Level	Algorithms & Programming	Data & Data Representation	Software, Hardware & Communication
1	WHAT IS AN ALGORITHM ☐ I understand the word algorithm.	IDENTIFYING DATA TYPES ☐ I can recognise different types of data such as text & numbers.	WHAT IS A COMPUTER? ☐ I understand that a number of devices can be considered as computers. ☐ I can identify a variety of computers
2	FOLLOWING SIMPLE ALGORITHMS ☐ I am able to follow and understand simple sequenced instructions. ☐ I am able to put simple instructions in the correct order. ☐ I am able to follow instructions to create a simple program.	TRANSFERING DATA ☐ I understand that computers do not communicate in the same way as humans. ☐ I know that computers transfer data in binary	INPUT-PROCESS-OUTPUT & INTRODUCTION TO SOFTWARE ☐ I can identify the computer system process: Input > process > output. ☐ I know that the internet is a network of computers. ☐ I can list some different software
3	SEQUENCES ☐ I can break down a simple problem into a sequence and write the steps/instructions in plain English. ☐ I can understand and follow a flow chart for a sequence based problem. ☐ I can convert a given algorithm for a simple sequence based problem into a program.	INTRODUCTION TO BINARY ☐ I know that computers use binary to represent data. ☐ I know what the 0 and 1 represent ☐ I am able to count in binary.	INPUT, OUTPUT & STORAGE DEVICES, SOFTWARE V's HARDWARE & HTML ☐ I can list simple input, output and storage devices within the classroom. ☐ I can identify the Central Processing Unit inside a computer ☐ I know the difference between hardware & software ☐ I know what HTML stands for ☐ I know that web pages are written in HTML
4	SELECTION/DECISIONS ☐ I can break down a decision based problem into a set of steps/instructions written in plain English. ☐ I can understand and follow a flow chart for a decision based problem. ☐ I can convert a given algorithm for a decision based problem into a program.	USING BINARY ☐ I can perform conversions between denary and binary (and vice versa). ☐ I know the terms bit & byte ☐ I understand how bit patterns represent numbers and images.	THE CPU & INTRODUCTION TO THE WEB ☐ I understand the term process ☐ I can explain what the CPU does ☐ I can identify a variety of communication methods ☐ I know the difference between the Internet & the WWW ☐ I know the difference between static & dynamic webpages & content ☐ I am able to create a basic webpage written in HTML
5	ITERATIONS/LOOPS ☐ I can break down a problem that includes repetition into a set of steps/instructions written in plain English. ☐ I can create a flow chart for a decision based program. ☐ I can convert a given algorithm for a problem that includes repetition into a program ☐ I can debug simple errors in a program	SIMPLE DATA REPRESENTATION ☐ I understand and am able to explain the difference between denary (base 10) and binary (base 2). ☐ I understand the difference data and information ☐ I can identify the Boolean operators ☐ I am able to define data types such as integer, real, string & Boolean. ☐ I understand basic compression	INSIDE THE COMPUTER & CASCADING STYLE SHEETS ☐ I can recognise the internal components of the computer system. ☐ I understand why and when computers are used ☐ I can identify a variety of application software ☐ I am able to create a webpage using HTML and CSS ☐ I know what CSS stands for & what they do
6	COMBINING SEQUENCE, SELECTION & ITERATION ☐ I can break down complex problems that incorporate sequence, selection and repetition into plain English/flow charts. ☐ I can write simple text based programs that incorporate sequence, selection and repetition. ☐ I can write and call simple functions.	SIMPLE BIT PATTERNS & BOOLEAN OPERATORS ☐ I can perform simple operations using bit patterns e.g. binary addition. ☐ I understand the relationship between binary and file size. ☐ I can use a combination of Boolean and relation operators to evaluate data – for programming or database purposes	THE OPERATING SYSTEM & MULTIPAGE WEBSITES ☐ I can identify a variety of Operating Systems ☐ I understand the main functions of the OS ☐ I can identify the difference between the OS and application software ☐ I can create a multi-page website using HTML & CSS
7	PLANNING & CREATING SOLUTIONS TO COMPLEX PROBLEMS ☐ I can convert basic algorithms into pseudo code. ☐ I can break down multi-task problems and plan a solution that incorporates a variety of programming techniques. ☐ I can write multi-task programs in a text based programming language using a variety of techniques including functions. ☐ I can evaluate programming solutions against requirements and justify the programming techniques used.	SIMPLE LOGIC & DATA STORAGE ☐ I Understand the relationship between colour depth and resolution, including the effect on file size ☐ I know the relationship between data representation and data quality ☐ I understand simple Boolean logic and can use truth tables	UTILITY SOFTWARE & SERVER SIDE PROCESSING ☐ I understand the main functions of utility software ☐ I can identify different types of utility software ☐ I know the difference between client side and server side processing ☐ I know the difference between the 'Get' and 'Post' method ☐ I can create a PHP webpage with a form and use the Get & Post methods
8	EFFECTIVE PLANNING OF EFFICIENT & ROBUST SOLUTIONS ☐ I can plan and create a solution to a complex problem following the software design lifecycle. ☐ I can show that efficiency and robustness have been considered during the process and explain the decision making process behind the use of the programming techniques used.	COMPLEX LOGIC & BIT PATTERNS ☐ I understand the relationship between binary and electrical circuits, including Boolean logic ☐ I understand more complex Boolean logic and use truth tables. ☐ I can perform operations using bit patterns: binary and hex	SOFTWARE INTERACTION & SERVER SIDE PROCESSING USING A DATABASE ☐ I understand how different software (application, OS & utility) work together ☐ I know how software and hardware communicate ☐ I understand how to access a database from a web page ☐ I can create a dynamic webpage to display data from a database

Level	ICT / Digital Literacy
1	USING BASIC SOFTWARE & FINDING INFORMATION WITH HELP ☐ I use technology to create digital content. ☐ I use search technologies to find information with guidance.
2	USING BASIC SOFTWARE & FINDING INFORMATION INDEPENDENTLY ☐ I use technology purposefully to create and store digital content. ☐ I use technology to retrieve digital content. ☐ I use search technologies to find information independently.
3	USING A VARIETY OF SOFTWARE & FINDING RELEVANT INFORMATION ☐ I use a variety of software with guidance to create, edit and store digital content. ☐ I have an awareness of audience and purpose. ☐ I use search technologies to find relevant information independently. ☐ I talk about my work and make changes to improve it.
4	CREATING A VARIETY OF DIGITAL CONTENT & FINDING SPECIFIC INFORMATION ☐ I can use a variety of software with increasing independence to create, organise, and manipulate digital content. ☐ I am showing an awareness of the quality of the digital content collected. ☐ I recognise the audience when designing and creating digital content. ☐ I use search technologies to collect specific information independently. ☐ I can make improvements to my work based on feedback given.
5	CREATING DIGITAL CONTENT FOR A GOAL & AUDIENCE ☐ I can design, create, manipulate and present digital content to achieve a specific goal. ☐ I can design and create suitable digital content for a given audience. ☐ I use refined search techniques to collect specific information ☐ I can make appropriate improvements to my work based on feedback given and can comment on the success of the solution.
6	CREATING DIGITAL CONTENT BY COMBINING SOFTWARE. VALIDITY & RELIABILITY OF INFORMATION ☐ I can design, create, manipulate and present effective digital content to achieve a specific goal combining software packages and internet services. ☐ I can evaluate digital content and repurpose it for an alternative audience. ☐ I use refined search techniques to collect valid and reliable data. ☐ I can use criteria to evaluate the quality of my work, and can make some refinements to the solution.
7	EFFECTIVELY CREATING DIGITAL CONTENT BY COMBINING SOFTWARE. REPURPOSING CONTENT FOR DIFFERENT AUDIENCES ☐ I can effectively design, create, manipulate and present digital content to achieve a specific goal combining software packages and internet services. ☐ I can evaluate digital content and repurpose it effectively for an alternative audience. ☐ I use refined search techniques to effectively collect valid and reliable data. ☐ I can use criteria to evaluate the quality of my work; I can identify improvements and make some refinements to the solution.
8	EFFECTIVE EVALUATION & IMPROVEMENTS ☐ I can evaluate the appropriateness of digital devices, software and internet services to achieve given goals. ☐ I can design criteria to evaluate digital content and repurpose it effectively for an alternative audience. ☐ I use multiple technologies and refined search techniques to effectively collect valid and reliable data. ☐ Can use criteria to evaluate the quality of their work, can identify improvements making appropriate refinements to the solution, and future solutions.