Computing

at

Firs Primary School

Updated September 2024

Contents

Firs Curriculum Intent

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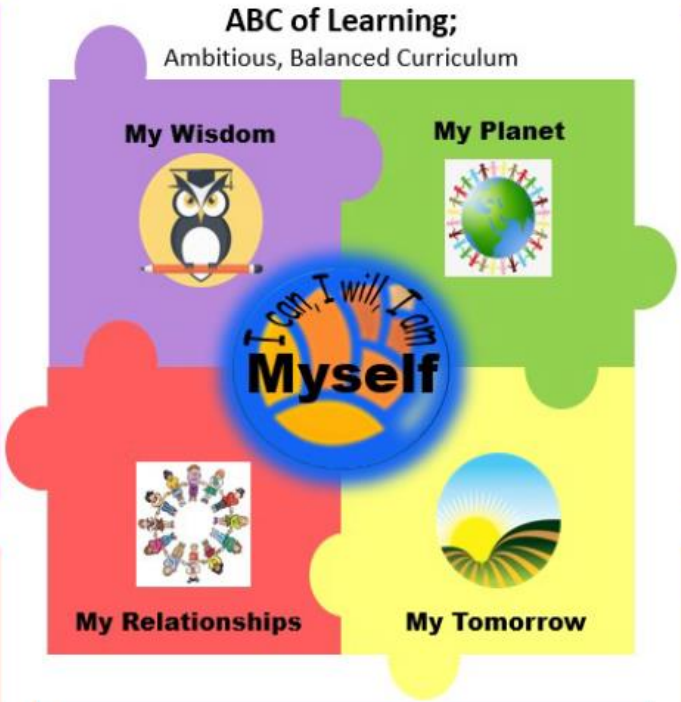
- Applying our knowledge to solve problems in new contexts.
- Recognising bias or fairness in what we read, hear and see and knowing when to trust information.
- Debating respectfully when we disagree with others, using evidence to support our ideas.



- Caring for our environment in school, locally and in the wider world.
- Understanding current affairs and global events and our part in these.
- Seeing ourselves as part of a global community.

- Showing empathy, care, concern and tolerance towards all others.
- Understanding how to have healthy and happy relationships.
- Working with others to achieve a common goal.

- Keeping myself safe and healthy, looking after my mind and body.
- Being happy with who I am, recognising my achievements and what makes me special.
- Taking responsibility for my actions and for my future.

- Aspiring to meet our full potential, understanding our strengths and meeting challenges with confidence and resilience.
- Developing the skills we need to be successful and independent adults.

Curriculum Design

The curriculum at Firs runs on a two year cycle, due to mixed year groups in the juniors. As the National Curriculum for Computing is split into key stages, some objectives may be revisited and extended more than others, depending on the depth of the objective.

Using the National Curriculum objectives, the computing curriculum at Firs is split into five main areas: E-Safety, Technology in our Live, Handling Data, Multimedia and Programming. Within each of these National Curriculum objectives, progressive statements have been developed for each individual year group/key stage to outline the skills and knowledge that the children must be taught. Teachers will then use these objectives to plan a series of progressive lessons which allow children to meet the age related objectives. The lessons that the teacher plans may link in with the current topic or computing may be taught as a discreet subject.

Within the lesson, due to mixed year groups, the two progressive objectives may be used as a way to differentiate and challenge.

SEND and Higher Ability

SEND

For all pupils who are on the SEND register at Firs they will have an personalised plan. This will either be a IPM (Individual Provision Map) or MEP (Multi Element Plan). Within the plan the children will have personalised targets are provisions that are put in place to support the child in meeting targets. If the target links to foundation subjects, the provisions maybe techniques that are put in place to include children in whole class learning or interventions that support the children's learning outside of the lesson time. The IPM or MEP may also outline specific resources that the child is required to use (such as an iPad to support learning in other subjects) and therefore may also address computing objectives at the same time.

In computing most SEND children will follow the same lesson structure as others. As computing is mainly a practical subject, there is little emphasis on written work. Where written work or the reading level may not be appropriate for that child, children may work with the support of an adult or in pairs with their peers. This will take into accounnt cognitive overload such as concentrating on phonetic sounds and will allow them to still be exposed to age-realted objective for computing. All SEND children will be exposed to age-related objectives but how they attempt those objectives will differ as the class teacher scaffolds the learning for their needs.

High Attaining Pupils

Stretch and challenge will be evident for the pupils in a variety of different ways:

- ✓ Teacher questionning either during the whole class input or 1:1
- ✓ Expectations of vocabulary used within the lesson
- ✓ Use of the child to support others within their lesson, using the mastery vocabulary of 'Explain it.'

Computing in EYFS

The new EYFS framework which was made statutory for September 2021 does not outline specific computing objectives for EYFS. However, within the EYFS area, children will have access to a range of technology in the continuous provision and develop their computing skills in other subjects (such as using QR codes to listen to videos). EYFS follow the whole school E-safety curriculum.

Our Computing Curriculum

The curriculum below is separated into key stages (KS1, LKS2, UKS2) and then split in to two progressive sections. These sections may be used when planning progression through lessons or through differentiation when planning lessons and determining outcomes for children.

We have used the National Curriculum (2014) objectives, as well as progression guidance from Derby Diocesan Trust to develop a range of progressive objectives in 5 strands: E-Safety (see E-Safety policy); Programming; Multimedia; Handling Data; and Technology in Our Lives.

The success criteria below does not determine how many lessons are required to cover each criteria: multiple criteria may be addressed within one lesson, or one statement may take multiple lessons to teach successfully. Each strand has been planned in to the two-year curriculum cycle at Firs. Every strand will not be covered every year, but every child who goes through their education at Firs will receive teaching in all of the strands by the end of Year 6. However, at any point in the school year, if a class teacher identifies the need for a particular strand to be addressed for individuals or their class, this may be planned in as an additional teaching opportunity.

Computing Overview

The order of the topics below may change, however the computing strand will always be taught with the specified topic.

	Cycle A						Cycle B					
Year 1/2	**Enchanted Woodland**	**Moon Zoom**	**Muck Mess and Mixtures**	**Rio de Vida**	**Street Detectives**	**Land Ahoy**	**Bright Lights Big City**	**Superheroes**	**Paws, Claws and Whiskers**	**Scented Garden**	**Dinosaurs**	**Towers, Tunnels and Turrets**
	E-Safety (Self Identity Online Reputation Online Relationships Online Bullying)	Programming	Technology in Our Lives	Multimedia	Handling Data	No computing taught with this topic	E-Safety (Managing Online Information Health well-being and lifestyle Privacy and Security Copyright and Ownership)	Technology in Our Lives	Multimedia	Programming	No computing taught with this topic	Multimedia
Year 3/4	**Gods and Mortals**	**Urban Pioneers**	**I am Warrior**	**Predator**	**Playlist**	**Tribal Tales**	**Heroes and Villains**	**Tremors**	**Traders and Raiders**	**Burps Bottoms and Bile**	**Mighty Metals**	**Blue Abyss**
	E-Safety (Self Identity Online Reputation Online Relationships Online Bullying)	No computing taught with this topic	Technology in our lives	Multimedia	Multimedia	Handling data	E-Safety (Managing Online Information Health well-being and lifestyle Privacy and Security Copyright and Ownership)	No computing taught with this topic	Programming	Multimedia	Programming	Handling Data
Year 5/6	**A Child's War**	**Hola! Mexico**	**Frozen Kingdom**	**Revolution**	**Blood Heart**	**Darwin's Delights**	**Off With Her Head!**	**Stargazers**	**Alchemy Island**	**Pharaohs**	**Peasants, Princes and Pestilence**	**Time Traveller**
	E-Safety (Self Identity Online Reputation Online Relationships Online Bullying)	Handling Data	Handling Data	Technology in our lives	Multimedia	Programming	Handling Data	Programming	Multimedia	No computing taught with this topic	E-Safety (Managing Online Information Health well-being and lifestyle Privacy and Security Copyright and Ownership)	Technology in our lives

	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Programming	**National Curriculum** 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		**National Curriculum** 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			
	DDAT Progression • *Pupils learn to program a basic floor turtle such as a BeeBot to navigate increasingly complex routes and are able to debug their instructions when the turtle does not reach the intended destination* • *Pupils learn to program an onscreen app such as BeeBot or Kodable to complete a set task and are able to debug their instructions when the turtle does not reach the intended destination* • *Pupils use a more complex turtle with standard units to navigate increasingly complex routes, and are able to debug their instructions when the turtle does not reach the intended destination*		***DDAT Progression*** • *Pupils learn to use graphical programming language, such as Scratch or Logo to draw regular 2D shapes. Pupils add loops or procedures to create a repeating pattern* • *Pupils write a simple algorithm, for instance to create a basic traffic light sequence. They then use flowcharting software (such as Go or Flowgo) to create a simple program to control an onscreen icon*		***DDAT Progression*** • *Pupils write a simple algorithm, for instance to create a basic traffic light sequence. They then use flowcharting software (such as Go or Flowgo) to create a simple program to control an onscreen icon. They are able to explain how their program works* • *Pupils create a computer game, using a graphical language such as Scratch or Kodu*	
	• Explore a range of control toys and devices • Explore outcomes when individual buttons are pressed on a robot • Follow instructions to move around a course • Create a series instructions to move their peers around a course • Explore an on screen turtle (or Bee BOT) navigate it around a course or grid • While navigating around a course on a computer predict what will happen once the next command is entered. • Have experiences of controlling other devices such as sound recording devices, music players, video recording equipment and digital cameras	• Talk about how everyday devices can be controlled • Control a floor robot using appropriate buttons, Make predictions and estimate distances and turns • Create a sequence of instructions to control a programmable robot to carry out a pre-determined route to include direction, distance and turn • Know that devices and actions on screen may be controlled by sequences of actions and instructions • Create a sequence of instructions to create a right-angled shape on screen	• Explain what an algorithm will do by reading the commands. • Test my algorithm and recognise when to change it • Link their learning of a programmable robot to creating a set list of instructions for a on screen robot (e.g Textease turtle) • Use an on screen robot to draw a path • Navigate around Scratch (or similar) • Create a repeat pattern that instructions motions by specifying the number of steps, direction and turn. • Adds speech • Make my sprite change colour • Control what my sprite does using specified keys.	• Can talk about what everyday/real life objects uses algorithms and discuss what the algorithms will tell them to do • Begin to break algorithms down to solve problems. • I know an algorithm is a set of instructions. • Create a list of 5 commands which involve movements and looks. • Draw using pen up and down linking their knowledge of properties of shapes • Use costumes • Use two sprites and two algorithms • Use sound • Begin to use sensing to create a command • Begin to use timings to control movements and speech between characters	• Begin to think logically to analyse a simple game and discuss what the different algorithms should instruct. • I can predict what will happen when discussing different algorithms, • Understand how breaking things down into different events may make it easier to debug, edit and improve. • Begin to create a simple game between two sprites • Create movements using co-ordinates and rotations (with degrees) • Create drawings using pen shades, directions and angles. • Create an animation with speech and sensing between at least 2 characters. • Use 'IF' to control objects and create variables • Control the sprites movement using the keyboard	• Show logical thinking when creating a complicated algorithm, • Sort algorithms between what will and won't work and explain why by breaking it into smaller parts and explaining why. Test the algorithms to support this. • Starting to find more than 1 way to debug and solve a problem. • Create a game that uses a range of commands including sensing, movement, variables and IF THEN. https://simonhoughton.typepad.com/main/2013/02/scratch-20-resources-and-planning.html • Create a story or animation using a range of commands and shows creativity and imagination.

	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Multimedia	**National Curriculum** use technology purposefully to create, organise, store, manipulate and retrieve digital content		**National Curriculum** elect, 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			
	DDAT Progression • *Digital Publishing: Pupils learn to use basic word processing package and to write and illustrate a short story* • *Graphics: Pupils learn to create a simple digital painting* • *Animations: Pupils learn to make a simple animation for instance in Puppet Pals*		***DDAT Progression*** • *Presentations: Pupils learn to write and deliver a presentation on a given subject* • *Sound and video: Pupils record and edit media to create a short sequence* • *Animations: Pupils learn how to develop a storyboard and then create a simple animation using for instance 'Puppet Pals' or 'Stop Motions' Animation'*		***DDAT Progression*** • *Presentations: Pupils learn to write and deliver a presentation, incorporating a range of media* • *Animations: Pupils learn how to develop a storyboard and then create a simple animation using for instance Puppet pals' or 'Stop Motions Animation' - this may be extended by editing the final product in using video editing software*	
	• Develop familiarity with the keyboard – spacebar, backspace, shift, enter, to provide text on screen that is clear and error free • Select appropriate images • Add text to photographs, graphics (images) and sound e.g. captions, labelling and simple sentences through the use of e.g. *2create A Story* • To print • To save with help • Use a paint package to create a picture to communicate their ideas: Explore shape, line and colour, talk about their choice of tools, talk about the differences between a graphics package and paper based art activities (undo, changes quickly and easily made) • To make animated pictures/drawings in 2create a story (https://www.youtube.com/watch?v=u6NlVyMqJf0 seesaw example)	• Use the mouse or arrow keys to insert words and sentences • Develop basic editing skills including different presentational features (font size, colour and style) • Save, print, retrieve and amend their work • Use appropriate editing tools to improve their work • To create a stop frame animation using split pin figures	• Combine a mixture of text and graphics to share my ideas in a presentation • Continue to make appropriate choices about fonts, images, size through peer assessment and self evaluation, evaluate design and make suitable improvements • Begin to use more than two fingers to enter text • To create a stop frame animation using one drawing	• Use word art and animations when creating a presentation whilst considering the appropriate audience • Use a spell checker • Use more than two fingers when typing • Explore new media such as making videos • Record using a programme • To create a stop frame animation using two objects and one body movement e.g. waving or walking	• Design in response to a given criteria • Create simple hyperlinks and buttons in a presentation • Insert videos into a presentation • Begin to use two hands when typing • Evaluate websites and current publications in terms of colour, font, pictures and use this to inform their own work • To create a stop frame animation with two objects including movement and speech.	• Create a presentation using timings, auto play and more complicated hyperlinks • Type confidently with two hands • Edit their presentation in response to peer feedback and considering the audience • Insert text boxes and use columns to create a more interesting layout • To create a stop frame animation with two objects and a background/set.

	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Handling Data	**National Curriculum** use technology purposefully to create, organise, store, manipulate and retrieve digital content		**National Curriculum** 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			
	DDAT Progression • *Working with data: Pupils learn to create and use a pictogram*		***DDAT Progression*** • *Working with data: Pupils learn to search, sort and graph information*		***DDAT Progression*** • *Modelling: Pupils learn how to use a spreadsheet to model data* • *Working with data: Pupils learn to search, sort and graph information*	
	• To navigate around a pre-made branching database	• Sort at least 3 pictures using a branching database	• Use a branch database to answer questions • Make a branch database with at least 4 pictures. • Use a datalogger remotely (without a computer) • To read the 3 different measurements of a data logger • To create environments/ situations where those readings change	• create and use a branching database to organise, reorganise and analyse information • Use a data logger for snap shot readings • To retrieve saved information from a log box • To use log box information to draw graphs/tables	• Choose an appropriate programme to represent information • To know what a data logger can be used for • To create an investigation to use the data logger to record information • To begin to link the data logger components to variables in science • Understand cells in a spreadsheet • to enter formulae for the four operations (+-x/) into a spreadsheet • to use 'SUM' to calculate the total of a set of numbers in a range of cells	• To know when a database might be useful • Use and interpret information from a data logger • To use computing programmes linked with the data logger • To choose how to record and represent information from a data logger using a computer • Create a database that enables you to search through entries using fields To create a table in Excel • To create a line graph from a table in Excel • To edit the format of a graph in Excel e.g. colour sets • To change formats of text and borders in Excel

	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Technology in Our Lives	**National Curriculum** recognise common uses of information technology beyond school		**National Curriculum** 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			
	DDAT Progression • *Pupils learn about some of the uses of the internet*		***DDAT Progression*** • *Pupils are introduced to the basics of online searching, including how to use effective keywords. They also learn to conduct searches that provide them with the most helpful and relevant information* • *Pupils learn to collaborate electronically by blogging, mailing and working on shared documents using the pupil sites of the DLG*		***DDAT Progression*** • *Pupils explore issues relating to online searching, including how to use effective keywords, using directories and subject categories, and how to analyse the usefulness and relevancy of the results. They learn to conduct searches that provide them with the most helpful and relevant information* • *Pupils learn to collaborate electronically by blogging -mailing and working on shared documents using the pupil sites of the DLG. This can be extended to working with other schools* • *Pupils learn that connected devices exchange packets of data and this can convey a range of information from a text to a video call* • *Pupils develop skills for evaluating websites, online information and advertising by rating the trustworthiness and usefulness of websites, and learning to identify the different types of online advertising*	
	• Discuss where they have seen and used technology. • Sort pictures of what is and isn't classed as technology and discuss what each one is used for • Use given websites to answer questions • Know how technology can be used to send messages (Class dojo, email etc.)	• Discuss why we use technology • Know the internet can be used for research • Know that pages have authors just like their own work	• Know how to create a simple search using a search engine • Label and talk about the use of different parts of a computer (laptops and desktops) e.g. mouse, keyboard, screen, power cable. • Navigate across websites using the buttons.	• Create more specific searches using key words in a search engine. • Know how to choose an appropriate website (age, look, author) • Label and talk about the parts of a computer and products that enhance it's use (webcam, headphones, printers) and know their uses. • Navigate across websites using the back, forward, refresh and hyperlinks. • Begin to talk about the author of websites an how this effects it's truth. (*Also covered in E-Safety*)	• Create specific searches using "" and or in a search engine • Discuss how results are ranked. • Know how chatrooms and social media and connect people from long distances • Take part in a forum including responding with text and media • Begin to discuss how the internet works including networks and IP addresses • Know how to check for reliability of a website *(Also covered in E-Safety)* • Label parts of a webpage	• Know how being able to connect with people from long distances can enhance collaboration • Compare two websites that given information on the same topic. Which is the most reliable? *(Also covered in E-Safety)* • Use other sources to check reliability of information. *(Also covered in E-Safety)* • Discuss the many uses for the internet • Know how information is transported on the internet including understanding networks and IP addresses • Understand copyright and how this effects images and information I find on the internet *(Also covered in E-Safety)*

This policy mentions and works in conjunction with a range of other policies: Child Protection and Safeguarding Policy, Anti-Bullying Policy Mental-Health and Well-being Policy, Computing and PSHE Policy.

Teaching of E-Safety

Our E-Safety curriculum ensures that we are teaching the "knowledge and behaviours that can help pupils to navigate the online world safely and confidently regardless of the device platform or app," (Teaching Online Safety in School, DFE, June 2019). We aim to teach our pupils to have a positive, yet sensible attitude towards the online world by ensuring that they have the "knowledge needed to make the best use of the internet and technology in a safe, considered and respectful way," (Teaching Online Safety in School, DFE, June 2019). We also place a large emphasis on children understanding how they must behave online, not just the behaviour of others.

Meeting the needs of pupils

We also ensure that we tailor out teaching to "support to the specific needs of their pupils," (Teaching Online Safety in School, DFE, June 2019). This links to our Safeguarding Policy, Keeping Children Safe in Education and staff using their knowledge of pupils' background, experiences, ability, culture, language and any safeguarding concerns (including knowing which pupils are more likely to be susceptible to online harm e.g. SEND) when planning and adjusting lessons. Although the objectives below and planned out in to progressive key stage objectives, it is recognised that for some of our pupils it may be appropriate to re-visit objectives from previous key stages. Our I-Vengers (implemented 2020/2021) are also used to support pupils' from a pupil's perspective. In addition to this, our learning mentor and/or outside agencies (such as Safe 'n' Sound) work with identified pupils to target specific needs.

Making our pupils feel safe

During lessons, children are in a safe environment where they are encouraged to show our FIRSY value of 'Respectful.' Children are encouraged to discuss ideas with each other. If children are feeling worried or wish to share anything with a member of staff, the whole school approach applies: put it in the classroom worry box; speak to the class teacher; or speak to a member of the safeguarding team.

Additional Opportunities

As well as teaching our E-Safety curriculum, every year our school takes part in Safer Internet Day and Anti-Bullying week: each class completes a range of activities that are suitable for their age group. We may also have visitors attend school to complete age and ability appropriate workshops such as Konflux Education. https://www.konfluxtheatre.co.uk/topics/internet-safety

In line with our Safeguarding policy we also have external visits from Safe 'n' Sound and the NSPCC, which may also cover aspects of online safety.

https://www.nspcc.org.uk/keeping-children-safe/our-services/working-with-schools/
https://www.safeandsoundgroup.org.uk/

Our E-Safety Curriculum

E-Safety at Firs is primarily taught discreetly for 1 half term every year, with revisiting as required by the needs of the pupils or as issues arise. Our E-Safety curriculum has been designed in line with guidance and other whole school curriculums: National Curriculum; PSHE (SCARF) curriculum; Derby Diocese Academy Curriculum Progression; Teaching Online Safety in School (DFE); and Education for a Connected World (UK Council for Internet Safety).
The curriculum has been designed to cover these strands of E-Safety identified from Teaching Online Safety in School and Education for a Connected World (UK Council for Internet Safety):

- Online Relationships
- Self Identity
- Online Reputation
- Online Bullying
- Managing Online Information
- Health, well-being and lifestyle
- Copyright and ownership

The curriculum below is separated into key stages (KS1, LKS2, UKS2) and then split in to two progressive sections. These sections may be used when planning progression through lessons or through differentiation when planning lessons and determining outcomes for children. The objectives have been taken from the published document, Education for a Connected World (UK Council for Internet Safety).

The success criteria below does not determine how many lessons are required to cover each criteria: multiple criteria may be addressed within one lesson, or one statement may take multiple lessons to teach successfully. Each strand has been planned in to the two-year curriculum cycle at Firs. Every strand will not be covered every year, but every child who goes through their education at Firs will receive teaching in all of the strands by the end of Year 6. However, at any point in the school year, if a class teacher identifies the need for a particular strand to be addressed for individuals or their class, this may be planned in as an additional teaching opportunity.

National Curriculum

KS1 Objective: 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.
KS2 Objective: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

	EYFS (4+)	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Self-Identity	• I can recognise, online or offline, that anyone can say no/please stop/ I'll tell/ I'll ask to somebody who makes them feel sad, uncomfortable, embarrassed or upset	• I can recognise that there may be people online who could make someone feel sad, embarrassed or upset • If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.	• I can explain how other people may look and act differently online and offline • I can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help.	• I can explain what is meant by the term identity • I can explain how people can represent themselves in different ways online • I can explain ways in which someone might change their identify depending on what they are doing online (e.g. gaming; using an avatar; social media) and why	• I can explain how my online identity can be different to by offline identity • I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them • I can explain that others online can pretend to be someone else including by friends, and can suggest reasons why they might do this	• I can explain how identity online can be copied, modified or altered. • I can demonstrate how to make responsible choices about having an online identity, depending on context.	• I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online. • I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline. • I can explain the importance of asking until I get the help needed.
Online Reputation	• I can identify ways that I can put information on the internet	• I can recognise that information can stay online and could be copied • I can describe what information I should not put online without asking a trusted adult first	• I can explain how information put online about someone can last for a long time • I can describe how anyone's online information could be seen by others • I know who to talk to if something has been put online without consent or if it is incorrect.	• I can explain how to search for information about others online • I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal • I can explain who someone can ask if they are unsure about putting something online	• I can describe how to find out information about others by searching online • I can explain ways that some of the information about anyone online could have been created copied or shared by others	• I can search for information about an individual online and summarise the information found • I can describe ways that information about anyone online can be used by others to make judgements about an individual, and why these may be incorrect.	• I can explain the ways in which anyone can develop a positive online reputation • I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.
	Additional guidance https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf Schools can help pupils to identify and manage risk by: • discussing the ways in which someone may put themselves at risk online, • discussing risks posed by another person's online behaviour, • discussing when risk taking can be positive and negative, • discussing "online reputation" and the positive and negative aspects of an online digital footprint. This could include longer-term considerations, i.e how past online behaviours could impact on their future, when applying for a place at university or a job for example, discussing the risks vs the benefits of sharing information online and how to make a judgement about when and how to share and who to share with • • asking questions such as what might happen if I post something online? Who will see it? Who might they send it to?						

Online Relationships	• I can recognise some ways in which they internet can be used to communicate • I can give examples of how I (might) use technology to communicate with people I know.	• I can give examples of when I should ask permission to do something online and explain why this is important • I can use the internet with adult support to communicate with people I know (e.g. video call apps or services). • I can explain why it is important to be considerate and kind to people online and to respect their choices. • I can explain why things one persons finds funny or sad online may not always be seen in the same way by others.	• I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. • I can explain who I should ask before sharing things about myself or others online. • I can describe different ways to ask for, give or deny my permission online and can identify who to ask for help if I am unsure. • I can explain why I have a right to say 'no' or 'I will have to ask someone.' I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do. • I can identify who can help me if something happens online without my consent. • I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online. • I can explain why I should always ask a trusted adult before clicking 'yes' 'agree' or 'accept' online	• I can describe ways people have similar likes and interests can get together online. • I can explain what it means to 'know someone' online and why this might be different from knowing someone offline. • I can explain what is meant by 'trusting someone online,' and why it is important to be careful about who to trust online including what information and content they are trusted with. • I can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried. • I can explain how someone's feelings can be hurt by what is said or written online. • I can explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline .g. sharing images and videos.	• I can describe strategies for safe and fun experiences in a range of online social environments (e.g. live streaming, gaming platforms) • I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. • I can explain how content shared online may feel unimportant to other people's thoughts, feelings and beliefs.	• I can give examples of technology specific forms of communication (e.g. emojis, memes and GIFS) • I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/our fault. • I can describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions (e.g. gaming communities or social media groups)	• I can explain how sharing something online may have an impact either positively or negatively. • I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not. • I can describe how things shared privately online can have unintended consequences for others (e.g. screen grabs).
	Additional guidance https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf Schools can help pupils to recognise acceptable and unacceptable behaviour by: • looking at why people behave differently online, for example how anonymity (you do not know me) and invisibility (you cannot see me) affect what people do, • looking at how online emotions can be intensified resulting in mob mentality, • teaching techniques (relevant on and offline) to defuse or calm arguments, for example a disagreement with friends, and disengage from unwanted contact or content online, • considering unacceptable online behaviours often passed off as so-called social norms or just banter. For example, negative language that can be used, and in some cases is often expected, as part of online gaming and the acceptance of misogynistic, homophobic and racist language that would never be tolerated offline.						

Online Bullying	• I can describe the ways that some people can be unkind online • I can offer examples of how this can make others feel	• I can describe how to behave online in ways that do not upset others and can give examples	• I can explain what bullying is, how people may bully others and how bullying can make someone feel. • I can explain why anyone who experiences bullying not to blame. • I can talk about how anyone experiencing bullying can get help.	• I can describe appropriate ways to behave towards other people online and why this is important. • I can give examples of how bullying behaviour could appear online and how someone can get support.	• I can recognise when someone is upset, hurt or angry online. • I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat) • I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).	• I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences. • I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. • I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. • I can identify a range of ways to report concerns and access support both in school and at home about online bullying. • I can explain how to block abusive users. • I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).	• I can describe how to capture bullying content as evidence (e.g. screen grab, URL, profile) to share with others who can help me. • I can explain how someone would report online bullying in different contexts.
	Additional Guidance https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf Schools can help pupils by: • helping them to identify who trusted adults are, • looking at the different ways to access support from the school, police, the National Crime Agency's Click CEOP reporting service for children and 3rd sector organisations such as Childline and Internet Watch Foundation. This should link to wider school policies and processes around reporting of safeguarding and child protection incidents and concerns to school staff (see Keeping Children Safe in Education) • helping them to understand that various platforms and apps will have ways in which inappropriate contact or content can be reported.						

Managing Online Information	• I can talk about how to use the internet as a way of finding information online. • I can identify devices I could use to access information on the internet.	• I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching). • I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. • I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.	• I can use simple 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, and know it is not a real person (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 real or true.	• I can demonstrate how to use key phrases in search engines to gather accurate information online. • 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. • I can explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc. • I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed). • I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.	• I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others. • I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites). • I can describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online. • I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. • I can explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be. • I can explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.	• I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I aim presented with e.g. voice-activated searching giving one result. • I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'. • I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results. • I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. • I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads. • I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers). • I can explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others. • I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.	• I can explain how search engines work and how results are selected and ranked. • I can explain how to use search technologies effectively. • I can describe how some online information can be opinion and can offer examples. • I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal. • I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news). • I understand the concept of persuasive design and how it can be used to influences peoples' choices. • I can demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important. • I can explain how companies and news providers target people with online news stories

						• I can explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share.	they are more likely to engage with and how to recognise this. • I can describe the difference between online misinformation and dis-information. • I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation or disinformation). • I can identify, flag and report inappropriate content

Health, well-being and lifestyle	• I can identify rules that help keep us safe and healthy in and beyond the home when using technology. • I can give some simple examples of these rules.	• I can explain rules to keep myself safe when using technology both in and beyond the home.	• I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment. • I can say how those rules / guides can help anyone accessing online technologies.	• I can explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged (e.g. doing homework, games, films, videos). • I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).	• I can explain how using technology can be a distraction from other things, in both a positive and negative way. • I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.	• I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively. • I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology. • I recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals. • I can explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing.	• I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. • I recognise and can discuss the pressures that technology can place on someone and how / when they could manage this. • I can recognise features of persuasive design and how they are used to keep users engaged (current and future use). • I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).
	Additional Guidance https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf Schools can help pupils to recognise: • online content which tries to make people believe something false is true and/or mislead (misinformation and disinformation), • techniques that companies use to persuade people to buy something, • ways in which games and social media companies try to keep users online longer (persuasive/sticky design) • criminal activities such as grooming.						

Privacy and Security	• I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). • I can describe who would be trustworthy to share this information with; I can explain why they are trusted.	• I can explain that passwords are used to protect information, accounts and devices. • I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). • I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.	• I can explain how passwords can be used to protect information, accounts and devices. • I can explain and give examples of what is meant by 'private' and 'keeping things private' • I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). • I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions).	• I can describe simple strategies for creating and keeping passwords private. • I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult. • I can describe how connected devices can collect and share anyone's information with others.	• I can describe strategies for keeping personal information private, depending on context. • I can explain that internet use is never fully private and is monitored, e.g. adult supervision. • I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. • I know what the digital age of consent is and the impact this has on online services asking for consent.	• I can explain what a strong password is and demonstrate how to create one. • I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. • I can explain what app permissions are and can give some examples.	• I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). • I can explain what to do if a password is shared, lost or stolen. • I can describe how and why people should keep their software and apps up to date, e.g. auto updates. • I can describe simple ways to increase privacy on apps and services that provide privacy settings. • I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing). • I know that online services have terms and conditions that govern their use.
Copyright and Ownership	• I know that work I create belongs to me. • I can name my work so that others know it belongs to me.	• I can explain why work I create using technology belongs to me. • I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it''). • I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content). • I understand that work created by others does not belong to me even if I save a copy	• I can recognise that content on the internet may belong to other people • I can describe why other people's work belongs to them.	• I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.	• When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. • I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images.	• I can assess and justify when it is acceptable to use the work of others. • I can give examples of content that is permitted to be reused and know how this content can be found online.	• I can demonstrate the use of search tools to find and access online content which can be reused by others. • I can demonstrate how to make references to and acknowledge sources I have used from the internet.

	Key Questions: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf • is this website/URL/email fake? How can I tell? • what does this cookie do and what information am I sharing? • is this person who they say they are? • why does someone want me to see this? • why does someone want me to send this? • why would someone want me to believe this? • why does this person want my personal information? • what's behind this post? • is this too good to be true? • is this fact or opinion?

Programmes and Resources

Area of Computing	Resource/Programme	Useful Links
ESafety		https://www.youtube.com/watch?v=ecr6OJmT3Mg Jigsaw https://www.youtube.com/watch?v=_o8auwnJtqE Cyberbullying https://www.youtube.com/watch?v=nbGIwCJK7FM Rules for Playing Safe Online https://staysafeonline.org/wp-content/uploads/2017/09/STOP.-THINK.-CONNECT.-Online-Gaming-Tips-for-Kids-Teens-Tweens.pdf Fake Website http://www.thedogisland.com/ http://stopabductions.com/ http://webfronter.com/rbkc/tomatospider/ Copyright https://www.bbc.co.uk/copyrightaware/what-is
Programming	BeeBots	
	Textease Turtle	
	Kodu	
	ProBots	
	Scratch	
Multimedia	PowerPoint	Touch Typing Hand Placement https://www.artypist.com/en/typing-tutor/practice/1/2 https://www.wikihow.com/Type Dance Mat Typing https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/z3c6tfr Stop Frame Animation https://www.youtube.com/watch?v=NVcpJZJ6OAo https://www.youtube.com/watch?v=sPjMI4Pk_Ls https://www.youtube.com/watch?v=6VOTkFpCAOc https://www.youtube.com/watch?v=QYOoCWP5RQk https://www.youtube.com/watch?v=8UqjYcWTYGc https://www.youtube.com/watch?v=v4lY9BLC1gI
	Audacity	
	Word	
	Textease	
	Digital Cameras	
	I can animate	
	Webcam/Built in Camera	
Handl.	Excel	Data Loggers https://www.youtube.com/watch?v=2q4cVchd3FO

	Textease Branch Textease Database Data Loggers	Database Query https://www.youtube.com/watch?v=6tTpK2tvi6w Create a Database https://www.youtube.com/watch?v=6tTpK2tvi6w Database to Bar Chart https://www.youtube.com/watch?v=_Txpfyn4ipI Branch Database https://www.youtube.com/watch?v=_HBJtrmBLgw
Technology in our lives		How a search engine works https://www.bbc.com/bitesize/clips/zwdxhyc IP Addresses https://www.bbc.com/bitesize/clips/zsyr9j6

Recording Work

Due to the practical nature of the computing curriculum, evidence may not always be written down by the children. It is expected that evidence is recorded in one of the different ways each lesson (this could be one document that shows a range of skills taught, e.g. a PowerPoint):

- In the whole class topic book
    - Ideally with an example and a short description of the activities within the lesson
- In individual topic books
    - This may be useful for peer feedback activities, planning their work, evaluating others' work.
    - It may just be a print out of the children's final piece, e.g. PowerPoint presentation.
    - It is not expected that this is marked by the teacher in detail due to this usually being the final product, rather than the process.
- On the netbook
    - Any work that is completed on the netbook needs to be saved in the correct half termly file. It is expected that children are taught to save their work under specific/clear file names so that it can be easily monitored by the co-ordinator.

Assessment

At the end of every half term when science is taught, the teacher will assess their class against the NC and progression guidance for that unit of computing. Assessment will be primarily from work that is done in class.

The teacher will assess each individual child under 4 headings:

Children working below ARE	Children working towards ARE	Children working at ARE	Children working above ARE

Monitoring

Monitoring is done both formally and informally throughout the year this may be done by SLT, MLT or a member of the STEM team
A list of different types of monitoring can be seen below, along with examples of RAG ratings and pupil voice on the following pages.

Whole Class Topic Books	
Topic Books	
Displays in classrooms and in the school halls	
Pupil Voice	
Assessment (1/2 Termly Assessment Booklets)	
Teacher Voice	
Planning	
Observations	

RAG Rating: Computing (Topic Books, Whole Class Topic Book, Netbook)

Date of Monitoring:

Who carried out the monitoring?

Books asked for:

Success Criteria:				
The task set matches the LO				
Computing vocabulary (tier 1, 2, 3) expectations for the lesson is clear (e.g. in the LO/SC, word mats, in children's work)				
There is evidence of computing in the whole class topic book				
Work is organised under the specific half termly folders on the netbook				
Progression/Curriculum Mapping				
The LO objectives match to the topic booklet objectives				
All of the objectives from the topic booklet are covered/evidenced				
R=				
A=				
G=				

Computing Pupil Voice

Carried out by: Date:	
Class: Children (initials):	
	RAG
Children could recall current learning of computing Note down the previous LO in addition to comments.	
Children could recall prior learning Note down the date the discussion went back to	
Children could talk about why they were learning certain things (link to real life, topic etc.)	
Children could use computing vocabulary	

Other

Children's thoughts on computing (likes and dislikes). Memorable computing lessons.	

Ideas for questions

1. What have you been learning today?
2. Can you remember how to do/what is? (Going back through the book an asking about prior learning.)
3. Can you find a piece of work in your book that you found tricky? Why was it tricky? What can you rememberabout it now?
4. Was there something in your book that you found really easy? Why did you find it easy?
5. Have you done ____ before?
6. What have you been learning in the lesson today?
7. Why were you learning this today?
8. When do you have the opportunity to revisit learning?

Further questions/ future actions