

Year 7 – Computer Science Curriculum Map

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
<p>Introduction to Computer Science at Whitworth:</p> <ul style="list-style-type: none"> - School Rules - Logins/Passwords - Baseline - Google Classroom <p>DigitL Literacy:</p> <ul style="list-style-type: none"> - What to trust online - How to search smart - Copyright - Staying Safe - Cyber Abuse 	<p>Introduction to Programming and the language constructs using 'Scratch Blocks' (non-textual approach):</p> <ul style="list-style-type: none"> - Outputs - Variables - Inputs - Selection (IF-ELSE statements) - Conditionals 	<p>Computer Hardware:</p> <ul style="list-style-type: none"> - Defining a computer - Identifying the various components of a computer and understanding their function - Understanding of how the devices work together (the CPU, RAM, Hard Drive, IO Devices) - Introduction to the Von-Neumann Architecture. 	<p>Introduction to HTML:</p> <p>Basic Tags</p> <ul style="list-style-type: none"> - Heading - Horizontal Rule - Paragraphs - Fonts - Body (and it's properties) - Images - Hyperlinks 	<p>Scratch Arcade Game Maker:</p> <ul style="list-style-type: none"> - Designing Interfaces, Gameplay (and progression) and Algorithms - Code Development, Alpha Testing and Debugging - End-User Testing and Evaluations 	<p>Micro:Bit Madness:</p> <ul style="list-style-type: none"> - Understanding the various components of the embedded device - Remembering the basics of programming: <ul style="list-style-type: none"> o Outputs o Variables o Inputs o Selection (IF-ELSE statements) o Conditionals - Understanding the concept of compiling and flashing.
Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
<p>A written assessment made up of exam style questions covering all aspects of the unit.</p> <p>This will be carried out at the end of the unit (approx. at the end of the half-term).</p>	<p>A written assessment made up of exam style questions covering all aspects of the unit.</p> <p>This will be carried out at the end of the unit (approx. at the end of the half-term).</p>	<p>A written assessment made up of exam style questions covering the all aspects of the unit.</p> <p>This will be carried out at the end of the unit (approx. at the end of the half-term).</p>	<p>A written assessment made up of exam style questions covering the theoretical aspects of the unit (to be carried out at the end of the unit)</p> <p>In addition to this there will be an extended project, assessing the use of the practical HTML skills taught on the course. This will be an ongoing assessment throughout the second half of the unit.</p>	<p>An extended project assessing the full development process of coding a computer game:</p> <ul style="list-style-type: none"> - Design - Development - Testing - Evaluation <p>A good piece of work should include detailed design work, efficient coding (with few bugs), evidence of testing with resulting improvements documented and a detailed evaluation of the success of the project.</p>	<p>An extended project assessing the full development process of designing and programming a unique, end-user focused, device making use of the various components of the Micro:Bit computer:</p> <ul style="list-style-type: none"> - Design - Development - Evaluation <p>A good piece of work should include detailed design work, efficient coding (with few bugs), and evidence of testing with resulting improvements documented and a detailed evaluation of the success of the project.</p>

Year 8 – ‘Computer Science Curriculum Map

Autumn Term		Spring Term		Summer Term	
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Themes		Key Themes		Key Themes	

Understanding Computers

- What is a computer
- Hardware, Software & Storage
- CPU, Components & Memory
- CPU, Fetch & Execute cycle
- Binary

Binary Bits and Bobs

- The Binary Number System
- Binary – Denary Conversions
- Binary Addition
- Binary Representation of Text
- Binary Representation of Images
- Binary Representation of Sound

Introduction to Python

- Outputs
- Inputs and Variable Storage
- IF Statements

Problem Solving (Abstraction and Decomposition) Tasks

HTML and CSS

- HTML Basics
- CSS:
 - o Text
 - o Images
 - o Divisions
 - o Layout

Scratch Shooter Game Maker:

- Designing Interfaces, Gameplay (and progression) and Algorithms
- Code Development, Alpha Testing and Debugging
- End-User Testing and Evaluations

Advanced Scratch

Event Driven Programming

- Outputs
- Inputs and Variable Storage
- IF Statements
- FOR and FOREVER Loops

Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
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A written assessment made up of exam style questions covering the all aspects of the unit.

This will be carried out at the end of the unit (approx. at the end of the half-term).

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A written assessment made up of exam style questions covering the theoretical aspects of the unit (to be carried out at the end of the unit)

In addition to this there will be an extended project, assessing the use of the practical HTML skills taught on the course. This will be an ongoing assessment throughout the second half of the unit.

An extended project assessing the full development process of coding a computer game:

- Design
- Development
- Testing
- Evaluation

A good piece of work should include detailed design work, efficient coding (with few bugs), and evidence of testing with resulting improvements documented and a detailed

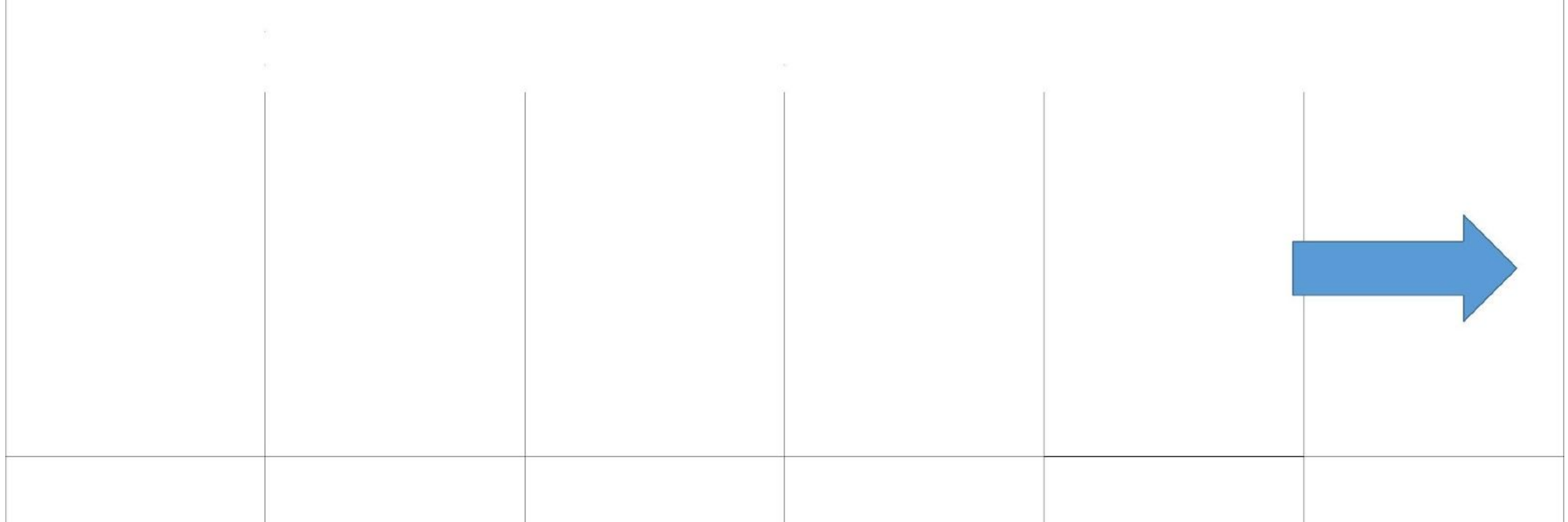
A written assessment made up of exam style questions covering the all aspects of the unit.

This will be carried out at the end of the unit (approx. at the end of the half-term).

evaluation of the success of the project.

Year 9 – ‘Computer Science Curriculum Map

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
Python Programming	Back to the Future	Computer Networks	HTML, CSS and JavaScript	Scrolling Game Maker	
Review of Year 8: <ul style="list-style-type: none"> - Outputs - Inputs and Variable Storage - IF Statements Advancing Knowledge: <ul style="list-style-type: none"> - FOR Loops - WHILE Loops Problem Solving (Abstraction and Decomposition) Tasks	Visiting famous CS pioneers and exploring their work: <ul style="list-style-type: none"> - George Boole – Boolean Logic - Tim Berners-Lee – HTML and WWW - Charles Babbage – The Difference Engine and Problem Solving - Alan Turing – Code Breaking 	<ul style="list-style-type: none"> - Advantages / Disadvantages of Networks - Local Area Networks (definition and hardware required) - Wide Area Networks (definition and hardware required) - Data Packets and the Internet - DNS and the Internet 	TBC	<ul style="list-style-type: none"> - Designing Interfaces, Gameplay (and progression) and Algorithms - Code Development, Alpha Testing and Debugging - End-User Testing and Evaluations 	



Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
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A written assessment made up of exam style questions covering the all aspects of the unit.

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A written assessment made up of exam style questions covering the theoretical aspects of the unit (to be carried out at the end of the unit)

In addition to this there will be an extended project, assessing the use of the practical HTML skills taught on the course. This will be an ongoing assessment throughout the second half of the unit.

An extended project assessing the full development process of coding a computer game:

- Design
- Development
- Testing
- Evaluation

A good piece of work should include detailed design work, efficient coding (with few bugs), evidence of testing with resulting improvements documented and a detailed evaluation of the success of the project.

