Subject Leader Planning Grid Subject: Computing		

Year	Skills as a computer scientist	Substantive knowledge	Key Vocabulary
1A Fire, fire!	**Online Safety** **Managing online Information** • Give simple examples of how to find information using digital technologies. **Health, well being and lifestyle** • Explain rules to keep myself safe when using technology both in and beyond the home. **Privacy and security** • Explain how passwords are used to protect accounts, information and devices. • Recognise more detailed examples of information that belongs to someone (e.g where someone lives, school name, family name) **Word processing** • Type with two hands. • Use shift, space and enter correctly. • Use undo and redo. • Make text bold, italic and underlined.	**Online Safety** **Managing online Information** • Know / understand that we can encounter things online that we like or don't like as well as things which are real or make believe. • Know how to get help from a trusted adult. **Health, well being and lifestyle** • Know why it is important to have rules to keep ourselves safe when using technology. **Privacy and security** • Know why passwords are used to protect accounts, information and devices. • Know what persona information is (e.g. where someone lives, school name, family name) **Word processing** Know where the shift, space and enter keys are on a keyboard.	**Online Safety** **Managing online Information** Devices (Alexa, google, siri) Swipe **Health, well being and lifestyle** Rules Safe online **Privacy and security** Passwords **Word processing** Shift Space bar Enter Undo Bold Italic Underlined

| 1B
The
Victorians | Online Safety

Online relationships
• Give examples of when I should give permission to do something online and explain why this is important.
• Use the internet with adult support to communicate with people I know.
• Explain why it is important to be considerate and kind to others online.
• Explain why things that some find funny or sad online, might not be the same way for others.

Programming
• Create step-by-step instructions using pictures;
• Write and follow detailed step-by-step instructions;
• Direct a Bee-Bot to an object or destination;
• Program a Bee-Bot, one instruction at a time, using the arrow buttons.
• Say what an algorithm is
• Check for mistakes (de-bug) | Online Safety

Online relationships
• Know why it is important to be considerate and kind to others online.

Programming
• Know what the word algorithm means.
• Know that by pressing the buttons on the beebot an action will take place.
• Know that the symbols on the beebot are instructional language and make the link. | Online Safety

Online relationships
Permission
Communicate
Icon
Video, keyboard, voice message, camera
Considerate
Offline, online

Programming

Forwards, backwards, left, right, algorithm. Online, permission. |
| 1C
Fighting Fit | E Safety
Online reputation
• Recognise that information can stay online and could be copied.
Online bullying
• Describe how to behave online in ways that do not upset others and give examples.

Digital Literacy | E Safety
Online reputation
• Know what information I should not put online without asking a trusted adult.
Online bullying
• Know how to behave online in ways that does not upset others.

Digital Literacy | E Safety
Online reputation
Online information

Online bullying
Online behaviour

Digital Literacy
Save |

	• Select and use different colours and brushes, • Take pictures • Use digital video e.g in PE as a tool to evaluate, • Save, open and print documents.	• Know that you can use a digital device to create work. • Know how to save, open and print a document.	Open Print
2A **Once Upon a Time**	**E Safety** <u>**Online relationships**</u> • Give examples how technology can be used to communicate with others they don't know and explain why this could be risky. <u>**Digital Literacy**</u> • Record a video • Put video clips together.	**E Safety** <u>**Online relationships**</u> • Know how communicating with others online could be risky. • Know who I should ask before sharing things about myself online • Know who can help me if I feel pressure to agree to something I am unsure about or don't want to do • Know how it makes others feel if I share something without asking permission. <u>**Digital Literacy**</u> • Know how to record.	**E Safety** <u>**Online relationships**</u> Communicate apps <u>**Digital Literacy**</u> Video sound
2B **Amazing adventures**	**E Safety** <u>**Managing online information**</u> • Use simple keywords in search engines. • Demonstrate how to navigate a simple webpage to get to information.	**E Safety** <u>**Online reputation**</u> • Know how information online can last a long time and can be seen by others. <u>**Managing online information**</u> • Know how voice activated searching might be used.	**E Safety** <u>**Online reputation**</u> Information Internet Gaming streaming <u>**Managing online information**</u> Search engine Keywords Navigate Webpage

	• Explain why some information found online might not be true / real.

Data handling
• Use pictographs/pictograms to represent data.
• Explain what each picture represents in a pictograph / pictogram.
• Sort different kinds of information and present it to others.
• Add information to a pictograph. | • Know the difference between things that are imaginary / made up and things that are true / real.

Data handling
• Know how to add data and edit a pictograph / pictogram. | Voice activated searching

Data handling

Pictograph / pictogram
data |
| **2C**
All at Sea | **E Safety**
Privacy and security
• Explain how passwords can be used to protect information, accounts and devices.
• Explain what is meant by 'private' and 'keeping things private'.
• Describe some rules for keeping information private.
• Explain how some people have devices in their home connected to the internet and give examples.

Copyright and ownership
• Recognise that content may belong to other people.

Programming (Scratch jnr)
• Create code to make an object of character move
• Connect linear codes to from simple algorithm strings.
• Create algorithms and explain what will happen. | **E Safety**
Privacy and security
• Know how passwords can be used to protect information, accounts and devices.
• Know the what 'private' and 'keeping things private' means.
• Know that some devices at home are connected to the internet.

Programming (Scratch jnr)
• Know how to write algorithms.
• Know that algorithms will create an action onscreen. | **E Safety**
Privacy and security
passwords
private
personal information

Copyright and ownership
Ownership
Content

Programming (Scratch jnr)

Forward
Backwards
Left
Right
Debug
Algorithm |

3A Moorhill miners	**E Safety** **Online reputation** • Explain how to search for information about others online. • Give examples of what people may or may not be willing to share online. • Explain who someone can ask if they are unsure about putting something online. **Data Handling** • Search a ready-made database to answer questions. • Add information into a digital database, save, open, edit and use to answer questions, • Explain some of the advantages to using a digital database. (able to search large amounts of data quickly, quick and easy to change data) • Debug problems in a database,	**E Safety** **Online reputation** • Know what key words can be used for an effect search. • Know who to ask for help if unsure about putting something online. **Data Handling** • Know why a digital database is used. • Know how to add data to a database and how to save and reopen it.	**E Safety** **Online reputation** Search engine Personal information Trusted adult **Data Handling** Digital database Save Open Edit debug
3B Tomb Raiders	**E Safety** **Online bullying** • Describe appropriate ways to behave towards other people online and why this is important. • Give examples of how bullying behaviour could appear online and how someone can get support. **Online relationships** • Explain how knowing someone online is different to knowing them offline. • Explain why someone might change their mind about trusting someone online. • Explain how someone's feelings can be hurt by what is said or written online.	**E Safety** **Online bullying** • Know where to go to get support for online bullying. **Online relationships** • Know the difference between people online and in real life. • Know the difference between trusting and liking someone online and why it's important to be careful with who to trust.	**E Safety** **Online bullying** Online bullying technology **Online relationships** Online Positive emotion

	Digital Literacy • Combine text and graphics, • Use a spellchecker. • Use copy, paste, rotate, move, to create a repeated pattern, • Record and edit sound, • Put together a series of images to create an animation.	**Digital Literacy** • Know what an animation is. • Know how to copy and paste using the icons onscreen.	**Digital Literacy** copy, paste, rotate, move, text graphics animation
3C Rotten Romans	**E Safety** **Managing information** • Use key phrases in search engines to gather accurate information. • Explain the difference between a 'belief', 'fact' and 'opinion' and give examples of how and where they might be shared online. • Describe and demonstrate how to get help from a trusted adult, if we see content that makes us feel sad, uncomfortable, worried or frightened. **Programming – Kodu** • Use commands fd, bk, lt, rt • Use the repeat instruction with support. • Debug own work • Ask and answer 'what if…' questions. • Use more than one algorithm in a program. • Use if, then instructions (use KODU)	**E Safety** **Managing information** • Know why key phrases will make searches more efficient. • Know who is a trusted adult and how and when to get help. **Programming – Kodu** • Know and use the term algorithm. • Know what the repeat instruction is and why it is used. • Know why there needs to be two parts to the algorithms used.	**E Safety** **Managing information** Autocomplete Key phrases Belief Opinion Fact credibility **Programming – Kodu** Algorithm Repeat Debug
4A Groovy Greeks	**E Safety** **Online relationships** • Describe strategies for safe and fun experiences in a range of online social environments. • Give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. **Online reputation**	**E Safety** **Online relationships** • Know how to be respectful online. • Know what healthy and unhealthy online behaviours are.	**E Safety** **Online relationships** Safe Unsafe Respectful disrespectful **Online reputation**

	- Describe how to find out about others by searching online. - Explain ways that some of the information could have been created, copied or shared by others. **Programming – Kodu** - Independently create if, then coding strings. - Solve open-ended problems by breaking them up into smaller parts. - Test, evaluate and make changes to a program for a specific purpose.	**Programming – Kodu** - Know what an algorithm is. - Know how to create an if, the coding string.	permission **Programming – Kodu** Algorithm Kodu Debug Respect Public and private information
4B Marvellous Mayans	**E Safety** **Online bullying** - Recognise when someone is upset, angry or hurt online. - Describe some ways people can be bullied through a range of media. - Explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others fell about them. **Privacy and security** - Describe strategies for keeping personal information private. - Know what the digital age of consent is and the impact this has on online services asking for consent. **LOGO** - Use a repeat instruction, creating more than one algorithm (LOGO) - Add a simple variable. - Recognise errors and debug.	**E Safety** **Online bullying** - Know ways people are bullied online. - Know what it is important to think about what to post online. **Privacy and security** - Know how to keep personal information private. - Know how to respond appropriately when asked for consent and who to ask for help if unsure. **LOGO** - Know how to create a repeat procedure in LOGO. - Know what a repeat procedure will do.	**E Safety** **Online bullying** Bullying Media Content **Privacy and security** Personal information Private information Consent Digital age of consent **LOGO** Variable Repeat procedure

	- Build more complex instructions through a series of algorithms. - Compare programming language: Kodu v LOGO, use the language of similarities and differences.		
4C **On Safari**	**E Safety**	**E Safety** **Managing online information** Know what is meant by 'fake news'.	**E Safety** **Managing online information** Fake news
	Copyright and ownership Give examples of content that cannot be used without the owner's permission.	**Copyright and ownership** Know who owns content on the internet and whether you have the right to use it.	**Copyright and ownership** Content permission
	Multi-media - Change the appearance of text to increase its effectiveness. - Create, modify and present documents for a specific purpose. - Create and use hyperlinks.	**Multi-media** Know how to make a hyperlink and its purpose.	**Multi-media** Hyperlinks
	Data handling - Collect data and identify inaccuracies. - Plan, create and search a database to answer questions.	**Data handling** - Know how to search a database. - Know how changing inputs, affect outputs.	**Data handling** Key words Data Database Search
5A **Earth and Space**	**E Safety** **Online relationships** Explain that there may be people I communicate with online who may want to do me or my friends harm and recognise this is not our / my fault.	**E Safety** **Online relationships** - Know that not all people online are friendly. - Know how to support others online.	**E Safety** **Online relationships** Gifs Memes Context Harm

	• Describe ways people can be involved in online communities and make positive contributions. • Explain how someone can get help and identify when to tell a trusted adult. • Demonstrate how to support others online. **Programming – Scratch** • Use 'if' and 'then' commands to select an action. • Identify and debug mistakes in a program. • Use the forever instruction. • Use the until block and explain what effect it has. • Explain and predict what will happen if one element is changed within a set of instructions. **Control - Lego mindstorm** • understand input and output. • use an ICT program to control an external device that is electrical and/or mechanical. • Create an algorithm to match a particular problem / scenario.	**Programming – Scratch** • Know what the forever instruction does and how it could be used. • Know what the until block does and how it could be used. **Control - Lego mindstorm** • Know what input will give a particular output for a set problem / scenario.	Community / communities Report / reporting **Programming – Scratch** Scratch Algorithm Variable Forever **Control - Lego mindstorm** Input Output Algorithm external
5B **Anglo-Saxons and Vikings**	**E Safety** **Privacy and security** • Explain what a strong password is and know how to create one. • Explain what app permissions are • Explain how free apps or services may share private information **Online bullying**	**E Safety** **Privacy and security** • Know why a secure password is important and how to create one. • Know what app permissions are. • Know that some apps may share private information. **Online bullying**	**E Safety** **Privacy and security** Password Geolocation App permissions Subscription In – app purchases Merchandise data **Online bullying**

	- Recognise how online bullying can be different to bullying in the physical world. - Describe how banter can be perceived as bullying. - Explain how to get help - Identify a range of ways to report concerns and access support. - Explain how to block abusive users. **Data handling** - Use a spreadsheet to record data. - Identify inaccuracies in data and suggest how it could be checked. - Write and use formulas sum and product - Use fill down and fill series to copy formula or data efficiently.	- Know the difference between online bullying and bullying in the physical world. - Know how to get help. - Know how to block and where to report concerns. - Know how to access helpline services for people experiencing bullying. **Data handling** - Know what a spreadsheet is and why it might be used. - Know the advantages to using a spreadsheet. - Know how to represent data in different ways – e.g. a graph - Know what the icon for auto sum is.	Bullying (online and offline) Passive bystander Active bystander Upstander Banter Block Abusive helpline **Data handling** Spreadsheet Cell Fill down fill series formula sum product
5C Journeys	**E Safety** **Copyright and ownership** - Assess and justify when it is acceptable to use the work of others. - Give examples of content that is permitted to be reused. **Managing online information** - Evaluate digital content and explain how to make choices about what is trustworthy. - Identify ways the internet can draw us to information for different agendas (e.g. pop ups). **Multi media** - Combine 2 images to create a new one. - Use cut, select and transparency tools. - Use stop motion to create an animation.	**E Safety** **Copyright and ownership** - Know some examples of content that is permitted to be reused and know how this content can be found online. **Managing online information** - Know some ways fake news may affect someone's emotions and behaviour. **Multi media** - Know how to put images together to create an animation. - Know how to combine sound and images on a particular program.	**E Safety** **Copyright and ownership** Copyright Fair use Licenced Violation Public domain **Managing online information** Benefits Limitations Digital content Search engines Pop ups **Multi media** Transparency Select Cut

	• Combine sound and images.		
6A **Into the woods** **World War Two**	**E Safety** **Online relationships** • Describe how to be kind and show respect to others online and how to support them if others don't. • Describe how things shared privately online can have unintended consequences for others. • Explain that taking inappropriate images of someone even is they say it is okay may have an impact for the sharer and others. **Online bullying** • Describe how to capture bullying content as evidence to share with others who can help me. • Explain how someone can report online bullying in different contexts. **Privacy and security** • Describe simple ways to increase privacy on apps and services that provide privacy settings. • Describe and identify ways in which some online content targets people to gain o money or information. **Data handling** • Check the data for accuracy and plausibility. • Ask and answer questions about the data. • Change the format in which data is presented – time periods, money. • Use formulas SUM and average	**E Safety** **Online relationships** • Know how sharing something online may have an impact either positively or negatively. • Know some of the ways that taking inappropriate images of someone may have an impact for the sharer and others, and who can help if someone is worried about this. **Online bullying** • Know ways to capture bullying content and who they can share it with. • Know some of the ways online bullying can be reported. **Privacy and security** • Know effective ways people can manage passwords. • Know what to do if a password is shared, lost or stolen. • Know online services have terms and conditions that govern their use. **Data handling** • Know how changes in a spreadsheet affect results. • Know the importance of ensuring the data I use is accurate. • Know how to create formulas for SUM and Average.	**E Safety** **Online relationships** Boundaries Respect Self respect Consequences Positive Negative inappropriate **Online bullying** Capture Screenshot Screen grab url profile report **Privacy and security** Privacy Permissions Data Online content **Data handling** Spreadsheet Data Accuracy Plausibility

6B Origin of the species	E Safety **Managing online information** • Explain how search engines work. • Explain how and why some people may present opinion as fact. • Demonstrate how to analyse and evaluate the validity of 'facts' and information. • Identify, flag and report inappropriate content.	E Safety **Managing online information** • Know that some online information can be opinion. • Know some ways to analyse and evaluate the validity of 'facts' and information. • Know the difference between online misinformation and disinformation. • Know how to identify, flag and report inappropriate content.	E Safety **Managing online information** Opinion Search engine Facts Opinion validity inappropriate
	Copyright and ownership • Demonstrate the use of search tools to find and access content, which can be reused by others. • Demonstrate how to make references to and acknowledge sources used from the internet.	**Copyright and ownership** • Know how to reference and acknowledge sources used from the internet.	**Copyright and ownership** Filtered Public domain url usage rights copyright attributed reference
	Programming – Scratch • Deconstruct a problem into smaller steps, • Explain and program each of the steps in my algorithm. • Combine algorithms. • Evaluate the effectiveness and efficiency of my algorithm, while I continually test the programming of that algorithm. • Use a variable for a required output.	**Programming – Scratch** • Know how to use algorithms to get a desired effect. • Know what a variable can be used for.	**Programming – Scratch** Variable Audience Atmosphere Structure
	Multi media • Talk about audience, atmosphere and structure when planning a particular outcome and plan to meet those ideas. • Combine a range of media for a particular purpose.	**Multi media** • Know how to record, edit and input sound into a multi media presentation.	

	- Record, edit and input sound. - Be digitally discerning when evaluating the effectiveness of my own work and the work of others.		