Wallsend Jubilee Primary School

Year 1 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Computer Science	• Create and debug simple programs • Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • Use logical reasoning to predict the behaviour of simple programs	Understands what an algorithm is and is able to express simple linear (non-branching) Algorithms symbolically. Understands that computers need precise instructions. Demonstrates care and precision to avoid errors. (Action algorithms) (Programming Direction)	Can confidently design and develop a purposeful algorithm instruction. Can identify, problem solve and debug errors.
		Knows that users can develop their own programmes, and can demonstrate this by creating a simple programme in an environment that does not rely on text e.g. Programmable robots etc. Executes, checks and changes programmes. Understands that programmes execute by following precise instructions. (Exploring Machines we Control.) (Action algorithms) (Programming Direction) (Exploring Digital Sound)	Can develop an effective, purposeful algorithm and explain their understanding.
		Understands that computers have no intelligence and that computers can do nothing unless a programme is executed. (Exploring Machines we Control) (Action algorithms) (Programming Direction) (Exploring Digital Sound)	Can explain the purpose of an algorithm instruction and demonstrate examples of when this can be applied.
		Recognises that all software executed on digital devices is programmed. (Exploring Machines we Control.) (Action algorithms) (Programming Direction) (Exploring Digital Sound)	Can compare a range of software and compare the purpose and impact.
Information Technology	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Recognises that digital content can be represented in many forms. (An intro to digital art) (Making multimedia stories) (Exploring Digital Sound)	Can explore multimedia formats creatively, taking inspiration from given examples to develop their own ideas.
		Distinguishes between some of these forms and can explain the different ways that they communicate information. (An intro to digital art) (Making multimedia stories)	Can make comparisons between a variety of formats and confidently explore how information is communicated.
		Uses software under the control of the teacher to create, store and edit digital content using appropriate file and folder names. (An intro to digital art) (Making multimedia stories) (Exploring Digital Sound)	Can create, store and edit digital content.
		Understands that people interact with computers. Talks about their work and makes changes to improve it. (An intro to digital art) (Making multimedia stories) (Exploring Digital Sound)	Can edit and improve work, following self, peer and teacher comments.
Digital Literacy	• Recognise common uses of information technology beyond school • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	Knows common uses of information technology beyond the classroom. (Exploring Machines we Control.)	Can give a range of examples of IT, beyond the classroom, and can understand the purpose.
		Shares their use of technology in school. (Exploring Machines we Control.)	Can confidently share their use of technology, displaying a depth of understanding and appreciation.
		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. (Covered at the beginning of every topic – Safer Internet Day)	Can confidently discuss how to stay safe. When necessary, is able to seek further support. Can begin to explore digital etiquette.

Wallsend Jubilee Primary School

Year 1 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	Depth
E Safety	Unsafe Communication.	Knowing different strategies for staying safe when communicating with others, especially people they do not know/have never met. T • Understands that communicating safely online and protecting your privacy and data is important regardless of who you are communicating with, • Can identify indicators of risky and unsafe communications, • Can identify risks associated with giving out addresses, phone numbers or email addresses to people you do not know or arranging to meet someone you have not met before,	Can confidently identify safe and unsafe communications in a variety of different formats. Can identify what personal information should not be shared and can identify the implications. Can explain about consent online and strategies to confidently say "no" to both friends and strangers online.
	Personal Data	Explore online platforms and search engines gather personal data. This is often referred to as 'harvesting' or 'farming'. • Understand how data is farmed from sources which look neutral, for example websites that look like games or surveys that can gather lots of data about individuals, • Understand how, and why, personal data is shared by online companies. • Understand how you can protect yourself and what to do if something goes wrong (for example data being hacked) and that acting quickly is essential • Explore rights that children have with regard to their data, including particular protections for children under the General Data Protection Regulations (GDPR) including paying particular attention to boxes they tick when playing a game or accessing an app for the first time.	Understand how cookies work and how data is farmed. Understand what the term 'hacked' means and how to protect themselves. Explain why data is used and shared including for targeted marketing by email/text (spam). Explore their rights and the importance of keeping personal data safe.
	Online vs Offline behaviour	People can often behave differently online to how they would act face to face. • Can identify appropriate online behaviour and inappropriate behaviour online.	Can identify the difference between appropriate and inappropriate behaviour. Can discuss why behaviour online can be different to behaviour offline.

Wallsend Jubilee Primary School

Year 2 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Computer Science	• Create and debug simple programs • Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • Use logical reasoning to predict the behaviour of simple programs	Understands what an algorithm is and is able to express simple linear (non-branching) Algorithms symbolically. Understands that computers need precise instructions. Demonstrates care and precision to avoid errors. (Programming with Scratch Jnr) (Programming with Logo)	Can develop precise algorithms to meet a purpose and is able to describe alternative options and correctly identify errors.
		Understands that algorithms are implemented on digital devices as programs. Designs simple algorithms using loops, and selection. i.e if statements. Uses logical reasoning to predict outcomes. Detects and corrects errors. I.e. debugging in algorithms. (Programming with Logo)	Can use simple 'if' statement algorithms (and beginning to explore other designs) and can correctly predict the outcomes. When errors occur, they can debug efficiently.
		Knows that users can develop their own programmes, and can demonstrate this by creating a simple programme in an environment that does not rely on text e.g. Programmable robots etc. Executes, checks and changes programmes. Understands that programmes execute by following precise instructions. (Programming with ScratchJnr)	Can creatively design algorithms and is able to comment on design. Can execute, check and change programmes as well as support peers with their understanding.
		Understands that computers have no intelligence and that computers can do nothing unless a programme is executed (Programming with Scratch Jnr) (Programming with Logo)	Can discuss that they are solely responsible when [programming. Due to this, errors must be debugged by them.
		Recognises that all software executed on digital devices is programmed. (Programming with ScratchJnr) (Programming with Logo)	Can explore and describe how programming is used and give real life examples of when it is used in school and outside of school.
Information Technology	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Recognises that digital content can be represented in many forms. (Intro to Animation) (Finding & Presenting Information) (Writing in Different Styles) (Beginning to Present)	Can explore examples of digital content and compare (how it is used, how it is developed, why it is effective).
		Recognises different types of data: text, number. (Finding & Presenting Information)	Can confidently explain what data is, can give examples and can explain how it is used. Is beginning to interpret data.
		Appreciates that programmes can work with different types of data. (Finding & Presenting Information)	Can compare examples of data and is able to identify the most effective data in a range of scenarios.
		Recognises that data can be structured in tables to make it useful. (Finding & Presenting Information)	Can search for data in a table and is able to describe why this is an effective structure.
		Distinguishes between some of these forms and can explain the different ways that they communicate information. (Intro to Animation) (Finding & Presenting Information) (Writing in Different Styles) (Beginning to Present)	Can compare formats of communication and give scenarios to identify the most effective ways, depending on the information being shared.
		Obtains content from the world wide web using a web browser. (Finding & Presenting Information)	Can efficiently search for data regarding a given topic and is beginning to interpret and identify key parts.
		Recognises and can use a range of input and output devices. Navigates the web and can carry out simple web searches to collect digital content	Can effectively search for digital content (in a variety of formats such as text, image, sound etc) on a range of devices.
		Uses software under the control of the teacher to create, store and edit digital content using appropriate file and folder names. (Intro to Animation) (Finding & Presenting Information) (Writing in Different Styles) (Beginning to Present)	Can independently create, store and edit. Can independently create an efficient folder name and save their work.
		Uses a variety of software to manipulate and present digital content; data and information. (Finding & Presenting Information)	Can purposefully use a range of software to manipulate and present content.
		Understands that people interact with computers. Talks about their work and makes changes to improve it. (Intro to Animation) (Finding & Presenting Information) (Writing in Different Styles) (Beginning to Present)	Can present their work to the class, seld assess, peer assess and use feedback to edit and improve.
Digital Literacy	• Recognise common uses of information technology beyond school • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	Understands the importance of communicating safely and respectfully online, and the need for keeping personal information private. (Finding & Presenting Information) (Beginning to Present)	Can appreciate the importance of online etiquette and explain the importance of topics such as keeping personal information private.
		Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. (Finding & Presenting Information)	Can identify acceptable and unacceptable content and contact when online. Can explain what to do when this occurs.
		Knows what to do when concerned about content or being contacted. (Finding & Presenting Information) (Programming with Scratch Jnr)	Can explain what to do when concerned about content or contact online and can explain the impact.
		Shares their use of technology in school. (Programming with ScratchJnr)	Can confidently share their use of technology in school and can informatively describe what they have done.
		Shows an awareness for the quality of digital content collected. (Finding & Presenting Information)	Can discuss the importance regarding quality of digital content collected.

Wallsend Jubilee Primary School

Year 2 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	Depth
E Safety	Challenges	Online challenges acquire mass followings and encourage others to take part in what they suggest. • Children can explain what an online challenge is and that while some will be fun and harmless, others may be dangerous and or even illegal, • Understands how to assess if the challenge is safe or potentially harmful, including considering who has generated the challenge and why, • Can explain how and where to go for help if worried about a challenge,	Can confidently describe what an online challenge is and give relevant examples. Can identify the impact it can have, including the dangers, and explain that it is ok to say no and not take part, Understands the importance of telling an adult about challenges which include threat or secrecy ('chain letter' style challenges).
	Password Phishing	Password phishing is the process by which people try to find out your passwords so they can access protected content. • Understand why passwords are important, how to keep them safe and that others may try to trick you to reveal them, • Explain how to recognise phishing scams, for example those that seek to gather login in credentials and passwords • Understand the importance of online security to protect against viruses (such as keylogging) that are designed to access/steal/copy passwords information, • Understand what to do when a password is compromised or thought to be compromised.	Understand the importance of effective passwords, including how to select secure and effective passwords. Understand and explain the importance, the impact of compromised passwords and demonstrate an understanding of what to do if a password is compromised, or thought to be.
	Impact on quality of life, physical and mental health and relationships.	Knowing how to identify when online behaviours stop being fun and begin to create worries. • pupils can discuss what they do online, why they are doing it, and for how long (screen time). • Can explain that pupils need to consider if they are actually enjoying being online or due to other pressures • Can describe the affect of having too much 'screen time'	Can identify a healthy balance of screen time. Can identify other activities to ensure physical and mental health. Can describe how screen time can impact on relationship and explore strategies to avoid this.

Wallsend Jubilee Primary School

Year 3 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Computer Science	• 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	Understands that algorithms are implemented on digital devices as programs. Designs simple algorithms using loops, and selection. i.e if statements. Uses logical reasoning to predict outcomes. Detects and corrects errors. I.e. debugging in algorithms. (Programming Scratch Maze Games) (Getting started with Kodu) (Lego WeDo)	Can design simple algorithms with increasing complexities. Can use reasoning when predicting the outcomes. Can efficiently predict, identify and debug errors.
		Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then, and else. (Real life Algorithms)	Can design solution algorithms for a purpose and is able to confidently use repetition and two way selection.
		Uses arithmetic operators, if statements, and loops, within programmes. Uses logical reasoning to predict the behaviour of programmes. Detects and corrects simple semantic errors. I.e. debugging in programs. (Lego WeDo) (Programming Scratch Maze Games) (Getting started with Kodu)	Can effectively design, create and debug within a range of programmes and is able to make effective comparisons to develop ideas.
		Uses logical reasoning to predict ouputs, showing an awareness of inputs. (Lego WeDo)	Can reason inputs and use this understanding to effectively predict outputs.
		Recognises that a range of digital devices can be considered a computer. (Lego WeDo)	Can compare a range of digital devices and is developing understanding of what a computer is.
		Recognises and can use a range of input and output devices. Understands how programs specify the function of a general purpose computer. (Lego WeDo) (Programming Scratch Maze Games) (Getting started with Kodu)	Can use a range of programs to create, test and correct programs. Can use key vocabulary to describe their algorithm and the purpose.
		Creates programs that implement algorithms to achieve given goals. (Lego WeDo)	Can follow steps to create an algorithm to achieve a goal and is beginning to develop their own ideas.
		Uses diagrams to express solutions. (real life algorithms)	Can give practical, real life examples of algorithms (pedestrian crossing etc), Can draw diagrams and describe.
		Declares and assigns variables. (Lego WeDo)	Can declare and assign effective variables, both for a purpose or to change the output.
		Knows that computers collect data from various input devices, including sensors and application software. (Lego WeDo)	Can use a range of input devices and explain how they work, comparing to real life examples (for example a sensor).
Information Technology	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Recognises different types of data: text, number. (Databases)	Can explain the purpose of data and is able to interpret different examples.
		Understands the difference between data and information. (Databases)	Can compare data and information and explain the difference, giving examples of each.
		Appreciates that programmes can work with different types of data. (Databases)	Can identify different data used on programs and explain why this occurs.
		Recognises that data can be structured in tables to make it useful. (Databases)	Can identify and describe tables. Can appreciate why they are used.
		Knows why sorting data in a flat file can improve searching for information. (Databases)	Can search for information and is able to identify benefits of sorting data.
		Uses filters or can perform single criteria searches for information. (Databases)	Can filter data and explain the purpose of this,
		Uses a variety of software to manipulate and present digital content; data and information. (Databases) (Communication & Collaboration)	Can manipulate and present digital content confidently. Can effectively peer assess .
		Shares their experiences of technology in school and beyond the classroom. (Communication & Collaboration)	Can discuss and reason the uses of technology in school and the wider world, making knowledgeable comparisons.
		Shows an awareness of, and can use a range of internet services, e.g. VOIP. Collects, organises and presents data and information in digital content. (Databases) (Communication & Collaboration)	Can efficiently use a variety of internet services and can reason why each is important, including when it could be used.
		Creates digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience. E.g. Blogging. (Databases) (Communication & Collaboration)	Can compare a variety of digital content and can create their own examples for a given purpose. Can reason how, when, why communication can be used, using real life examples.
		Talks about their work and makes improvements to solutions based on feedback received. (Communication & Collaboration)	Can effectively self assess, peer assess and edit/improve following feedback.
		Makes appropriate improvements to solutions based on feedback received, and can comment on the success of the solution. (Communication & Collaboration)	Can give/ receive feedback and share effectiveness, offering alternative solutions.
Digital Literacy	• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. (Communication & Collaboration)	Can discuss awareness of online etiquette.
		Shows and awareness for the quality of digital content collected. (Communication & Collaboration)	Can explain the purpose of digital content collected as well as the implications.
		Recognises what is acceptable and unacceptable behaviour when using technologies and online services. (Communication & Collaboration)	Displays a sound understanding of acceptable behaviour online.

Wallsend Jubilee Primary School

Year 3 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	Depth
E Safety	Fake profiles	Not everyone online is who they say they are. • explaining that in some cases profiles may be people posing as someone they aren't (i.e. an adult posing as a child) or may be "bots" (which are automated software programs designed to create and control fake social media accounts), • how to look out for fake profiles. This could include o profile pictures that don't like right, for example of a celebrity or object, o accounts with no followers	Can confidently identify the features of fake profiles and the reasons they are created, as well as places they could be found. Can describe what to do when a fake profile is detected. Understands how to identify, the reasons for and the meaning of a 'verified account'.
	Age Restrictions Fake websites and scam emails	Understanding online activities have age restrictions because they include content which is not appropriate for children under a specific age. • Understand age verification exists and why some sites require a user to verify their age. For example, purchasing of certain age restricted materials. • Explore why age restrictions exist - for example, they provide a warning that the site may contain disturbing material that is unsuitable for younger viewers • Explore the age of digital consent (the minimum age 13) at which young people can agree to share information and sign up to social media without parental consent under General Data Protection Regulations. Understand fake websites and scam emails are used to extort data, money, images and other things that can either be used by the scammer to harm the person targeted or sold on for financial, or other gain. • Understand how to look out for fake URL and websites • Understand what secure markings on websites are and how to assess the sources of emails, • Explore the risks of entering information to a website which isn't secure, • Understand what to do if harmed/targeted as a result of interacting with a fake website or scam email. Who to go to and the range of support that is available.	To understand and explain the purpose of age restrictions and the reasons they are in place. To identify how fake websites and scam emails can be identified as well as why they are used and the impact they can have. Furthermore pupils will be able to confidently explain how to access support if harmed or targeted by fake websites/ scam emails.
	Online vs. offline behaviour	People can often behave differently online to how they would act face to face. • Can discuss how and why people are unkind or hurtful online, when they would not necessarily be unkind to someone face to face.	Can identify the difference between appropriate and inappropriate behaviour. Can confidently identify how to respond to inappropriate online behaviour.

Wallsend Jubilee Primary School

Year 4 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Computer Science	• 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	Designs solutions (algorithms) that use repetition and two way selection i.e. if, then, and else. (Scratch – programming animation)	Can reason algorithm, design, including solutions.
		Uses logical reasoning to predict ouputs, showing an awareness of inputs. (Scratch – programming animation) (Lego WeDo – Give it a scratch) (Kodu Sport)	Can identify/ design inputs and correctly identify outputs.
		Creates programs that implement algorithms to achieve given goals. (Lego WeDo – Give it a scratch) (Kodu Sport)	Can achieve given goal using a range of programs.
		Declares and assigns variables. (Lego WeDo – Give it a scratch) (Kodu Sport)	Can edit algorithms using effective variable.
		Uses post-tested loop e.g. 'until' and a sequence of selection statements in programs, including an if, then and else statement. (Kodu Sport)	Confidently uses functions such as loops and can explain the purpose.
		Knows that computers collect data from various input devices, including sensors and application software (Lego WeDo – Give it a scratch)	Can use a range of input devices and identify real life examples.
		Shows an awareness of tasks best completed by humans or computers. Knows that computers collect data from various input devices, including sensors and application software. (Lego WeDo - Give it a scratch) (Kodu Sports)	Can identify efficient ways computers are used and identify effective examples in the real world.
		Recognises that different solutions exist for the same problem. (Lego WeDo - Give it a scratch) (Kodu Sports)	Can produce alternative solutions.
		Understands the difference between, and appropriately uses if and if, then and else statements. (Kodu Sports)	Can confidently use and reason 'if, then else' statements
		Uses a variable and relational operators within a loop to govern termination. (Lego WeDo - Give it a scratch) (Kodu Sports)	Can use variable and relational operators in different contexts.
Information Technology	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Shows an awareness of, and can use a range of internet services, e.g. VOIP. Collects, organises and presents data and information in digital content. (Searching the Web) (Collaborative Websites)	Can independently use a range of internet services to collect, organise and present data/ information, and is able to talk through each step.
		Creates digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience. E.g. Blogging. (Searching the Web) (Collaborative Websites) (3D Design – Sketch Up)	Can achieve a given goal to communicate with a wide audience and is able to explain how this is done effectively.
		Makes appropriate improvements to solutions based on feedback received, and can comment on the success of the solution. (Collaborative Websites) (3D Design – Sketch Up)	Can offer feedback to their own work as well as that of peers and is able to use this feedback to edit/improve.
		Recognises the audience when designing and creating digital content. (Searching the Web) (Collaborative Websites)	Can identify a target audience when designing digital content—using a range of categories (location, age etc) and is able to design appropriately.
		Uses criteria to evaluate the quality of solutions, can identify improvements making some refinements to the solution, and future solutions. (Lego WeDo - Give it a scratch) (Kodu Sports)	Can use a given criteria and is beginning to identify their own criteria for effective solutions. Can identify improvements.
Digital Literacy	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. (Searching the Web)	Can describe why acceptable content/ contact is important and can identify ways to report including appropriate adults/ platforms
		Shows and awareness for the quality of digital content collected. (Searching the Web)	Can identify reasons data is collected and how/ why this influences what information we should share online.
		Recognises what is acceptable and unacceptable behaviour when using technologies and online services. (Searching the Web) (Collaborative Websites)	Can outline key areas to ensure online etiquette.
		Makes judgements about digital content when evaluating and repurposing it for a given audience. Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns. Selects, combines and uses internet services. Understands the potential of information technology for collaboration when computers are networked. (Searching the Web) (Collaborative Websites)	Can evaluate and repurpose content for a given audience and identify why the data we share depends on the both the audience and the network.

Wallsend Jubilee Primary School

Year 4 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
E Safety	Content which incites	Knowing that violence can be incited online and escalate very quickly into offline violence. • pupils know that online content (sometimes gang related) can glamorise the possession of weapons and drugs, • Pupils know that to intentionally encourage or assist an offence is also a criminal offence • pupils know how and where to get help if worried about involvement in violence.	Can confidently give a variety of examples of offline violence which can be incited online, including real life examples. Able to begin to think of ways to identify involvement or possible involvement. Understands the implications of involvement, including assisting. Can describe in depth the steps that should be taken and where to find appropriate support.
	Disformation, misformation and hoaxes. Privacy settings	Some information shared online is accidentally or intentionally wrong, misleading, or exaggerated. • Understand disinformation and why individuals or groups choose to share false information in order to deliberately deceive • Explore misinformation and being aware that false and misleading information can be shared inadvertently, • Explore online hoaxes, which can be deliberately and inadvertently spread for a variety of reasons, • Explain that the viral nature of this sort of content can often appear to be a stamp of authenticity and therefore why it is important to evaluate what is seen online • Understand how to measure and check authenticity online, Almost all devices, websites, apps and other online services come with privacy setting that can be used to control what is shared. • Understand how to find information about privacy setting on various sites, apps, devices and platforms,	To understand, and be able to give examples, that some information shared online is accidentally or intentionally wrong, misleading or exaggerated. Understand why this happens and able to identify techniques to effectively measure and check authenticity. Understand the potential consequences of sharing information that may not be true. Understand the importance of privacy settings, how and why they are used and the impact, aswell as the limitations (for example they will not prevent someone posting something inappropriate).
	Impact on quality of life, physical and mental health and relationships	Knowing how to identify when online behaviours stop being fun and begin to create anxiety, including that there needs to be a balance between time spent on and offline. • pupils can evaluate critically what they are doing online, why they are doing it, and for how long (screen time). This could include reference to technologies that help them to manage their time online, monitoring usage of different apps etc, • pupils to consider quality vs quantity of online activity, • Can explain that pupils need to consider if they are actually enjoying being online or just doing it out of habit, due to peer pressure or the fear of missing out, helping pupils to understand that time spent online gives users less time to do other activities. This can lead to some users becoming physically inactive,	Can identify a strategies to ensure a healthy balance of screen time. Can identify reasons that can impact on how much time is spend online and how this can impact both short and long term. Can explore the impact that excessive social media usage can have on levels of anxiety, depression and other mental health issues, Can explain that isolation and loneliness can affect pupils and that it is very important for pupils to discuss their feeling with an

Wallsend Jubilee Primary School

Year 5 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Computer Science	• 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	Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then, and else. (Programming Robots) (Raspberry Pi)	Can independently design algorithms to meet a given criteria, including repetition and 2 way selection,
		Uses diagrams to express solutions. (Raspberry Pi)	Can use a diagram (including appropriate symbols) to express an algorithm (instruction)
		Designs solutions by decomposing a problem and creates a sub-solution for each of these parts (decomposition). (Raspberry Pi)	Can independently decompose a problem and identify effective sub solutions to test out.
		Recognises that different solutions exist for the same problem. (Kodu – 3D Pac Man) (Programming Robots) (Raspberry Pi)	Can explore a variety of solutions for a given problem to assess which is the most effective.
		Uses logical reasoning to predict outputs, showing an awareness of inputs (Kodu – 3D Pac Man) (Programming Robots) (Raspberry Pi	Can reason how inputs impact on outputs. Can predict outputs of given examples (including peers)
		Creates programs that implement algorithms to achieve given goals. (Kodu – 3D Pac Man) (Programming Robots) (Raspberry Pi)	Can develop algorithms to achieve given goals and offer alternative inputs to achieve the same goal.
		Declares and assigns variables (Kodu – 3D Pac Man) (Programming Robots) (Raspberry Pi)	Can independently explore variables and can reason.
		Uses post-tested loop e.g. 'until' and a sequence of selection statements in programs, including an if, then and else statement. (Kodu – 3D Pac Man)	Can independently use post tested loop and reason
		Understands the difference between, and appropriately uses if and if, then and else statements. (Kodu – 3D Pac Man)	Can independently use if, then and else statements and reason.
		Uses a variable and relational operators within a loop to govern termination (Kodu – 3D Pac Man) (Programming Robots)	Can independently use variable and relational operators within a loop and can reason.
		Knows that computers collect data from various input devices, including sensors and application software. (What is a computer?)	Can use application software and sensors, and can reason how they work.
		Understands the difference between hardware and application software, and their roles within a computer system (What is a computer?)	Can identify and describe the key feature of hardware and software. Can identify examples and compare.
		Understands the difference between hardware and application software, and their roles within a computer system (Raspberry Pi) (Kodu – 3D Pacman)	Can reason the role of hardware and software
		Understands why and when computers are used. (What is a computer?)	Can give examples of why and when computers are used
		Understands the main functions of the operating system (What is a computer?)	Can reason the main functions of the operating system.
Information Technology	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Understands the difference between data and information. (What is a computer?)	Can confidently explain the key features of data and information, and can reason.
		Knows why sorting data in a flat file can improve searching for information. (Collecting, testing and presenting data)	Can reason effective strategies when searching for information, including sorting data in a flat file.
		Uses filters or can perform single criteria searches for information. (Collecting, testing and presenting data)	Can independently use filters and perform single criteria searches.
		Shows an awareness of, and can use a range of internet services e.g. VOIP. Collects, organises and presents data and information in digital content. (Collecting, testing and presenting data)	Can independently use a range of internet services to collect, organise and present effective digital content.
		Creates digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience e.g. blogging. (Collecting, testing and presenting data)	Can achieve a given goal using a variety of software and services to communicate efficiently with a wider audience.
		Makes appropriate improvements to solutions based on feedback received, and can comment on the success of the solution. (Manipulating Sound)	Can self and peer assess. Can listen and act on self, peer and teacher feedback to develop efficiency of solution.
		Analyses and evaluates data and information, and recognises that poor quality data leads to unreliable results, and inaccurate conclusions. (Collecting, testing and presenting data	Can effectively analyse and evaluate data, and can spot discrepancies and reason how this impacts conclusions.
		Knows the difference between physical, wireless and mobile networks. (What is a computer?)	Can confidently compare physical, wireless and mobile networks.
		Uses criteria to evaluate the quality of solutions, can identify improvements making some refinements to the solution, and future solutions. (Kodu – 3D Pac Man) (Programming Robots)	Can independently reflect on solutions in order to make refinements to develop the solution.
		Knows that there is a range of operating systems and application software for the same hardware. (What is a computer?)	Can discuss different operating systems and application software but acknowledge it can be used on the same hardware.

Wallsend Jubilee Primary School

Year 5 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Digital Literacy	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing,	Recognises what is acceptable and unacceptable behaviour when using technologies and online services (Collecting, testing and presenting data.)	Can identify acceptable behaviours when using technologies and online services. Can distinguish between unacceptable uses and discuss the impact that this can have (on perpetrator and victim). Can clearly identify the actions taken when acceptable behaviour occurs and understands why this is so important both short term and long term.
E Safety	Live streaming.	Live streaming (showing a video of yourself in real-time online either privately or to a public audience) can carry a risk when carrying it out and watching it. • Understands the risks of carrying out live streaming. These include the potential for people to record live streams without the user knowing and content being shared without the user's knowledge or consent. • Understands online behaviours should mirror offline behaviours and considering any live stream in that context. • Can explain the risk of watching videos that are being live streamed, for example there is no way of knowing what will come next and so this poses a risk that a user could see something that has not been deemed age appropriate in advance,	Can confidently identify the benefits and dangers of live streaming.. Understands online etiquette and understands the risks of not behaving appropriately online. IS able to discuss why in some cases people will do and say things online that they would never consider appropriate offline.
	Content – how can it be used and shared? Targeting of online content – including social media and search engines	Understand what happens to information, comments or images that are put online. T • Understand what a digital footprint is, how it develops and how it can affect future prospects such as university and job applications • Understand how cookies work, • Understand how content can be shared, tagged and traced, • Understand how difficult it is to remove something a user wishes they had not shared, • Understand what is illegal online, especially what may in some cases be seen as "normal" behaviours (this could include copyright, sharing illegal content)	Understand and demonstrate a developed understanding of online etiquette and the importance of the impact both short term and long.
	Online vs. offline behaviour	People can often behave differently online to how they would act face to face. • Understands how and why people can often portray an exaggerated picture of their lives (especially online) and how that can that can lead to perfect/curated lives pressures, • Can discuss how and why people are unkind or hurtful online, when they would not necessarily be unkind to someone face to face.	Can confidently describe appropriate online etiquette, including the implications of inappropriate online behaviour (both for the perpetrator and victim). Can confidently identify how to respond to inappropriate online behaviour.

Wallsend Jubilee Primary School

Year 6 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Computer Science	• 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	Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then and else. (Raspberry Pi) (Sonic Pi)	Can independently design solutions using effective and creative algorithms, including repetition and two way selection.
		Uses diagrams to express solutions. (Raspberry Pi)	Can independently use and design diagrams to express solutions, including a range of efficient symbols. Can reason diagram design.
		Uses logical reasoning to predict outputs, showing an awareness of inputs. (Raspberry Pi) (Sonic Pi)	Can independently use inputs and can use this knowledge to effectively predict output and reason why it happened.
		Creates programs that implement algorithms to achieve given goals. (Sonic Pi)	Can deign and program algorithms to achieve goals. Can reason understanding and offer alternative ideas.
		Declares and assigns variables (Raspberry Pi) (Sonic Pi)	Can explain the use of variables and can implement them to work efficiently.
		Uses post-tested loop e.g. 'until', and a sequence of selection statements in programs, including an if, then and else statement (Sonic Pi)	Can independently use post tested loop and a sequence of selection statement. Can reason understanding.
		Understands the difference between the internet and internet service e.g. world wide web. (Inside the internet)	Can discuss the divergence between the internet and internet services, giving examples of each.
		Designs solutions by decomposing a problem and creates a sub-solution for each of these parts (decomposition). (Raspberry Pi)	Can independently decompose a problem and confidently create sub solutions. Can offer alternative solutions, identifying the most efficient.
		Understands the difference between, and appropriately uses if and if, then and else statements. (Sonic Pi)	Can independently understand and use 'if, then and else' statements. Can reason the purpose of these functions.
		Uses a variable and relational operators within a loop to govern termination (Sonic Pi)	Can independently understand and use variable/ relational operators within a loop to govern termination. Can reason the purpose of these functions.
		Designs, writes and debugs modular programs using procedures. (Sonic Pi)	Can independently and creatively design, write and debug modular programs using procedures.
		Understands why and when computers are used. (Inside the Internet)	Can reason why and when computers and used and identify real life examples.
		Understands that iteration is the repetition of a process such as a loop (Raspberry Pi) (Sonic Pi)	Can reason the purpose and give examples of when/why iteration is used.
		Represents solutions using a structured notation (Sonic Pi)	Can offer efficient solutions using a knowledgeable and structured notion.
		Has practical experience of a high-level textual language, including using standard libraries when programming. (Sonic Pi)	Has practical experience of a high level textual language and can confidently reason understanding.
		Defines data types: real numbers and Boolean. (Raspberry Pi)	Can independently define data types and confidently compare. Can identify examples for why each data type would be most appropriate.
		Knows that digital computers use binary to represent all data. (Raspberry Pi)	Can explain how/why computers use binary to represent data and why this is effective and efficient.
		Understands how bit patterns represent numbers and images (Raspberry Pi)	Can explain how/ why bit patterns are used to represent numbers and images. Can explain why this is effective and efficient.
		Knows that computers transfer data in binary. (Raspberry Pi)	Can explain and reason why computers transfer data in binary.
		Understands the relationship between binary and file size (uncompressed) (Raspberry Pi)	Can explain and reason the relationship between binary and file size. Can begin to understand different file formats and how this impacts.
		Recognises and understands the function of the main internal parts of basic computer architecture. (Raspberry Pi)	Can recognise, understand and reason the functions of the main internal parts of a basic computer.
		Understands how to construct static web pages using HTML and CSS. (Inside the Internet)	Can confidently reason how to construct static web pages
		Understands data transmission between digital computers over networks, including the internet i.e. IP addresses and packet switching. (Inside the Internet)	Can explain data transmission between digital computers over networks. Can reason how/ why this used.

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Year 6 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
Information Technology	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Uses a variety of software to manipulate and present digital content: data and information (Manipulating Images) (Video Editing)	Can confidently, efficiently and purposefully use a variety of software to present a range of digital content.
		Shares their experiences of technology in school and beyond the classroom. (Manipulating Images)	Can confidently explore their experiences of technology in school and beyond the classroom. Can reason key benefits.
		Talks about their work and makes improvements to solutions based on feedback received. (Manipulating Images) (Video Editing)	Can listen and reflect on self, peer and teacher feedback. Can act on feedback to develop solutions,
		Makes appropriate improvements to solutions based on feedback received, and can comment on the success of the solution. (Manipulating Images) (Video Editing)	Can make effective amendments based on feedback. Can reason a range of solutions and confidently reason which was the most effective.
		Knows the difference between physical, wireless and mobile networks. (Inside the Internet)	Can independently compare physical, wireless and mobile networks. Can identify the purpose and advantages/ disadvantages of different networks.
		Recognises the audience when designing and creating digital content. (Inside the Internet)	Can identify an audience when designing digital content. Can use knowledge of audience to design effectively and reason why targeted digital content is so important.
Digital Literacy	• Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Makes judgements about digital content when evaluating and repurposing it for a given audience. (Inside the Internet)	Can independently reflect and compare digital content when evaluate. Can repurpose digital content for a range of audiences. Can reason features effective for a range of audiences.
		Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns. Selects, combines and uses internet services. (Inside the Internet)	Can use technologies and online services responsibly, ensuring sound online etiquette. Can reason the impact of improper use (short/long term and both victim/ perpetrator). Can identity a range of ways to report concerns, and why this is so important.
		Understands the potential of information technology for collaboration when computers are networked (Inside the Internet)	Can compare examples of information technology and reason why collaboration when computers are networked is so important and how this can be used both in school, and outside the classroom.

Wallsend Jubilee Primary School

Year 6 Assessment: Computing

Strand	Curriculum Objectives	Curriculum Skills	
		Expected	**Depth**
E Safety	Abuse (online) Grooming	Some online behaviours are abusive. They are negative in nature, potentially harmful and in some cases can be illegal. • Understand about the types of online abuse including sexual, harassment, bullying, trolling and intimidation • Understanding of when online abuse can cross a line and become illegal, such as forms of hate crime and blackmail, • Understands how to respond to online abuse including how to access help and support, • Is able to discuss the potential implications of online abuse. • Understands what good online behaviours do and don't look like. Knowing about the different types of grooming and motivations for it, for example radicalisation, Child Sexual Abuse and Exploitation (CSAE) and gangs (county lines). • boundaries in friendships with peers and also in families and with others, • key indicators of grooming behaviour, explaining the importance of disengaging from contact with suspected grooming and telling a trusted adult; and • how and where to report it both in school, for safeguarding and personal support, and to the police. Where there are concerns about abuse and exploitation these can also be reported to Click CEOP. See the NCA-CEOP Thinkuknow website for further information on keeping children safe. *At all stages it will be important to balance teaching children about making sensible decisions to stay safe whilst being clear it is never the fault of a child who is abused and why victim blaming is always wrong.*	Can confidently explain the different types of online abuse and can identify where to seek support. Understands how to respond when the abuse is anonymous. Can describe the implications of abuse on the perpetrator and victim. Understands how, why and different types of exploitation. Can describe safe boundaries, strategies to maintain boundaries and identify organisations and 'safe adults' when additional support is needed. Can identify signs of exploitation and the implications for both the perpetrator and the victim.
	Fraud (online) Persuasive design	Fraud can take place online and can have serious consequences for individuals and organisations. • Understand what identity fraud, scams and phishing are, • Understand that children are sometimes targeted to access adults data, for example, passing on their parents or carers details (bank details, date of birth, national insurance number etc). Therefore there is a need to keep everyone's information secure not just their own, • Understand what "good" companies will and won't do when it comes to personal details, for example a bank will never ask you to share a password or move money into a new account. Many devices/apps/games are designed to keep users online for longer than they might have planned or desired. • Explain that the majority of games and platforms are businesses designed to make money. Their primary driver is to encourage users to be online for as long as possible to encourage them to spend money (sometimes by offering incentives and offers) or generate advertising revenue	Confidently define fraud, examples of fraud, how to avoid being a victim of fraud (keeping all information secure) as well as understand why it occurs and the impact it can have on individuals, groups and companies. Understand the purpose and techniques used by device, app and games developers to keep users online for longer and how designers use notification to pull users back online
	Impact on confidence – including body confidence	Knowing about the impact of comparisons to 'unrealistic' online images • Understands the use of image filters and digital enhancement, • Understands the role of social media influencers, including that they are paid to influence the behaviour (particularly shopping habits) of their followers,	Can explain why images are altered with filters and enhancements, including benefits as well as the negative impact. Can explore photo manipulation including discussions about why people do it and how to look out for it .