YEAR 8 COMPUTING CURRICULUM PROGRESSION OVERVIEW

Our vision is to provide an ambitious, quality, educational experience for every student attending Huntcliff School, empowering them to achieve excellence and progress to future study, employment or training.
In Computing we cover the full national curriculum.
At KS3 all students participate in projects that provide a solid and practical introduction to the three pillars of Computing: Computer Science, ICT and Digital Literacy. We offer a broad knowledge rich curriculum where students develop declarative and procedural knowledge of the three pillars of progression as they progress through the curriculum.
The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.
We intend for all of our students to know more, remember more and to be able to do more.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	**E-safety**	**Data Representation 1**	**Programming basics in Python**	**Databases**	**Algorithms**	**Data Representation II**
Core Knowledge/ Threshold Concept	Misuse of computers – Computer Misuse Act 990 Sexting – Grooming – Cyber bullying – The internet. Is everything you read true?	Binary – Why? Conversion into Hex, Decimal and back. Binary addition. The concept of overflow. Logic gates AND OR NOT	Use of variables, displaying messages and user input from keyboard Arithmetic expressions such as + - / * Use of selection (IF statements) Condition controlled iteration (loops)	Understanding the difference between data and information, Excel and Access database manipulation. Basic normalisation routines. Manipulating "big" data.	Flowcharts – graphical representation of program flow. Pseudocode – Algorithm writing free of the constraints of a language	Images and their manipulation Sound – capture, storage and manipulation Text – Unique ASCII values, Character sets
Why this learning now?	Builds upon already gained information. How to keep yourself safe on-line.	Enables students to understand the basic manipulation of data at the lowest computing level. A basic understanding of logic gates and their application withing science	Builds upon learning in Y7 and provides and introduction to text-based programming which is revisited in Y9.	Broadens students understanding of large and small datasets and how industry will utilise these within their businesses.	Introduces students to basic planning tools within the programming life cycle.	Enables students to appreciate how a computer can manipulate information for example in photoshop or Audacity
Assessment Opportunities:	Students will be assessed in accordance to the flight path of skills and knowledge they demonstrate throughout the unit. Students will also be provided feedback in an end of term assessment.	Students will be assessed in accordance to the flight path of skills and knowledge they demonstrate throughout the unit. Students will also be provided feedback in an end of term assessment.	Students will be assessed in accordance to the flight path of skills and knowledge they demonstrate throughout the unit. Students will also be provided feedback in an end of term assessment.	Students will be assessed in accordance to the flight path of skills and knowledge they demonstrate throughout the unit. Students will also be provided feedback in an end of term assessment.	Students will be assessed in accordance to the flight path of skills and knowledge they demonstrate throughout the unit. Students will also be provided feedback in an end of term assessment.	Students will be assessed in accordance to the flight path of skills and knowledge they demonstrate throughout the unit. Students will also be provided feedback in an end of term assessment.

SPARK EDUCATION TRUST

Learning at Home	Homework	Homework	Homework	Homework	Homework	Homework
Key Vocabulary	Misuse Act of Parliament Sexting Grooming Cyberbullying	Binary Hexadecimal Logic gates	Python Variable Sequence Selection Iteration	Primary key Secondary key Field Record Data/Information	Process Flowlines Boolean	Frequency Amplitude Vector Bitmap ASCII
Spiritual, Moral, Social and Cultural concepts covered	Students will be encouraged to develop a sense of enjoyment and fascination in learning about themselves, others and the world around them. Students will develop an understanding of the consequences of behaviour and action in respect to the impact upon others. Students will develop and utilise a range of social skills in different contexts in order to aid their learning.					
Links to careers and the world of work	ICT Technician Data Analyst Cyber Security Engineer Graphics Designer Games Designer					