Curriculum Overview

Subject: Computing

Year Group: 8

CHASE HIGH
Aspirations, Character & Excellence

Students are introduced to text based programming in Year 8 and also investigate computer networks. In term 2, they look at mobile app development and learn to create vector graphics and then finally students build on their coding experience as they create programmatic images, animations, interactive art, and games. Students are encouraged to articulate and record specialist terms to develop their understanding of the subject.

TERM 1	TERM 2	TERM 3
KNOWLEDGE/SKILLS • Understand the difference between the internet and the World Wide Web. • Use a textual programming language to solve a variety of computational problems. • Understand how instructions are stored and executed within a computer system.	KNOWLEDGE/SKILLS • Build a product to meet client specifications. • Use event driven programming to create a product. • Build a functioning website. • Use search technologies effectively.	KNOWLEDGE/SKILLS • Combine multiple tools and techniques to create a vector graphic. • Use conditionals to react to changes in variables and sprite properties. • Build a platform jumper game.
KEY ASSESSMENTS Half term 1: Networks summative assessment Half term 2: Python summative assessment	KEY ASSESSMENTS Half term 1: Mobile apps summative assessment Half term 2: Web development summative assessment	KEY ASSESSMENTS Half term 1: Vector graphics summative assessment Half term 2: Game creation summative assessment

Extended reading suggestions and external resources:

BBC Bitesize Key Stage 3 Computer Science https://www.bbc.co.uk/bitesize/subjects/zvc9q6f

Join the weekly code-along using open projects based on a weekly theme, with different levels available for all abilities https://www.raspberrypi.org/at-home/

Programming tutorials with easy to follow instructions. https://www.codecademy.com/

Computing Year 8 Assessment Criteria

	Bronze	Silver	Gold	Platinum
Terminology	I need support to use the correct terminology.	I sometimes use the correct terminology.	I often use the correct terminology.	I always use the correct terminology.
Feedback	**I need support to act upon feedback and improve my work.**	**I sometimes act upon feedback, and improve my work.**	**I usually act upon feedback, and improve my work.**	**I independently act upon feedback and improve and version my work accordingly.**
Presentation of work	I always present my book work according to the school presentation policy. **I sometimes include a suitable header, footer and page numbers on my printed work**.	I always present my book work according to the school presentation policy. **I usually include a suitable header, footer and page numbers on my printed work.**	I always present my book work according to the school presentation policy. **I always include a suitable header, footer and page numbers on my printed work.**	I always present my book work according to the school presentation policy. **I always include a suitable header, footer and page numbers on my printed work.**
E-Safety	I can show use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online.	I know what is acceptable and unacceptable behaviour when using technologies and online services.	I can show responsible use of technologies and online services, and I know a range of ways to report concerns.	I can use technologies and online services securely, and I know how to identify and report inappropriate conduct.
Folder structure	**I need support to set up and name a basic folder structure.**	**I can set up a basic folder structure with suitable names.**	**I can set up a suitable folder structure with suitable names.**	**I can set up a suitable folder structure with subfolders and suitable names.**
Saving work	I need support to save my work in the correct folders with a suitable file name.	I can save most of my work in the correct folders with suitable file names.	I can save all of my work in the correct folders and subfolders with suitable file names.	I can save all of my work in the correct folders and subfolders with suitable file names and version numbers.
Email	**I need support to access my email.**	**I can access my email independently and some of the advanced email features.**	**I can access my email independently and use most of the advanced email features.**	**I can access my email independently and use most of the advanced email features.**

Computer Science	I can solve a basic computational problem with guidance. **I can create code in a written language, such as Python, to perform basic operations on variables.** I can explain how a simple algorithm works. **I can identify which parts of a program are executed following a Boolean statement in a program.** I have a basic understanding of why computers use binary.	I can independently solve a simple (3-4 lines of code) computational problem. **I can use some programming techniques in a written language such as Python, including selection.** I can explain how algorithms, such as searching algorithms work and I have some understanding of what sorting algorithms do. **I understand simple Boolean logic and its use in determining which parts of a program are executed**. I have some understanding of why computers use binary.	I can independently solve a basic computational problem. **I have a good understanding programming techniques in a written language such as Python, using both selection and repetition.** I can explain how several algorithms such as algorithms for sorting and searching work. **I can implement simple Boolean logic and use it to determine which parts of a program are executed.** I can convert binary numbers to decimal.	I can solve a fairly complex (GCSE Computing CA programming task) computational problem. **I can create a modularised program in a written programming language.** I can code efficient algorithms for a given problem. I can implement combined simple Boolean logic and use it to determine which parts of a program are executed. **I can convert decimal numbers to binary.**
Creative Computing	**I developed the specified outcomes.** I have chosen some of the IT tools I used to complete the work, but some of them caused me some problems. **I have used some sources to search for information to use in my work, to select some relevant information.** I understand that some sources of information are not trustworthy. **I have created/re-purposed digital artefacts that show limited awareness of audience and purpose.** I have reviewed my work and made a change.	**I have developed the specified outcomes using some appropriate content and/or features.** I have chosen most of the IT tools I used to complete the work, but some of them caused me some problems. **I have a range of sources to search for information to use in my work, to select some relevant information.** I can identify trust worthy and untrustworthy sources of information. **I have created/re-purposed digital artefacts that show some awareness of audience, purpose and usability.** I have reviewed my work and made some changes, some of which my teacher thinks is effective.	**I have developed the specified outcomes using appropriate content and features.** I have chosen and combined appropriate IT tools/devices to complete the work. **I have a range of appropriate sources to search for and select relevant information to use in my work.** I have acknowledged the trustworthiness of any sources of information I use. **I have created/re-purposed digital artefacts that show a good awareness of audience, purpose and usability.** I have reviewed my work and made some changes, some of which my teacher thinks is effective.	I have developed the specified outcomes using appropriate content and features, some of which are effective. **I have chosen and combined a range of IT tools/devices to solve problems and produce effective outcomes.** I have used a range of appropriate sources to search for relevant information, showing discrimination in my selection of information. **I have ensured the use of only trustworthiness sources of information.** I have created/re-purposed digital artefacts that show a sound awareness of audience, purpose and usability. **I have reviewed my work more than once and used feedback to inform the improvements I have made**.
Information	**I have some understanding of the hardware and software components that make up computer systems.**	**I have some understanding of the hardware and software components that make up computer systems exploring how they interact.**	**I have a good understanding of the hardware and software components that make up computer systems exploring how they interact.**	**I have a thorough understanding of the hardware and software components that make up computer systems and I can explain in detail how they interact.**

Technology	I understand the different services (such as WWW) that the Internet offers and how they can be used to share and collaborate.	I understand how computers can communicate with each other.	I understand how computers communicate with one another and with other systems.	I have a thorough understanding of how computers and other systems communicate, exploring the advantages and disadvantages of various methods.
	I have a basic understanding of personal digital devices and the impacts they have on everyday life.	**I have some understanding of personal digital devices and the impacts they have on everyday life.**	**I have a good understanding of personal digital devices and the impacts they have on everyday life.**	**I have a thorough understanding of personal digital devices and I can evaluate the impacts they have on everyday life.**
	I can create a simple database model that generates some useful information.	I can create a database model that generates meaningful information and is based on a real-world problem or physical system.	I can create a database model that uses some complex functions appropriately and that is relevant to a real world situation or physical system.	I can create a database model that uses a number of complex criteria to generate reliable and meaningful information.