

Scheme of Work Computing KS3

Year 7

Unit	Unit Title	Content
1	Under the hood of a computer	Introduction to computing. A look at the components of a computer and their functions. An introduction to binary numbers and code breaking
2	Thinking Like a computer scientist	An introduction to the use of algorithms and key words in relation to programming a computer including – Decomposition, Abstraction, Data and Pattern Identification.
3	Drawing and manipulating shapes	Creating and developing algorithms to manipulate shapes using text-based and graphical programming software (Logo and Scratch).
4	Creating an Animation	Creating and developing algorithms to produce an animation using graphical programming software (Scratch). Understanding key words in relation to programming a computer including – Selection, Iteration, procedures and functions.
5	The foundations of computing	Developing students understanding of the history of computing. An examination of the internal functions of a computer, in particular the CPU.
6	How the web works	Developing students understanding of the structure and function of the Internet. Including an introduction to the key terms- Server, Artefact, Client, Web browser, Network and URL. Develop students understanding of how search engines work and how to be safe online.
7	Web page creation from the ground up	An introduction to HTML and how web pages are scripted using HTML. Develop an understanding of the relationship between design, purpose and audience. How Cascading Style Sheets (CSS) are used to format a webpage. Students produce their own web page using HTML.
8	Designing for HCI: A hand held digital device	Understand the term Human-Computer-Interface (HCI). Developing a hand held device that is fit for both purpose and audience. Understanding methods used to decide whether a device is fit for purpose and audience. Understand the use of prototypes.
9	Designing for HCI: an operating system interface	Understanding the terms operating system (OS), user interface (UI), graphical user interface (GUI). Develop an understanding of how interfaces have developed over the years from command line interfaces to touch interfaces.
10	Representing images	Develop an understanding that digital images are made up of pixels and how binary code is used to represent these images. An understanding of the term resolution to describe the number of pixels used to generate an image. Develop students' knowledge of image types include

Scheme of Work Computing KS3

		<p>bitmap and vector images.</p> <p>An introduction to stenography.</p>
11	Programming a calculator	<p>Producing algorithms using a graphical programming language (Scratch) that perform simple functions of a calculator. An introduction to the use of flow charts and variables.</p> <p>Using selection to produce more complex programs, including functions and procedures.</p>
12	Programming a quiz	<p>Students use a graphical programming language (Scratch) to program a quiz. Students use their knowledge of abstraction, iteration, selection, generalisation and decomposition to create their quiz.</p> <p>Students can also add a timer to the quiz.</p>

Year 8

Unit	Unit Title	Content
1	Under the hood of a computer	<p>Introduction to computing. A look at the components of a computer and their functions.</p> <p>An introduction to binary numbers and code breaking</p>
2	Thinking Like a computer scientist	<p>An introduction to the use of algorithms and key words in relation to programming a computer including – Decomposition, Abstraction, Data and Pattern Identification.</p>
3	Drawing and manipulating shapes	<p>Creating and developing algorithms to manipulate shapes using text-based and graphical programming software (Logo and Scratch).</p>
4	Creating an Animation	<p>Creating and developing algorithms to produce an animation using graphical programming software (Scratch). Understanding key words in relation to programming a computer including – Selection, Iteration, procedures and functions.</p>
5	The foundations of computing	<p>Developing students understanding of the history of computing. An examination of the internal functions of a computer, in particular the CPU.</p>
6	How the web works	<p>Developing students understanding of the structure and function of the Internet. Including an introduction to the key terms- Server, Artefact, Client, Web browser, Network and URL.</p> <p>Develop students understanding of how search engines work and how to be safe online.</p>
7	Web page creation from the ground up	<p>An introduction to HTML and how web pages are scripted using HTML. Develop an understanding of the relationship between design, purpose and audience. How Cascading Style Sheets (CSS) are used to format a webpage.</p> <p>Students produce their own web page using HTML.</p>

Scheme of Work Computing KS3

8	Designing for HCI: A hand held digital device	<p>Understand the term Human-Computer-Interface (HCI). Developing a hand held device that is fit for both purpose and audience.</p> <p>Understanding methods used to decide whether a device is fit for purpose and audience.</p> <p>Understand the use of prototypes.</p>
9	Designing for HCI: an operating system interface	<p>Understanding the terms operating system (OS), user interface (UI), graphical user interface (GUI).</p> <p>Develop an understanding of how interfaces have developed over the years from command line interfaces to touch interfaces.</p>
10	Representing images	<p>Develop an understanding that digital images are made up of pixels and how binary code is used to represent these images.</p> <p>An understanding of the term resolution to describe the number of pixels used to generate an image.</p> <p>Develop students' knowledge of image types include bitmap and vector images.</p> <p>An introduction to stenography.</p>
11	Programming a calculator	<p>Producing algorithms using a graphical programming language (Scratch) that perform simple functions of a calculator. An introduction to the use of flow charts and variables.</p> <p>Using selection to produce more complex programs, including functions and procedures.</p>
12	Programming a quiz	<p>Students use a graphical programming language (Scratch) to program a quiz. Students use their knowledge of abstraction, iteration, selection, generalisation and decomposition to create their quiz.</p> <p>Students can also add a timer to the quiz.</p>

Year 9

Unit	Unit Title	Content
1	Under the hood of a computer	<p>Introduction to computing. A look at the components of a computer and their functions.</p> <p>An introduction to binary numbers and code breaking</p>
2	Thinking Like a computer scientist	<p>An introduction to the use of algorithms and key words in relation to programming a computer including – Decomposition, Abstraction, Data and Pattern Identification.</p>
3	Drawing and manipulating shapes	<p>Creating and developing algorithms to manipulate shapes using text-based and graphical programming software (Logo and Scratch).</p>
4	Creating an Animation	<p>Creating and developing algorithms to produce an animation using graphical programming software (Scratch). Understanding key words in relation to programming a computer including – Selection,</p>

Scheme of Work Computing KS3

		Iteration, procedures and functions.
5	The foundations of computing	Developing students understanding of the history of computing. An examination of the internal functions of a computer, in particular the CPU.
6	How the web works	Developing students understanding of the structure and function of the Internet. Including an introduction to the key terms- Server, Artefact, Client, Web browser, Network and URL. Develop students understanding of how search engines work and how to be safe online.
7	Web page creation from the ground up	An introduction to HTML and how web pages are scripted using HTML. Develop an understanding of the relationship between design, purpose and audience. How Cascading Style Sheets (CSS) are used to format a webpage. Students produce their own web page using HTML.
8	Designing for HCI: A hand held digital device	Understand the term Human-Computer-Interface (HCI). Developing a hand held device that is fit for both purpose and audience. Understanding methods used to decide whether a device is fit for purpose and audience. Understand the use of prototypes.
9	Designing for HCI: an operating system interface	Understanding the terms operating system (OS), user interface (UI), graphical user interface (GUI). Develop an understanding of how interfaces have developed over the years from command line interfaces to touch interfaces.
10	Representing images	Develop an understanding that digital images are made up of pixels and how binary code is used to represent these images. An understanding of the term resolution to describe the number of pixels used to generate an image. Develop students' knowledge of image types include bitmap and vector images. An introduction to stenography.
11	Programming a calculator	Producing algorithms using a graphical programming language (Scratch) that perform simple functions of a calculator. An introduction to the use of flow charts and variables. Using selection to produce more complex programs, including functions and procedures.
12	Programming a quiz	Students use a graphical programming language (Scratch) to program a quiz. Students use their knowledge of abstraction, iteration, selection, generalisation and decomposition to create their quiz. Students can also add a timer to the quiz.