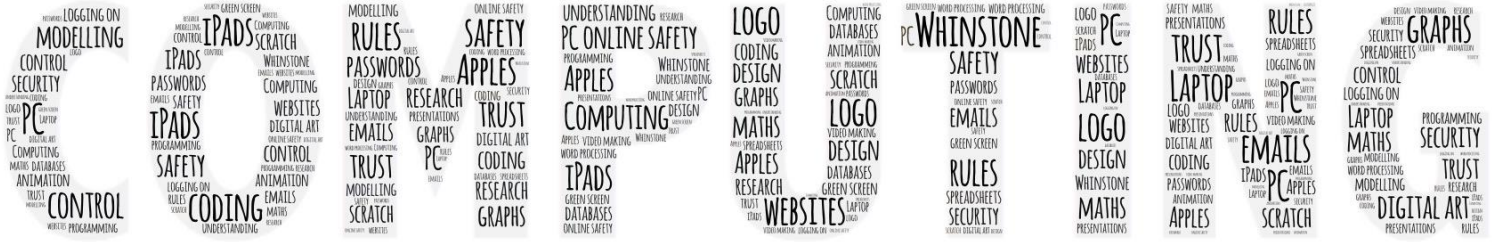
Computing Statement of Intent

Advances in technology impacts on all our lives. Through teaching computing, we aim to equip our children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. It is our intention to enable children to find, explore, analyse, exchange and present information. With the knowledge that Computing will undoubtedly continue to form a major part of the children's lives at home, in further education and places of work, we ensure that the experiences and abilities that the children develop at Whinstone are effective and transferrable life skills. We help our children to become creative at computing through the development of the Key Concepts in computing: **programming**, **data handling, communication, online safety, Computer networks and research and multimedia.**

- **Programming** (Computational thinking) involves taking that complex problem and breaking it down into a series of small, more manageable problems (decomposition). Each of these smaller problems can then be looked at individually, considering how similar problems have been solved previously (pattern recognition) and focusing only on the important details, while ignoring irrelevant information (abstraction). Simple steps or rules to solve each of the smaller problems can be designed (algorithms).
- **Data Handling is** gathering and recording statistics and then presenting it in a way that is meaningful to others**.** It is important to understanding how to input data, access it and use the information results (sorting and questioning).
- **Communication** By connecting people around the world and passing on packets of data from sender to recipient, the internet has created many opportunities. These range from communication (such as email, video conferencing, blogs, forums, social networks) and collaboration, such as wikis (including Wikipedia), to real-time collaborative editing.
- **Online Safety** It is crucial that we teach children to develop effective strategies for staying safe in a discriminating and effective way, as well as knowing how to make a positive contribution online. Every class' first computing lesson every half term is a discrete online safety lesson.
- **Computer Networks and Research** Digital technology is a part of all our lives, with almost no sphere untouched by it. Children need to be aware that computers are all around us, ready to be programmed for it to work. Children need to appreciate how a computer works and how to use internet search engines effectively to get the results you want. It relies on specifying the right particular time frame, language, reading level or website.
- **Multimedia skills** which are major factors in enabling children to be confident, creative and independent learners. It is about solving problems and making useful things by the **use of** digital tools, such as spreadsheets, video editing applications and so on. It is our intention that children have every opportunity available to allow them to achieve this, within an ethos where computing impacts on all the subjects of the primary curriculum. Children need to know how to create information using word processing and presentations.



Computing KS1 National Curriculum

Pupils should be taught:

- 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.

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 2 Computing Implementation – Key Concepts
The Key Concepts of Computing at Whinstone are: • Programming • Data handling • Communication • Online safety • Computer networks and research • Multimedia

In Year 2 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**
Computer Art	Word Processing	Doink Green Screen videos and imovie	Programming with Turtle Logo, Scratch and 2Code	Using the internet and sending class composed emails	Presentation Skills

Topic Specific Vocabulary					
Programming	**Data Handling**	**Communication**	**Computer Networks & Research**	**Multimedia**	**Online Safety**
Programming with Logo and Scratch (Turtle Logo) right, left, forward, backward, rotate, repeat, sound, command, (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 (Beebots) left, right, right turn, left turn, forward, backward		*Class composed emails* Work collaboratively by email to share and request information of another class or story character.	*Using the Internet* Search, safe search, webpage, URL, browser, download, hyperlink, virus, photograph, upload, personal information, blog, post, positive/negative comments	*Computer Art* Copy, paste, paint, thickness, thin, fill, text, shapes, tools, select, save, open, shade, effects, art style, *Word Processing* 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 *Doink Green Screen/iMovie*	Email. bullying, cyberbullying, voice activated searching, private information, reliable information

				Clips, video, green screen, chroma key, bigger, smaller, grow, shrink, live video, save, camera roll, airdrop, Import, timeline, title, ending credits *Presentation Skills* Animation, background, clip art, design template, effects, slide, slide layout, slide show, slide sorter, slide view, title slide, transitions	

Whinstone Primary School Year 2 Computing

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*
Knows what an algorithm is Control a device, on and off screen, making predictions about the effect their programming will have. Can use the repeat command Children can plan ahead Can debug		Is beginning to see the use of simple blogs online to communicate with others	Can search effectively and safely online	Is beginning to use tools, combining text, graphics and sound. Save, retrieve, edit and print their work. Can record simple videos and use green screen to add simple effects (with help where appropriate) Is beginning to make simple presentations	Is beginning to understand that someone's identity online may be different than the one they have in real life Knows how to get help if I feel something is not right online Knows what cyberbullying is and can explain the effects that it could have to the person being bullied Is beginning to understand that all they read online may not be true Is beginning to understand that online information about themselves can be seen by others, and understands how some information is private and should not be shared

**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 how other people's identity online can be different to their identity in real life.
	I can describe ways in which people might make themselves look different online.
	I can give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help.
Online Relationships	I can use the internet to communicate with people I don't know well (e.g. email a penpal in another school/ country).
	I can give examples of how I might use technology to communicate with others I don't know well.
Online Reputation	I can explain how information put online about me can last for a long time.
	I know who to talk to if I think someone has made a mistake about putting something online.
Online bullying	I can give examples of bullying behaviour and how it could look online.
	I understand how bullying can make someone feel.
	I can talk about how someone can/would get help about being bullied online or offline.
Managing online information	I can use keywords in search engines.
	I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).
	I can explain what **voice activated searching** is and how it might be used (e.g. Alexa, Google Now, Siri).
	I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.
	I can explain why some information I find online may not be true.
Health, wellbeing and lifestyle	I can explain simple guidance for using technology in different environments and settings.
	I can say how those rules/guides can help me.
Privacy and Security	I can describe how online information about me could be seen by others.
	I can describe and explain some rules for keeping my information private.
	I can explain what passwords are and can use passwords for my accounts and devices.
	I can explain how many devices in my home could be connected to the internet and can list some of those devices.
Copyright and Ownership	I can describe why other people's work belongs to them.
	I can recognise that content on the internet may belong to other people.

SKILLS	Meeting expectations
Multimedia	**COMPUTER ART (T)**
	I can create computer art
	I can use a range of tools in computer program to reproduce a style of art
	I can make and edit shapes to create a piece of art
	I can change the shade of a colour for effect
	I can retrieve a file to edit in a computer program
	I can use a wide range of skills to create a piece of art
Multimedia	**WORD PROCESSING**
	Use the Enter Key to move to a new line
	Use the Save button and name my work
	Open a new page
	Use the Print Button
	Place the Cursor with Mouse and Arrow Keys
	Select a piece of text by Clicking and Dragging
	Change the Font Colour, Size, Style
	Open a Saved Document
	Use Bold/Italic and Underline
	Use the Caps Lock Key
Multimedia	**DOINK GREEN SCREEN and iMovie**
	I can add a green screen video (dinosaur/knight/other topic) to Doink Green screen APP
	I can make the green screen video bigger/smaller
	I can record a live video to go behind the green screen video
	I can save my video to the camera roll
	I can airdrop my video to a teacher's ipad
	(iMovie)
	I can import a video onto the timeline
	I can add a title and ending credits
Programming	**PROGRAMMING WITH TURTLE LOGO AND SCRATCH (T)**

	Blue Bots, Bee Bots
	Logo, Scratch Planning Y2
	I can create an algorithm to move or rotate the turtle
	I can create an algorithm to use the repeat command
	I can create an algorithm and add sound
	I can create an algorithm and use the repeat and say command
	I can create an algorithm and use the green flag to start
	I can create an algorithm and use the commands to change the backdrop and add sprites
Computer networks and searching	**USING THE INTERNET (T)**
	I can search the internet using one word
	I can stay safe when using the internet
	I can search the internet to find results suitable for children
	I can search for information safely online
	I can follow links to another webpage
	I can follow links safely online
	I can create content for an online blog
	I can use a camera to take safe photos for use online
	I can use an online blog safely and respectfully
	I can post positive comments and responses to a blog
Multimedia	**PRESENTATION SKILLS (T)** **(Link with Online Safety to make a powerpoint)**
	I can use folders
	I can organise ideas for a presentation
	I can create a simple presentation with text
	I can add and format an image
	I can reorder slides and present a presentation
	I can search and print
	I can add transitions between my slides