-back.	
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**Online Safety Strands are taken from the UKCCIS document 'Education for a Connected World' (Feb, 2018)*

Computing Impact

At the end of each topic teachers will evaluate what knowledge and skills pupils have gained within the Key Concepts.

Online Safety	Discrete lesson (first lesson of each half term)
Self-image and identity	I can explain what is meant by the term 'identity'
	I can explain how I can represent myself in different ways online
	I can explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar ; social media)
Online Relationships	I can describe ways people who have similar likes and interests can get together online.
	I can give examples of technology- specific forms of communication (e.g. emojis, acronyms, text speak).
	I can explain some risks of communicating online with others I don't know well.
	I can explain why I should be careful who I trust online and what information I can trust them with.
	I can explain how my and other people's feelings can be hurt by what is said or written online.
	I can explain why I can take back my trust in someone or something if I feel nervous, uncomfortable or worried.
	I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life.
Online Reputation	I can explain what is meant by 'trusting someone online'. I can explain why this is different from 'liking someone online'.
	I can search for information about myself online.
	I can recognise I need to be careful before I share anything about myself or others online.
Online bullying	I know who I should ask if I am not sure if I should put something online.
	I can explain what bullying is and can describe how people may bully others.
Managing online information	I can describe rules about how to behave online and how I follow them.
	I can use key phrases in search engines.
	I can explain what autocomplete is and how to choose the best suggestion.
	I can explain how the internet can be used to sell and buy things.
Health, wellbeing and lifestyle	I can explain the difference between a 'belief', an 'opinion' and a 'fact'.
	I can explain why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).
Privacy and Security	I can give reasons why I should only share information with people I choose to and can trust. I can explain that if I am not sure or I feel pressured, I should



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	ask a trusted adult.
	I understand and can give reasons why passwords are important.
	I can describe simple strategies for creating and keeping passwords private.
	I can describe how connected devices can collect and share my information with others.
Copyright and Ownership	I can explain why copying someone else's work from the internet without permission can cause problems.
	I can give examples of what those problems might be.

SKILLS	Meeting expectations
Data Handling	I can use a ready made database
	I can search a database to answer a question
	I can interpret a database
	I can create my own database and use 'search' 'sort' tools within it.
Computer Networks & Research	I can identify how word order affects search results
	I can explain how searches return results (How to search on Google)
	I can save and share webpages
Communication	I can identify the ways, and investigate how, we communicate online
Online Safety	I can explain how to stay safe when communicating online
	I can explain why I need to be responsible online
Multimedia	I can use basic computer skills
	I can change the case of the text
	I can align text
	I can use bullets and numbering
	I can use the <ctrl> key
	I can insert and format text boxes
Multimedia	I can record a successful video clip
	I can add my clip to a video program
	I can add a title
	I can add different transitions
	I can edit a video by deleting what I don't need



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	I can compose my own song in Garageband, using loops
	I can add my own voice in Garageband
Multimedia	*(Word. Link with Literacy and adverts- create a poster)
	I can draw with different shapes and lines
	I can order and group objects
	I can manipulate shapes and lines
	I can recognise effective layout
	I can combine text and images
	I can lay out objects effectively
Online Safety	To know what cyberbullying is and how to address it
	To understand how websites use advertisements to promote products
	To create strong passwords and understand privacy settings
Communication	To safely send and receive emails
	To explore different ways children can communicate online
Online Safety	To use knowledge about online safety to plan a party online
Multimedia	Planning a branching story
	I can create slide templates and organise slides with hyperlinks
	I can add theme, transitions and animation to a presentation
	I can use action settings
	I can insert audio and video
	I can evaluate layout and make improvements
Communication	*Carry out this planning with the online Safety one, make a powerpoint 'online safety quiz' (with hyperlinks)
	I can send an email to someone in my class
	I understand how to be polite in emails that I write
Online Safety	I know where to get help, if I feel that there is something wrong
Communication	I know how to send an email to more than one person
	I know how to reply to an email
	I can add an attachment
Programming	Dash and Dot, Blue Bots (challenges)
	Purple Mash 2Logo
	I can create and debug an algorithm using the move, rotate and repeat commands



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	I can create and debug algorithms using penup and pendown
	I can create and debug algorithms that draw regular polygons
	To create and debug algorithms to draw shapes
	To create and debug algorithms that draw regular polygons
	To create and debug algorithms to draw patterns