KS3 ASSESSMENT IN COMPUTING

What we study in Year 7

Students are provided with this information on the first page of each topic booklet

Autumn Term		Spring Term		Summer Term	
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Key Themes					
ICT SKILLS **BIG QUESTION** **DO I KNOW HOW TO USE A COMPUTER?** Introduction to Computing lessons at Penwortham Priory Academy. – School Rules – Logins/Passwords – Files and Folders • Introduction to Computing • Knowing how to use a computer correctly and saving work	**E-SAFETY** **BIG QUESTION** **HOW CAN I KEEP MYSELF SAFE ONLINE?** Introduction to E-Safety. Knowing how to stay safe when online and being careful of the dangers that can occur when online. • What is E-Safety • Digital Footprint • Communicating Online	**DATA REPRESENTATION** **BIG QUESTION** **HOW DOES A COMPUTER UNDERSTAND WORDS OR IMAGES?** To know the difference between data and information and how data is represented within a computer system. • Units of Data • Characters of Data • Binary representation of Images • Instructions	**SCRATCH PROGRAMMMING** **BIG QUESTION** **WHAT IS INVOLVED IN DESIGNING A COMPUTER GAME?** Introduction to Programming and the language constructs using 'Scratch Blocks' (non-textual approach). • Move a sprite • Control a sprite (repeat function) • Costumes • Variables • Selection (IF-ELSE statements)	**HARDWARE & SOFTWARE** **BIG QUESTION** **HOW IS A COMPUTER MADE?** To know why and when computers are used and know the function of the main internal parts of basic computer architecture.
	Assessment	Assessment	Assessment	Assessment	
A written assessment made up of exam style questions covering the theoretical aspects of the unit. This will be carried out at the end of the unit.					
Why do I need to know this					
Students need to be aware of how to use a school computer correctly and efficiently as many students have previously used iPads or Tablets for learning but have not used a computer.	Students need to be aware about how to stay safe when online and be careful of the dangers that can occur when online.	Computers are able to store and manipulate large quantities of data. They use binary to represent different types of data. Students are expected to learn how different types of data are represented in a computer.	Learning to program is a core component of a computer science course. Students should be competent at designing, reading, writing and debugging programs. They must be able to apply their skills to solve real problems and produce robust programs.	Students are using computing devices on a daily basis and need to be aware of the jobs for each part of hardware in their device. Students are using many different software programs on different devices and need to be aware of how different software works.	
How will I learn this					
• Shared and consistent lesson structures with accompanying resources. • Coherent step-by-step sequences that build on existing knowledge and allow incremental development of knowledge. • The use of low stakes testing and interleaving. • Explicitly teaching new tier two and tier three vocabulary • Unrelenting focus on key concepts. • Embedded regular retrieval practice and spaced practice • Embedded and consistently applied homework focused on knowledge retrieval.					

What we study in Year 8

Autumn Term		Spring Term		Summer Term	
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Key Themes					
THE INTERNET **BIG QUESTION** **IS THE INTERNET THE MOST DANGEROUS INVENTION SINCE THE ATOMIC BOMB?** Introduction to how the internet works and staying safe when online • Introduction to Computing • Understanding browsers • Spot the Scam • Safety Savvy • Safe social networking • Connecting to the internet • Communicating online		**PYTHON PROGRAMMING** **BIG QUESTION** **WHY IS PROGRAMMING IMPORTANT?** Introduction to programming and the language constructs (textual approach). • Introduction to Python • Variables and User inputs • Comments • Selection Statements • Arithmetic Operators		**MEDIA PRODUCTION SKILLS** **BIG QUESTION** **HOW DOES DIGITAL MEDIA INFLUENCE OUR LIVES?** Introduction to various types of software such as graphics editing, video editing and web design software to complete various tasks. • Logo Design. • Poster Design using Graphics Editing Software • Advert (Video) creation using video editing software • Website Design using Web design software • Evaluation	**BBC MICRO:BIT** **BIG QUESTION** **HOW CAN I TELL A COMPUTER WHAT TO DO?** Understanding the various components of the embedded device. Remembering the basics of programming. • Outputs • Variables • Inputs
Assessment		Assessment		Assessment	
A written assessment made up of exam style questions covering the theoretical aspects of the unit. This will be carried out at the end of the unit					
Why do I need to know this					
You need to be aware about how the internet works and how to stay safe when online. To know about the risks involved and also the impact social media can have on you.		Learning to program is a core component of a computer science course. Students should be competent at designing, reading, writing and debugging programs. They must be able to apply their skills to solve real problems and produce robust programs.		Digital graphics feature in many areas of our lives and play a very important part in today's world. The digital media sector relies heavily on these visual stimulants within the products it produces, to communicate messages effectively.	You need to be competent at designing, reading, writing and debugging programs. You must be able to apply your skills to solve real problems and produce robust programs.
How will I learn this					
• Shared and consistent lesson structures with accompanying resources. • Coherent step-by-step sequences that build on existing knowledge and allow incremental development of knowledge. • The use of low stakes testing and interleaving. • Explicitly teaching new tier two and tier three vocabulary • Unrelenting focus on key concepts. • Embedded regular retrieval practice and spaced practice • Embedded and consistently applied homework focused on knowledge retrieval.					

Students are provided with this information on the first page of each topic booklet

What we study in Year 9

Students are provided with this information on the first page of each topic booklet

Autumn Term		Spring Term		Summer Term	
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Key Themes	Key Themes	Key Themes	Key Themes	Key Themes	Key Themes
BINARY **BIG QUESTION** **HOW DOES MY COMPUTER UNDERSTAND WHAT I TYPE?** Understand that computers use binary to represent number data • Converting between binary and denary whole numbers (0- 255) • Performing binary arithmetic • Concept of overflow • Why hexadecimal notation is used • Converting between hexadecimal and binary • Negative numbers in binary		**SPREADSHEETS** **BIG QUESTION** **HOW ARE SPREADSHEETS USED IN EVERYDAY LIFE?** Introduction to spreadsheets and how they are used to store data in a structured way. • Introduction to spreadsheets • Collecting Data • Designing a spreadsheet • Sorting/Searching • Buttons and macros • Evaluating the spreadsheet project	**ENCRYPTION** **BIG QUESTION** **HOW IS MY INFORMATION KEPT SAFE FROM CRIMINALS?** Introduction to encryption and the need to keep data secure • Understand the need for encryption • HTTPS • Caesar Cipher • Pig pen Cipher • Substitution Ciphers • Cyber Security	**BUSINESS ENTERPRISE PROJECT** **BIG QUESTION** **WHAT MAKES A GOOD BUSINESS?** Introduction to creating a brand for a business and designing a logo and website for the business • Introduction to logo design • Researching various businesses and entrepreneurs • Website designs • Creating a website for the business • Improving websites • Creating an advert for the business	
Assessment		Assessment	Assessment		
A written assessment made up of exam style questions covering the theoretical aspects of the unit. This will be carried out at the end of the unit					
Why do I need to know this					
Computers are able to store and manipulate large quantities of data. They use binary to represent different types of data. Students are expected to learn how different types of data are represented in a computer.		You need to be aware of how information is stored in a computer and how it can be organised. Many businesses (large or small) use spreadsheets to store information (Eg Schools spreadsheets with student details, whereas shops may have a products spreadsheet). You need to be aware of how the spreadsheet is created and how it can be used.	Sometimes we need to send or receive the data in encrypted format. Encryption refers to any process that's used to make sensitive data more secure and less likely to be intercepted by those unauthorised to view it. There are several modern types of encryptions used to protect sensitive electronic data, such as email messages, files, folders and entire drives.		Multipage websites are the basis of internet content and are therefore used extensively in the creative digital media sector, whether for mobile phones or computers in all their forms.
How will I learn this					
• Shared and consistent lesson structures with accompanying resources. • Coherent step-by-step sequences that build on existing knowledge and allow incremental development of knowledge. • The use of low stakes testing and interleaving. • Explicitly teaching new tier two and tier three vocabulary • Unrelenting focus on key concepts. • Embedded regular retrieval practice and spaced practice • Embedded and consistently applied homework focused on knowledge retrieval.					

Year 7 Assessment

Students are provided with a Personal Learning Checklist in each of their topic booklets which are linked to their end of topic test

I can give strengths and weaknesses for creating a safe password.	I can suggest improvements to passwords.	I can give a set of instructions to help set and remember passwords.
I can explain what an Algorithm is.	I can describe what a Digital Footprint is.	I can explain how a Digital Footprint can affect you in the future.
I can give rules to follow to keep our digital footprints positive.	I can describe at least 5 risks related to the digital world	I know at least 2 ways I can take action if I have any concerns about the online world
I can define what the Internet and Internet Service is.	I can explain what an IP address is and why the police might want to use it.	I can explain what Netiquette is.
I can explain how a virus can be prevented online.	I can give 3 examples of a Boolean search term.	I can explain how search engines rank peoples search results.

Name _____

Penwortham Priory Academy

YEAR 7 COMPUTING

Data Representation

WWW	SCORE
	_____ 30

TARGET

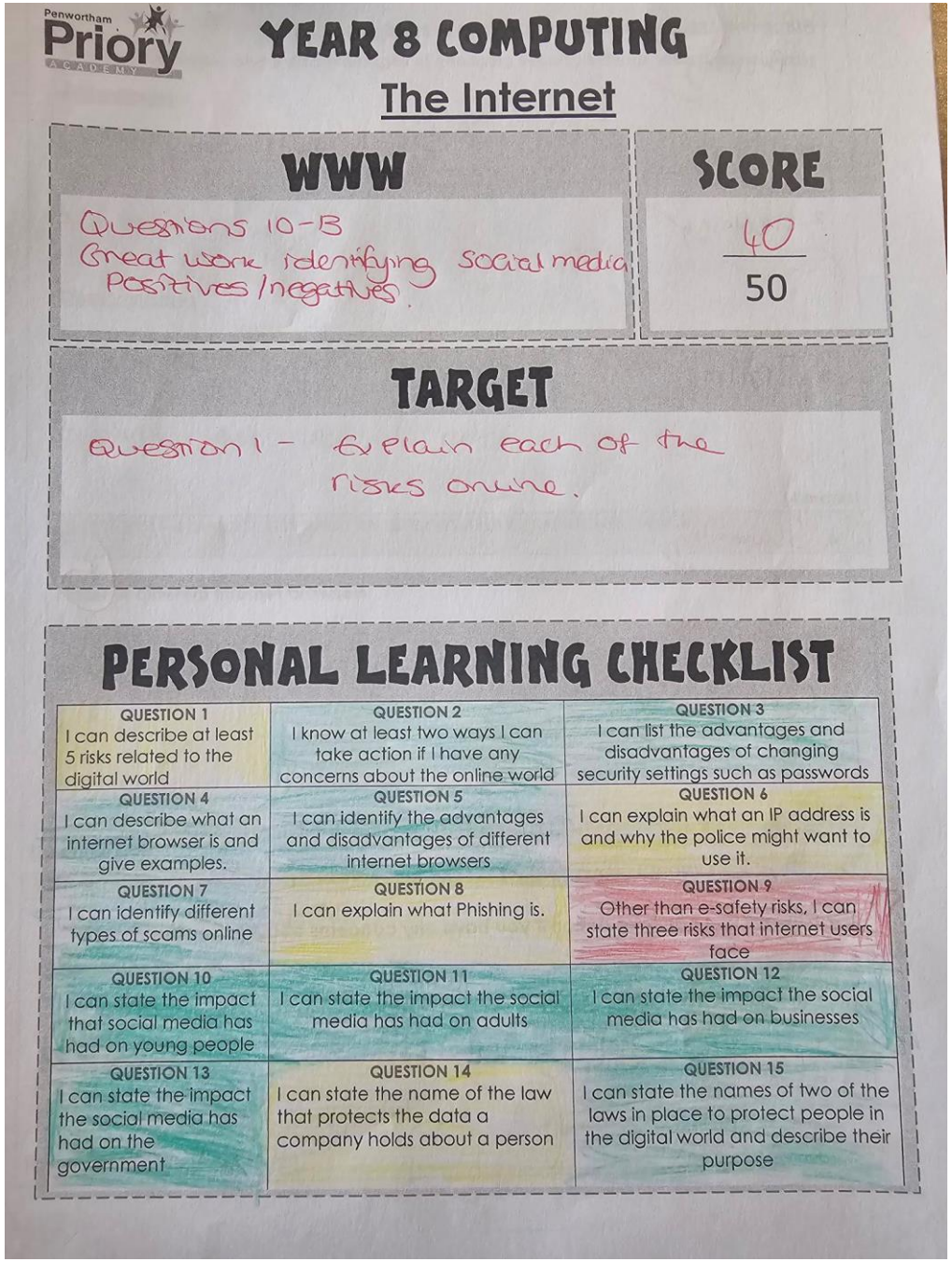
PERSONAL LEARNING CHECKLIST

QUESTION 1 I can sort data sizes in order	**QUESTION 2** I can give the sizes of each unit of data	**QUESTION 3** I can explain why it is important to know how much storage space is available on my device.
QUESTION 4 I understand what a character is	**QUESTION 5** I can identify and explain ASCII code.	**QUESTION 6** I can explain why it is important to have accuracy when using ASCII.
QUESTION 7 I can create images using binary data	**QUESTION 8** I can explain why binary is important and identify the consequences if the data was wrong.	**QUESTION 9** I can convert Binary to Denary
QUESTION 10 I can convert Denary to Binary	**QUESTION 11** I can explain what is an Instruction in computing	**QUESTION 12** I can explain why computers cannot make its own decisions

Year 8 Assessment

Students are provided with a Personal Learning Checklist in each of their topic booklets which are linked to their end of topic test

Students RAG their Personal Learning checklists which easily help identify areas of concern for each student



Penwortham Priory ACADEMY

YEAR 8 COMPUTING

The Internet

WWW	SCORE
Questions 10-13 Great work identifying social media positives/negatives.	40/50

TARGET

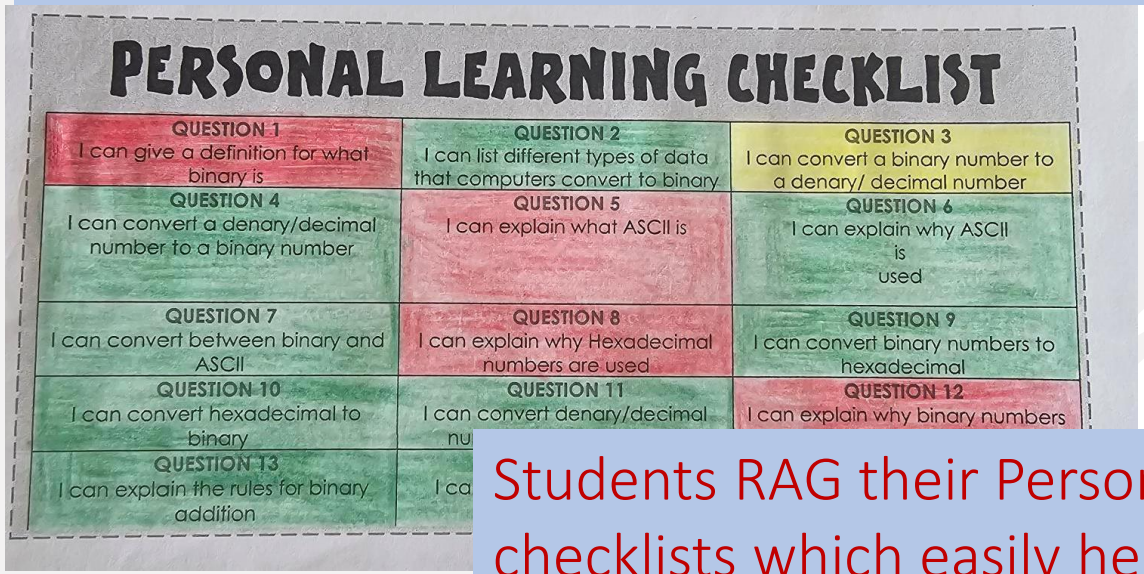
Question 1 - Explain each of the risks online.

PERSONAL LEARNING CHECKLIST

QUESTION 1 I can describe at least 5 risks related to the digital world	QUESTION 2 I know at least two ways I can take action if I have any concerns about the online world	QUESTION 3 I can list the advantages and disadvantages of changing security settings such as passwords
QUESTION 4 I can describe what an internet browser is and give examples.	QUESTION 5 I can identify the advantages and disadvantages of different internet browsers	QUESTION 6 I can explain what an IP address is and why the police might want to use it.
QUESTION 7 I can identify different types of scams online	QUESTION 8 I can explain what Phishing is.	QUESTION 9 Other than e-safety risks, I can state three risks that internet users face
QUESTION 10 I can state the impact that social media has had on young people	QUESTION 11 I can state the impact the social media has had on adults	QUESTION 12 I can state the impact the social media has had on businesses
QUESTION 13 I can state the impact the social media has had on the government	QUESTION 14 I can state the name of the law that protects the data a company holds about a person	QUESTION 15 I can state the names of two of the laws in place to protect people in the digital world and describe their purpose

Year 9 Assessment

Students are provided with a Personal Learning Checklist in each of their topic booklets which are linked to their end of topic test



Students RAG their Personal Learning checklists which easily help identify areas of concern for each student

Binary
Personal Learning Checklist (PLC)

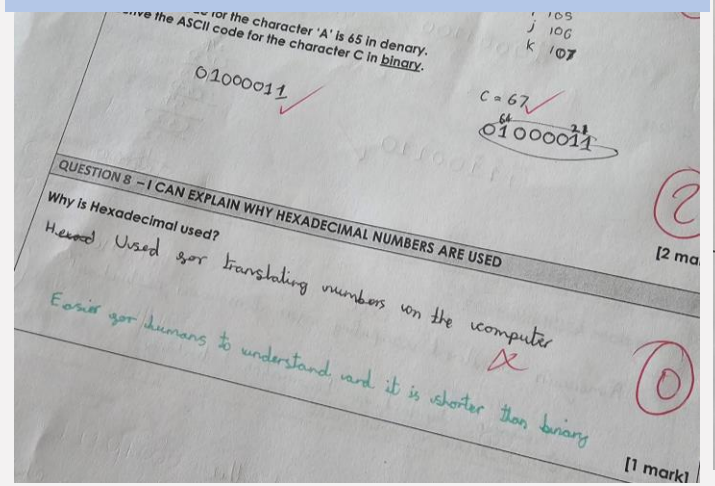
What will I learn and What skills will I develop?	Why do I need to know this?	How will I learn this?
BIG QUESTION HOW DOES MY COMPUTER UNDERSTAND WHAT I TYPE? Understand that computers use binary to represent number data – Converting between binary and denary whole numbers (0- 255) – Performing binary arithmetic – Concept of overflow – Why hexadecimal notation is used – Converting between hexadecimal and binary – Negative numbers in binary	Computers are able to store and manipulate large quantities of data. They use binary to represent different types of data. Students are expected to learn how different types of data are represented in a computer.	You will learn key terminology. You will complete written work in class and homework tasks. You will complete a personal learning checklist and take part in quizzes and tests to make sure that your learning has stuck You will make links to other subjects

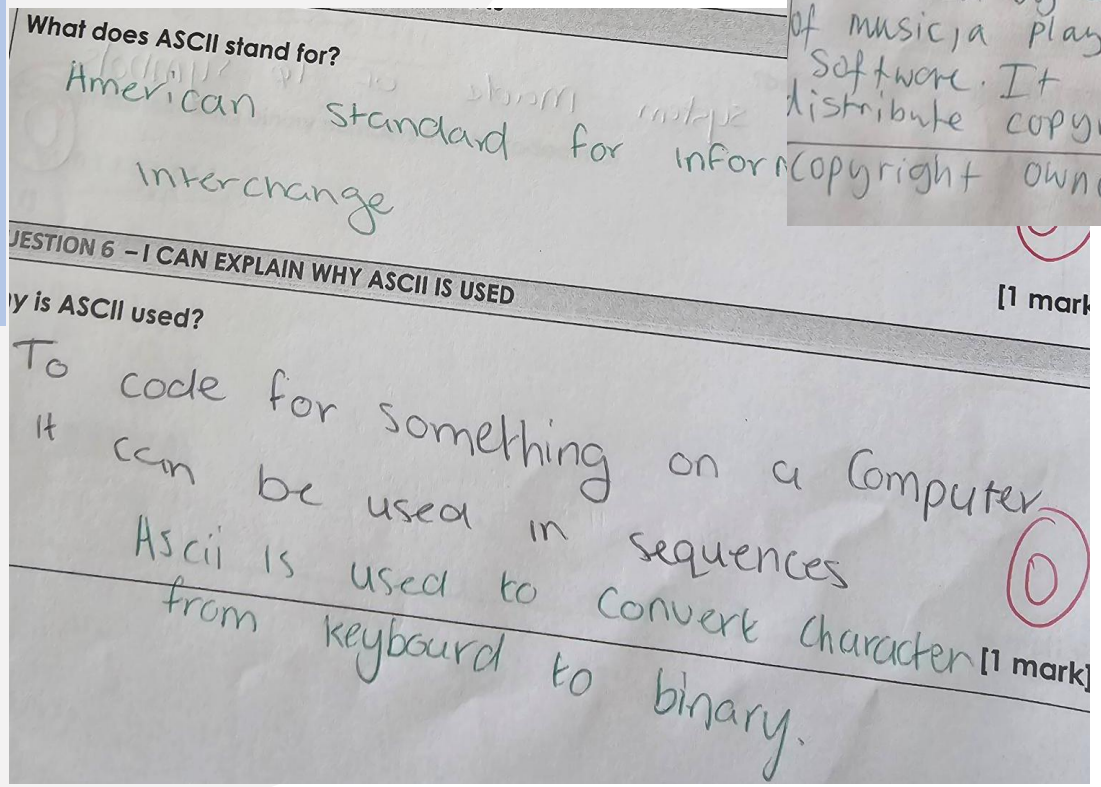
I can give a definition for what binary is	I can list different types of data that computers convert to binary	I can convert a binary number to a denary/ decimal number
I can convert a denary/decimal number to a binary number	I can explain what ASCII is	I can explain why ASCII is used
I can convert between binary and ASCII	I can explain why Hexadecimal numbers are used	I can convert binary numbers to hexadecimal
I can convert hexadecimal to binary	I can convert denary/decimal numbers to Hexadecimal	I can explain why binary numbers may need to be added
I can explain the rules for binary addition	I can add two 8 digit binary numbers together	I can explain what an overflow error is

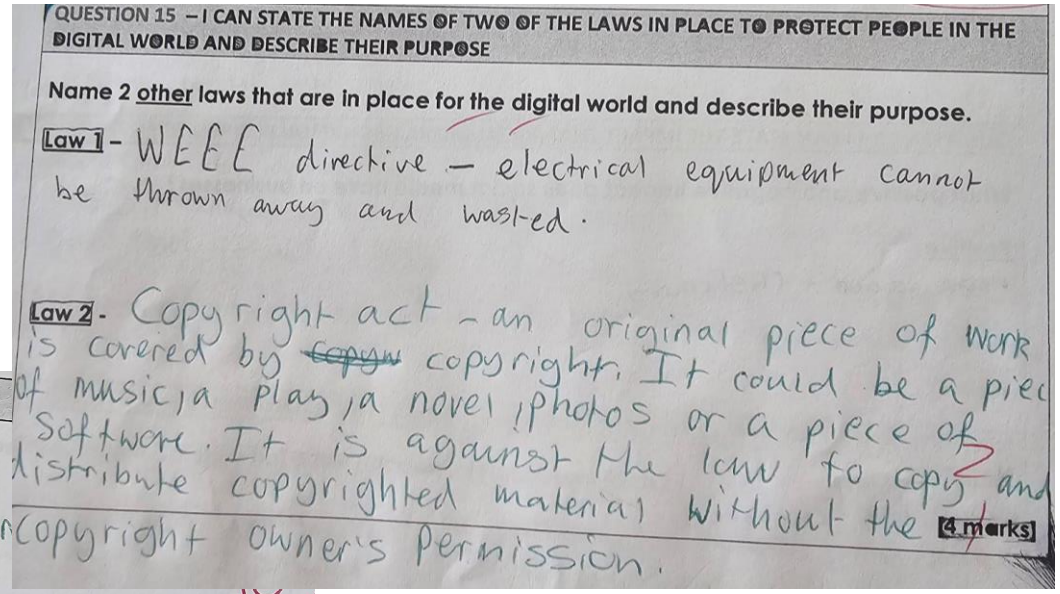
I can explain what a logical shift is	I can work out the new value when a logical right shift is performed	I can work out the new value when a logical left shift is performed
I can represent negative numbers in binary using sign and magnitude	I can represent negative numbers in binary using twos complement	I can add negative numbers in binary

Dedicated Improvement and Reflection Time (D.I.R.T) - Green Pen

Students are provided with a lesson after their test has been marked to reflect and improve their answers and make corrections in their assessment







Corrections are made using Green Pen