

Year: 5/6 Subject: Computing		Topic Title: Online Safety	Term - Autumn 1	Curriculum - B
PoS: Digital Literacy				
<u>Prior Knowledge</u> All children have looked at online safety last year. Children have looked at how to use the internet and devices safety and how to be respectful online. In year 3 the children have looked at respectful relationships online and what to do if they have a problem or are feeling uncomfortable online. Children have also looked at how to stay healthy when using devices and the ownership of information online. In year 4 they learnt-changing identity, trusting people online, how people’s feelings can be hurt online, sharing information online, online bullying and impacts of spending too much time online.		<u>Key Vocabulary</u> Self-image, identity, online, internet, online relationships, online reputation, online bullying, responsible, online information, personal information, technology, privacy, security, ownership, copy right.		<u>Outcome</u> Children to create a poster/presentation to explain what they have learnt in the unit.
<u>Future Learning</u> Children will continue this learning in any unit using the internet or devices. Online safety should be recapped at every opportunity. Children will also have internet safety day later in the year. Continuing in year 6 the children will learn- how to keep digital information safe, positive digital footprints, how to get help online, age rating for games and apps, and all about trusting information and how information can be manipulated and shared. In KS3 children will learn in more detail about the impacts of staying safe online, they will look in more detail about age ratings and the uses of social media and the impacts these can have on people. They will focus on how to stay safe as well as what to do if they feel like they need help.		<u>Stimulus</u> Be internet legends game. <u>First hand experiences (enrichment)</u> Be internet legends game.		<u>World of Work</u> General employment skills for a variety of jobs. Media Computer programmer/ designer Social media influencer.
<u>National Curriculum PoS</u> Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Key Knowledge		Possible evidence	
	<u>Self- image and identity</u> 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. <u>Online relationships</u> I can explain that there are some people I communicate with online who may want to do me or my friend's harm. I can recognise that this is not my / our fault. I can explain how someone can get help if they are having problems and identify when to tell a trusted adult. <u>Online reputation</u> I can describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect <u>Online Bullying</u> I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences. I can identify a range of ways to report concerns and access support both in school and at home about online bullying. <u>Managing Online information</u> 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 describe how fake news may affect someone’s emotions and behaviour and explain why this may be harmful. <u>Heath, well- being and Lifestyle</u> 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. <u>Privacy and Security</u> I can explain what a strong password is and demonstrate how to create one. I can explain what app permissions are and can give some examples. <u>Copyright and Ownership</u> 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.		See project evolve resources. See ‘Be internet legends’ resources.	

Year: 5/6 Subject: Computing PoS: Information Technology	Topic Question/Title: Super Spreadsheets		Term - Autumn 2 Curriculum - B 
Prior Knowledge This unit progresses students’ knowledge and understanding of data and teaches them how to organise and modify data within spreadsheets. In year 3 and 4 children have looked at different ways to present information, they have used text ease, PowerPoint and word. They have looked at using different software for specific purposes and they have evaluated the effectiveness of these. The children in year 5 have looked at some other ways to present information- they have also used PowerPoint/ word and have created webpages to present information they have collected from the internet.		Key Vocabulary Spread sheet, data, input, cells, formulas, functions, operations.	Outcome Party Costs Planning for school Christmas party
Future Learning In year 6- children will investigate other ways to present information- they will look at publisher/PowerPoint and they will look at webpage creation. In kS3- children will design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems. They will undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users		Stimulus Christmas Party First hand experiences (enrichment) Using computers to create spreadsheets	World of Work Finance
National Curriculum PoS 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	Key Knowledge		Possible evidence
	- To explain what an item of data is in a spreadsheet - To explain how the data type determines how a spreadsheet can process the data - To explain that formulas can be used to produce calculated data - To recognise cells can be linked - To explain why data should be organised in a spreadsheet - To recognise that a cell's value automatically updates when the value in a linked cell is changed - To evaluate results in comparison to the question asked <u>Online safety focus:</u> <u>Privacy and Security</u> I can explain what a strong password is and demonstrate how to create one. I can explain what app permissions are and can give some examples. <u>Copyright and Ownership</u> 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.		Look at some spreadsheets already created and get them to see data items formatted in different ways, then choose formats for data items before applying formats in their own spreadsheet. When producing formulas- Children to understand that the type of data in a cell is important (e.g., numbers can be used in calculations whereas words cannot). Children to plan and calculate the cost of an event (school Christmas Party) using a spreadsheet. Use a predefined list to choose what they would like to include in their event and use their spreadsheet to answer questions on the data they have selected. Children to be reminded of the importance of organising data and will then create a spreadsheet using formulas to work out costs for their event.
	Application of Key Skills		Possible evidence
	- To calculate data using a formula for each operation - To use functions to create new data - To use existing cells within a formula - To choose suitable ways to present spreadsheet data		Create formulas to use in a spreadsheet using cell references and identify that changing inputs will change the output of the calculation. Children to calculate data using the operations of multiplication, subtraction, division, and addition. Use these operations to create formulas in a spreadsheet. Children to create the final spreadsheet for the Christmas Party including all the skills that they have been learning this half term.

Year: 5/6 Subject: Computing PoS: Computer Science		Topic Question/Title: Code Crackers	Term - Spring 1	Curriculum - B
Prior Knowledge Children in year 3.4 have looked at scratch to sequence events and actions. From year 3.4 children will have a basic understanding of the functions on scratch. They should know sprites and their commands. They should know how to use the backgrounds, costumes and scripts functions to make their programs work. Children in year 5 have looked at Scratch and creating a basic game using some of the variables and functions. They should also have some understanding of Scratch and its functions.		Key Vocabulary Scratch, variables, sprite, backgrounds, scripts, costumes, design, algorithms, program, purpose, outcomes, debugging, problem solving, code, coding.	Outcome Children to create a game for another class to play based on unit.	
Future Learning In year 6- children will continue to develop their understanding of scratch and variables. There is also another unit on scratch this unit that again looks at sequence, variables, algorithms and focuses on debugging and programs to improve their effectiveness. KS3, children will be taught to understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching] and how to use logical reasoning to compare the utility of alternative algorithms for the same problem. They will undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals. Including collecting and analysing data and meeting the needs of known users and recreate, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.		Stimulus Playing games already created on Scratch. First hand experiences (enrichment) Games created on Scratch.	World of Work General employment skills for a variety of jobs. Coding skills Computer programmer/ designer	
National Curriculum PoS - 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 - 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	Key Knowledge - To define a ‘variable’ as something that is changeable - To explain that a variable can be used in a program, eg ‘score - To explain that a variable has a name and a value - To recognise that the value of a variable can be used by a program - To recognise that a variable can be set as a constant (fixed value) - To explain that the name of a variable needs to be unique <u>Online safety focus:</u> <u>Online relationships</u> I can explain that there are some people I communicate with online who may want to do me or my friend's harm. I can recognise that this is not my / our fault. I can explain how someone can get help if they are having problems and identify when to tell a trusted adult. <u>Heath, well- being and Lifestyle</u> 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.		Possible evidence - Children to be introduced to variables. Look at examples of real-world variables (score and time in a football match) before they explore them in a Scratch project. - Children to consider how they could improve their own projects and make small changes to achieve this. Learners then have the opportunity to add a variable independently. - Children to evaluate each other’s projects; they identify features that they liked and features that could be improved. - Children to identify that variables are named and that they can be letters (strings) as well as numbers.	
	Application of Key Skills		Possible evidence	
	- To identify a variable in an existing program - To experiment with the value of an existing variable - To decide where in a program to set a variable - To update a variable with a user input - To use a variable in a conditional statement to control the flow of a program - To use the same variable in more than one location in a program		- Children to then design and make their own project that includes variables. - Children to apply the concept of variables to enhance an existing game in Scratch. They predict the outcome of changing the same change score block in different parts of a program, then they test their predictions in Scratch. - Design their own program and game to use variables, design the background, sprite and their algorithm to go with it.	

Year: 5/6 Subject: Computing		Topic Question/Title: Quiz Masters		Term - Spring 2	Curriculum - B
PoS: Computer Science					
Prior Knowledge In year 1/2, children completed a unit of work on Scratch Jr on making basic quizzes, using basic sequencing, programming and debugging skills. Children in year 3.4 have looked at scratch to sequence events and actions. From year 3.4 children will have a basic understanding of the functions on scratch. They should know sprites and their commands. They should know how to use the backgrounds, costumes and scripts functions to make their programs work. Children in year 5 have looked at Scratch and creating a basic game using some of the variables and functions. They should also have some understanding of Scratch and its functions.		Key Vocabulary Scratch, variables, sprite, backgrounds, scripts, costumes, design, algorithms, program, purpose, outcomes, debugging, problem solving, code, coding.		Outcome Create a quiz for the class	
Future Learning In year 6- children will continue to develop their understanding of scratch and variables. There is also another unit on scratch this unit that again looks at sequence, variables, algorithms and focuses on debugging and programs to improve their effectiveness. KS3, children will be taught to understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching] and how to use logical reasoning to compare the utility of alternative algorithms for the same problem. They will undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals. Including collecting and analysing data and meeting the needs of known users and recreate, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.		Stimulus Kahoot/ Game show		World of Work Statistics / Data Analysis / Politics	
National Curriculum PoS - 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 - 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	Key Knowledge		Possible evidence		
	- To explain that a condition can only be true or false - To compare a count controlled loop with a condition-controlled loop - To explain that when a condition is met a loop will complete a cycle before it stops - To explain that selection can be used to branch the flow of a program - To explain that a loop can be used to repeatedly check whether a condition has been met - To explain the importance of instruction order in ‘if... then... else...’ statements <u>Online safety focus:</u> <u>Online Bullying</u> I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences. I can identify a range of ways to report concerns and access support both in school and at home about online bullying.		- Identify how ‘conditions’ are used to control the flow of actions in a program. - Demonstrate their understanding of how they are using selection to control the flow of the program - Evaluate their work by identifying how they met the requirements of the given task, and identifying the aspects of the program that worked well, those they improved, and areas that could improve further.		
	Application of Key Skills		Possible evidence		
	- To choose a condition to use in a program - To create a condition-controlled loop - To use a condition in an ‘if... then...’ statement to start an action - To use selection to switch program flow - To use ‘if... then... else...’ to switch program flow in one of two ways		- Introduce the blocks for using conditions in programs using the Scratch programming environment. - Modify the conditions in an existing program and identify the impact this has. - Complete designs by using design templates to identify the questions that will be asked, and the outcomes for both correct and incorrect answers. - Run the first section of their program to test whether they have correctly used selection to control the outcomes, and debug their program if required.		

Year: 5/6 Subject: Computing PoS: Information Technology		Topic Question/Title: Chatternet	Term – Summer 1	Curriculum - B 
<u>Prior Knowledge</u> All children will have looked at online safety, about what things we should or should not share online. They will have looked at finding information on the internet, what it is used for and how to use it safely. In year 5 the children will have looked at Webpage creation. In this unit, they will have looked at how website are made and what the purpose of these are.		<u>Key Vocabulary</u> Communication, search engines, Domain, IP addresses, packets, internet, privacy, security,	<u>Outcome</u> Safety Assembly	
<u>Future Learning</u> In the next year, the children moving to year 6, will complete a unit on webpage creation. Where they will look at how websites are made and the purposes of them. Including what information is ok and not ok to share on them. All children will next year continue their learning of online safety and how to safely communicate online.		<u>Stimulus</u> Famous People using social media First hand experiences (enrichment)	<u>World of Work</u> Police / Safeguarding / Social Media	
<u>National Curriculum PoS</u> - 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 - 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	Key Knowledge		Possible evidence	
	To recognise that there are a number of search engines To explain why search engines exist To explain that search results are ordered, and this is known as ranking To explain how search engines, make money by selling advertising space To discuss the opportunities that technology offers for communication <u>Online safety focus:</u> <u>Managing Online information</u> 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 describe how fake news may affect someone’s emotions and behaviour and explain why this may be harmful.		- Children to explore effective communication and the importance of agreed protocols. They apply this understanding to IP addresses and the rules (protocols) that computers have for communicating with one another. Learners also use a Domain Name Server (DNS) to translate web addresses into IP addresses. - Introduce children to the concept of packets. Complete an activity based on transferring an image across the internet, to see that as well as messages (text), other types of data (images, video, and audio) are also transferred over the internet. Understand the key parts of a packet: the header and the data payload. - Understand the term ‘communication’. Explore different methods of communication, before considering internet-based communication in more detail. Finally, children to evaluate which methods of communication suit particular purposes. - Categorise different forms of internet communication. Choose which method(s) they would use for the scenarios discussed in the previous lesson. Through these activities, learners explore issues around privacy and information security. Use the assessment questions to assess the children’s learning and understanding.	
	Application of Key Skills		Possible evidence	
	To recall how to use a search engine To explain that search terms need to be chosen carefully To evaluate the results of search terms To identify different ways to communicate without technology To choose an appropriate method of internet communication for a given purpose To evaluate different methods of online communication To explain that communicating through the internet can be public or private		- Children to consider how people can work together when they are not in the same location. They discuss ways of working and complete a collaborative online project. Then have a go at an online activity making slides, including text and images. - Look at another approach to online working: reusing and modifying work done by someone else. (Note: Using someone else’s work needs to be within the bounds of copyright and with the relevant permissions.) Use the Scratch programming tool, which allows learners to use other people’s work.	

Year: 5/6 Subject: Computing PoS: Information Technology		Topic Question/Title: Media Madness	Term - Summer 2	Curriculum - B
Prior Knowledge This unit progresses learners’ knowledge and understanding of creating media by guiding them systematically through the process involved in creating a video. The unit builds on the Year 4 unit ‘Photo editing’ where composition is introduced and the Year 3 unit ‘Stop-frame animation’ where learners explored some of the features of video production		Key Vocabulary Edit, Video, reshoot, filming, media formats, camera angles, microphone, camera, lens, record.		Outcome To create a range of media pieces for leavers assembly.
Future Learning In year 6, the children will continue to develop their computing skills by imputing and manipulating data, images and media. They will also create their own unit of work for they leavers assembly. In KS3, children undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users. They will create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.		Stimulus End of Year 6 celebrations. First hand experiences (enrichment) End of Year 6 celebrations.		World of Work TV / Film Careers
National Curriculum PoS - 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	Key Knowledge - To explain the features of video as a visual media format - To recognise which devices can and can’t record video - To recognise that filming techniques can be used to create different effects - To recognise the need to regularly review and reflect on a video project - To identify videos can be improved through and reshooting or editing - To recognise projects, need to be exported to be shared <u>Online safety focus:</u> <u>Self- image and identity</u> 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. <u>Online reputation</u> I can describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect		Possible evidence Children to work through looking at: - Why do we use videos - How to create a video - What makes a good video - How to improve the video - Evaluate the video created Children could create digital posters, tickets and information leaflets about the production. Children could create spreadsheets for guests etc. Any art work for the show could be made on the laptops by the children.	
	Application of Key Skills		Possible evidence	
	- To use different camera angles - To use pan, tilt and zoom - To identify features of a video recording device or application - To combine filming techniques for a given purpose - To choose to reshoot a scene or improve later through editing - To decide what changes, I will make when editing - To use split, trim and crop to edit a video		Children to use iMovie on the iPad to create, shoot and edit their video. These should then be able to be sent to the Teacher to play in assembly. Y5s to help create the video in the mixed class. Year 5 might want to create a video on something else, Year 5 at Casterton or about their time at Casterton so far.	