



# IT & Computing

## CIE ~ Computer Science ~ 0984

### iGCSE ~ Scheme of Work ~ 2018

Algorithms & Problem Solving

Trace table

This scheme of work is for the CIE iGCSE in Computer Science.

**Cambridge International Examination Board**

**iGCSE Computer Science**

**Syllabus code 0984**

[www.cie.org.uk](http://www.cie.org.uk)

Computer Science is a specialist subject designed to provide the students with an understanding of how computers work, and a foundation in programming. The course includes ethics and the relevant IT laws, together with problem solving, and the maths required to cope with computer programming.

## Course Design

The first term will introduce the students to what a computer is, and how they work, and in setting up their personal websites. The personal websites are used to record all of the students work, and are aimed at producing a personal revision website which the students are then able to use in the run up to exams.

The remaining time will be split between practical learning projects, interspersed with theory. Students will complete a variety of worksheets and projects, all of which will be recorded on their personal website.

## Course Information Documents

This syllabus should be read in conjunction with the following documents:

Item	Title	Comment
1	<b>Syllabus</b>	this is from the exam board and details what students need to learn it is dated for the exam year
2	<b>Scheme of Work</b>	this explains when we will cover the topics
3	<b>Personal Website</b>	this details what the student should be recording on each of the pages of their personal website – this then becomes a revision tool
4	<b>Revision Checklist</b>	this list all the topics as a quick revision tool

## Text Books & Resources

This course is a rapidly changing and evolving course, and does make use out of a wide range of resources.

Use	Title	Publisher
Main text book	Computer Science – Coursebook	Cambridge University Press
Revision Guide	Computer Science – Revision Guide	Cambridge University Press
Programming Guide	Computer Science – Programming Book - Python	Cambridge University Press
Programming Guide	Learn to Programme in Python	PG Online
Main MOOC	<a href="https://www.cambridgecsccomputing.org/">https://www.cambridgecsccomputing.org/</a>	Cambridge University Press
Secondary website	<a href="http://student.craigndave.org/">http://student.craigndave.org/</a>	Craig n Dave
Secondary website	<a href="http://www.igcseict.info">www.igcseict.info</a>	igcseict.info
Secondary website	<a href="http://www.teach-ict.com">www.teach-ict.com</a>	Teach-ICT.com
Python programming	<a href="https://www.learnpython.org/">https://www.learnpython.org/</a>	LearnPython.org
Web – HTML – CSS	<a href="https://www.w3schools.com/">https://www.w3schools.com/</a>	W3Schools.com

## 4<sup>th</sup> iGCSE

The 4<sup>th</sup> Form is a time to learn what a computer is, cover the core skills in using different hardware and software, and start to develop an understanding of the place and uses of computers in the modern world.

During this year we will use the text books to supplement the learning the students gain through their practical work. We will also check the IT news on a regular basis, and use any relevant stories to inform students about the place and effect of computers in the modern world.

The students will be building their own revision website throughout this course. This website will be started when the students learn about HTML and web authoring, and will continue with them adding pages about each topic as they complete them. The website will become the student's own personal revision tool.

### PupilData\IT & Computing\CS - iGCSE\CS - personal website\iGCSE - CS - Personal Website - Contents

The students will work on Denary – Binary – Hexadecimal conversion as starters throughout the year.

### Prep

Prep should be seen as preparation for the next lesson, or the next stage of the course. During the early part of the autumn this will be in developing the student's own website. As the course progresses much of the prep will be in producing website content based on the work done in lessons. Some of this content will be the webpages themselves, but this will also include completing various worksheets designed to become downloads for their websites.

Prep in the summer term is more likely to be based around the Python programming course, and will include examples and exercises from the course book – Learning to Programme in Python.

## Autumn Term ~ 1

Designing and building personal websites – graphics for websites.

Week	4 <sup>th</sup> Form ~ Autumn Term 1	
1	<p><b>Course Introduction</b> CIE – course content – exam system Presentation and syllabus explained in outline Personal Website – what &amp; why PupilData – file and information sources The Computer Defined – Computer Model 1 Input – Processing – Output</p> <p><b>Content for website</b> <b>Home Page</b> <b>Computer Defined</b> Typed notes in MS Word</p>	<p><b>Computer Defined 1</b> Video ~ Music Link - Essentials of Office IT <b>What is a Computer</b> Discussion on types and uses <b>Diagrams</b> MS Excel to draw diagrams <b>Computer Model 1</b> <b>Worksheets</b> <b>Inputs</b></p>
2	<p><b>Computer Defined 2</b> <b>Input Devices</b> Discussion on types and uses <b>Diagrams</b> MS Excel to draw diagrams <b>Computer Model 2</b> <b>Worksheets</b> <b>Inputs</b></p>	<p><b>Computer Defined 3</b> <b>Output Devices</b> Discussion on types and uses <b>Diagrams</b> MS Excel to draw diagrams <b>Computer Model 2</b> <b>Worksheets</b> <b>Outputs</b></p>

Week	4 <sup>th</sup> Form ~ Autumn Term 1	
3	<p><b>Basic HTML 1</b></p> <p>Use HTML workbooks to create a <b>2 page website</b></p> <p>Parts of the webpage</p> <ul style="list-style-type: none"> <li>HTML tags</li> <li>Hyperlinks</li> <li>Opening &amp; closing tags</li> <li>Images</li> </ul> <p>Folder structure for websites</p> <p>Coding conventions – neat tidy work</p>	<p><b>Basic HTML 2</b></p> <p>Use HTML workbooks to create a <b>2 page website</b></p> <p>Parts of the webpage</p> <ul style="list-style-type: none"> <li>HTML tags</li> <li>Hyperlinks</li> <li>Opening &amp; closing tags</li> <li>Images</li> </ul> <p>Folder structure for websites</p> <p>Coding conventions – neat tidy work</p>
4	<p><b>Computer Maths 1</b></p> <p><b>Binary introduction</b></p> <p>What is binary</p> <p>Different bases</p> <p>Converting Denary to/from Binary</p> <p>Binary addition/subtraction</p>	<p><b>Graphics for Websites 1</b></p> <p>Different graphic file types and their uses</p> <ul style="list-style-type: none"> <li>Bitmap – JPEG – PNG – GIF</li> </ul> <p><b>Calculating file sizes</b></p> <ul style="list-style-type: none"> <li>Pixels</li> <li>Compression algorithms</li> </ul> <p><b>Software choices</b></p> <ul style="list-style-type: none"> <li>Paint.net</li> <li>Fireworks</li> <li>GIMP</li> </ul> <p><b>Buttons and banners</b> for personal website</p>
5	<p><b>Computer Maths 2</b></p> <p><b>Binary introduction</b></p> <p>What is binary</p> <p>Different bases</p> <p>Converting Denary to/from Binary</p> <p>Binary addition/subtraction</p>	<p><b>Graphics for Websites 2</b></p> <p>Different graphic file types and their uses</p> <ul style="list-style-type: none"> <li>Bitmap – JPEG – PNG – GIF</li> </ul> <p><b>Calculating file sizes</b></p> <ul style="list-style-type: none"> <li>Pixels</li> <li>Compression algorithms</li> </ul> <p><b>Software choices</b></p> <ul style="list-style-type: none"> <li>Paint.net</li> <li>Fireworks</li> <li>GIMP</li> </ul> <p><b>Buttons and banners</b> for personal website</p>

Week	4 <sup>th</sup> Form ~ Autumn Term 1	
6	<p><b>Building Websites 1</b></p> <p><b>Folder Structure</b></p> <p>File types &amp; uses</p> <p><b>Software</b></p> <p>MS Expression</p> <p>NotePad++</p> <p><b>Layouts</b></p> <p>Tables and nested tables</p> <p>Template for <b>index.html</b></p> <p><b>Building web pages</b></p> <p>MS Expression</p> <p>NotePad++</p> <p><b>Webpages</b></p> <p>Home</p> <p>Computer Defined</p>	<p><b>Building Websites 1</b></p> <p><b>Folder Structure</b></p> <p>File types &amp; uses</p> <p><b>Software</b></p> <p>MS Expression</p> <p>NotePad++</p> <p><b>Layouts</b></p> <p>Tables and nested tables</p> <p>Template for <b>index.html</b></p> <p><b>Building web pages</b></p> <p>MS Expression</p> <p>NotePad++</p> <p><b>Webpages</b></p> <p>Home</p> <p>Computer Defined</p>
<p><b>Web Pages</b></p>	<p><b>Personal Website</b></p> <p>The website should be complete, with all the navigation in place, but with blank pages.</p> <p>The following webpages should be completed:</p> <p>Home</p> <p>Computer Defined</p> <p>All other webpages should be ready for use but blank</p>	

## Autumn Term ~ 2

What is inside the box – operating systems and application software.

Week	4 <sup>th</sup> Form ~ Autumn Term 2	
1	<p><b>Build a PC 1</b></p> <p><b>Workshop</b> – good practice</p> <ul style="list-style-type: none"> <li>Static electricity</li> <li>Care with tools and people</li> <li>Disassemble PCs</li> </ul> <p><b>Photos</b> – to show parts</p> <ul style="list-style-type: none"> <li>Take photos for each step</li> <li>Clear to show parts</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li><b>PC Costing</b></li> <li><b>Computer Parts</b></li> </ul>	<p><b>Build a PC 2</b></p> <p><b>Workshop</b> – good practice</p> <ul style="list-style-type: none"> <li>Static electricity</li> <li>Care with tools and people</li> <li>Disassemble PCs</li> </ul> <p><b>Photos</b> – to show parts</p> <ul style="list-style-type: none"> <li>Take photos for each step</li> <li>Clear to show parts</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li><b>PC Costing</b></li> <li><b>Computer Parts</b></li> </ul>
2	<p><b>Technical Documents 1</b></p> <p>DTP software</p> <ul style="list-style-type: none"> <li>Templates – Master Page</li> <li>Headers &amp; Footers – Stylesheet</li> </ul> <p>Importance of clear documentation</p> <p>Build a PC – <b>Technical Manual</b></p> <p><b>Photos</b> – to show parts</p> <ul style="list-style-type: none"> <li>Clear to show parts</li> <li>Cropping to show parts</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li><b>Build a PC – Technical Manual</b></li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li><b>Build a PC</b></li> </ul>	<p><b>Technical Documents 2</b></p> <p>Build a PC – <b>Technical Manual</b></p> <p>Creating PDFs for website</p> <ul style="list-style-type: none"> <li>File sizes and compression rates – photos</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li><b>Build a PC – Technical Manual</b></li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li><b>Build a PC</b></li> </ul>
4	<p><b>Operating Systems 1</b></p> <p>Functions of an OS</p> <p>Components of an OS</p> <p>Associated files</p> <ul style="list-style-type: none"> <li>Drivers</li> <li>Utilities</li> <li>User Interfaces</li> </ul> <p>Types of Operating Systems</p> <p><b>Diagrams</b></p> <ul style="list-style-type: none"> <li><b>Computer Model 2</b></li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li><b>Software</b></li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li><b>Software 1 – Operating Systems</b></li> </ul>	<p><b>Operating Systems 2</b></p> <p>Functions of an OS</p> <p>Components of an OS</p> <p>Associated files</p> <ul style="list-style-type: none"> <li>Drivers</li> <li>Utilities</li> <li>User Interfaces</li> </ul> <p>Types of Operating Systems</p> <p><b>Diagrams</b></p> <ul style="list-style-type: none"> <li><b>Computer Model 2</b></li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li><b>Software</b></li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li><b>Software 1 – Operating Systems</b></li> </ul>

<b>4<sup>th</sup> Form ~ Autumn Term 2</b>		
<b>5</b>	<p><b>Application Software 1</b>            What is an applicaton?            Software Licences            Major Uses/types</p> <p><b>Diagrams</b>            Computer Model 3</p> <p><b>Worksheets</b>            Software</p> <p><b>Webpages</b>            Software 2 – Application Software</p>	<p><b>Application Software 2</b>            What is an applicaton?            Software Licences            Major Uses/types</p> <p><b>Diagrams</b>            Computer Model 3</p> <p><b>Worksheets</b>            Software</p> <p><b>Webpages</b>            Software 2 – Application Software</p>
<b>6</b>	<p><b>Types of Computer 1</b>            What is a computer?            Why do we need different types of computer?            Major types of computing device.</p> <p><b>Webpages</b>            Types of Computer</p>	<p><b>Types of Computer 2</b>            What is a computer?            Why do we need different types of computer?            Major types of computing device.</p> <p><b>Webpages</b>            Types of Computer</p>
<b>Web Pages</b>	<p><b>Personal Website</b>            The following webpages should be completed:            Home            Computer Defined            Build a PC            Inside the Computer            Software 1 – Operating Systems            Software 2 – Application Software            Types of Computer</p> <p>All other webpages should be ready for use but blank</p>	

## Spring Term ~ 1

Introduction to programming – high level and low level languages – Small Basic and Little Man.

Week	4 <sup>th</sup> Form ~ Spring Term 1	
1	<b>Programming ~ Small Basic 1</b> Introduction to programming Programming vs Coding Small Basic – workbook Directed work through examples in workbook <b>Worksheets</b> <b>Programming Languages</b>	<b>Programming ~ Small Basic 2</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Programming Languages</b>
2	<b>Programming ~ Small Basic 3</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Programming Languages</b>	<b>Programming ~ Small Basic 4</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Bouncing Ball</b>
3	<b>Programming ~ Small Basic 5</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Moving Ball – keyboard</b>	<b>Programming ~ Small Basic 6</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Moving Paddles – keyboard</b>
4	<b>Programming ~ Small Basic 7</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Pong</b>	<b>Programming ~ Small Basic 8</b> Small Basic - workbook Directed work through examples in workbook <b>Worksheets</b> <b>Pong</b>
5	<b>Programming ~ Little Man 1</b> High Level vs Low Level languages Problem solving algorithms Adding Subtracting <b>Worksheets</b> <b>Little Man – notes</b> <b>Webpages</b> <b>Computer Languages</b>	<b>Programming ~ Little Man 2</b> Problem solving algorithms Largest of 2/3 numbers <b>Worksheets</b> <b>Little Man – notes</b> <b>Webpages</b> <b>Computer Languages</b>
6	<b>Programming ~ Little Man 3</b> Problem solving algorithms Sorting 2 – 3 – 5 numbers <b>Worksheets</b> <b>Little Man – notes</b> <b>Webpages</b> <b>Computer Languages</b>	<b>Programming ~ Little Man 4</b> Problem solving algorithms PIN Code checker <b>Worksheets</b> <b>Little Man – notes</b> <b>Webpages</b> <b>Computer Languages</b>

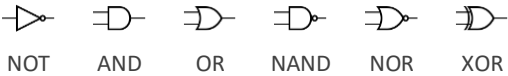
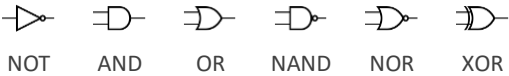
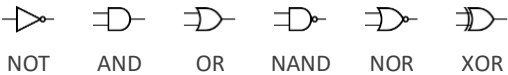
<b>Week</b>	<b>4<sup>th</sup> Form ~ Spring Term 1</b>
<b>Web Pages</b>	<p data-bbox="300 215 507 241"><b>Personal Website</b></p> <p data-bbox="300 259 855 286">The following webpages should be completed:</p> <ul data-bbox="395 295 817 573" style="list-style-type: none"><li data-bbox="395 295 472 322"><b>Home</b></li><li data-bbox="395 331 625 358"><b>Computer Defined</b></li><li data-bbox="395 367 523 394"><b>Build a PC</b></li><li data-bbox="395 403 651 430"><b>Inside the Computer</b></li><li data-bbox="395 439 791 465"><b>Software 1 – Operating Systems</b></li><li data-bbox="395 474 817 501"><b>Software 2 – Application Software</b></li><li data-bbox="395 510 632 537"><b>Types of Computer</b></li><li data-bbox="395 546 657 573"><b>Computer Languages</b></li></ul> <p data-bbox="300 591 938 618">All other webpages should be ready for use but blank</p>



## Spring Term ~ 2

Inside the processor – how they are made – logic gates – Von Neuman architecture.

Week	4 <sup>th</sup> Form ~ Half Term 2	
<p><b>1</b></p>	<p><b>Inside the Processor ~ 1</b></p> <p>What is a processor? Link to Little Man – processor simulator</p> <p><b>Video</b></p> <p>Videos to explain what a chip is and how it is made</p> <p>How Processors Are Made Microchips Animation <a href="https://www.youtube.com/watch?v=47OYKxctXpc">https://www.youtube.com/watch?v=47OYKxctXpc</a></p> <p>How Microchips are made – Texas Instruments <a href="https://www.youtube.com/watch?v=F2KcZGwntgg">https://www.youtube.com/watch?v=F2KcZGwntgg</a></p> <p><b>Von Neuman Architecture</b></p> <p>Fetch – Decode – Execute cycle Registers Buses Parts of the processor</p> <p><b>Diagrams</b></p> <p><b>Fetch – Decode – Execute Cycle</b></p>	<p><b>Inside the Processor ~ 1</b></p> <p>What is a processor? Link to Little Man – processor simulator</p> <p><b>Video</b></p> <p>Videos to explain what a chip is and how it is made</p> <p>Zoom Into a Microchip <a href="https://www.youtube.com/watch?v=Fxv3JoS1uY8">https://www.youtube.com/watch?v=Fxv3JoS1uY8</a></p> <p><b>Von Neuman Architecture</b></p> <p>Fetch – Decode – Execute cycle Registers Buses Parts of the processor</p> <p><b>Diagrams</b></p> <p><b>Von Neuman Architecture</b></p>
<p><b>2</b></p>	<p><b>Inside the Processor ~ 2</b></p> <p>Von Neuman Architecture</p> <p>Fetch – Decode – Execute cycle Registers Buses Parts of the processor</p> <p><b>Worksheets</b></p> <p><b>Processor Terms</b></p> <p><b>Webpages</b></p> <p><b>Processors</b></p>	<p><b>Inside the Processor ~ 2</b></p> <p>Von Neuman Architecture</p> <p>Fetch – Decode – Execute cycle Registers Buses Parts of the processor</p> <p><b>Worksheets</b></p> <p><b>Processor Terms</b></p> <p><b>Webpages</b></p> <p><b>Processors</b></p>
<p><b>3</b></p>	<p><b>Programming ~ Little Man 5</b></p> <p>Problem solving algorithms</p> <p>Linear Sorts Bubble Sorts</p> <p>Fetch – Decode – Execute cycle</p> <p><b>Worksheets</b></p> <p><b>Little Man – notes</b></p>	<p><b>Programming ~ Little Man 6</b></p> <p>Problem solving algorithms</p> <p>Linear Sorts Bubble Sorts</p> <p>Fetch – Decode – Execute cycle</p> <p><b>Worksheets</b></p> <p><b>Little Man – notes</b></p>

Week	4 <sup>th</sup> Form ~ Half Term 2	
<p><b>4</b></p>	<p><b>Logic Gates 1</b></p> <p>How the processor works</p> <p>Function of the following Logic Gates</p>  <p>NOT    AND    OR    NAND    NOR    XOR</p> <p>Truth Tables</p> <p><b>Logic Gate Simulator</b></p> <p>Logic Gate circuits</p> <p style="text-align: center;"><b>PupilData\ICT\General\Boolean Algebra &amp; Logic Gates</b></p> <p><b>Worksheets</b></p> <p style="text-align: center;"><b>Logic Gates &amp; Truth Tables</b></p> <p><b>Webpages</b></p> <p style="text-align: center;"><b>Logic Gates</b></p>	<p><b>Logic Gates 2</b></p> <p>How the processor works</p> <p>Function of the following Logic Gates</p>  <p>NOT    AND    OR    NAND    NOR    XOR</p> <p>Truth Tables</p> <p><b>Logic Gate Simulator</b></p> <p>Logic Gate circuits</p> <p style="text-align: center;"><b>PupilData\ICT\General\Boolean Algebra &amp; Logic Gates</b></p> <p><b>Worksheets</b></p> <p style="text-align: center;"><b>Logic Gates &amp; Truth Tables</b></p> <p><b>Webpages</b></p> <p style="text-align: center;"><b>Logic Gates</b></p>
<p><b>5</b></p>	<p><b>Logic Gates 3</b></p> <p>How the processor works</p> <p>Function of the following Logic Gates</p>  <p>NOT    AND    OR    NAND    NOR    XOR</p> <p>Truth Tables</p> <p><b>Uses for Logic Circuits</b></p> <ul style="list-style-type: none"> <li>XOR encryption</li> <li>Control circuits</li> <li>Brake systems</li> </ul> <p><b>Standard Logic Circuits</b></p> <ul style="list-style-type: none"> <li>Half Adder</li> <li>Full Adder</li> <li>D Type Flip Flop</li> </ul> <p><b>Worksheets</b></p> <p style="text-align: center;"><b>Logic Gates &amp; Truth Tables</b></p> <p><b>Webpages</b></p> <p style="text-align: center;"><b>Logic Gates</b></p>	<p><b>Computer Maths 3</b></p> <p>Different bases</p> <p><b>Converting between</b></p> <ul style="list-style-type: none"> <li>Binary</li> <li>Octal</li> <li>Denary</li> <li>Hexadecimal</li> </ul> <p><b>Worksheets</b></p> <p style="text-align: center;"><b>Maths for Computing 1</b></p>

Week	4 <sup>th</sup> Form ~ Half Term 2	
6	<p><b>Control &amp; Robotics 1</b></p> <p>MSW Logo – Turtle Graphics</p> <p>Basic commands</p> <p>Shapes</p> <p>Angles</p> <p>Repeats</p> <p><b>Worksheets</b></p> <p>Logo Notes</p> <p><b>Webpages</b></p> <p>Control Systems</p>	<p><b>Control &amp; Robotics 2</b></p> <p>MSW Logo – Turtle Graphics</p> <p>Variables</p> <p>Stored programs</p> <p>To Robot</p> <p><b>Worksheets</b></p> <p>Logo Notes</p> <p><b>Webpages</b></p> <p>Control Systems</p>
<b>Web Pages</b>	<p><b>Personal Website</b></p> <p>The following webpages should be completed:</p> <p>Home</p> <p>Computer Defined</p> <p>Build a PC</p> <p>Inside the Computer</p> <p>Software 1 – Operating Systems</p> <p>Software 2 – Application Software</p> <p>Types of Computer</p> <p>Computer Languages</p> <p>Processors</p> <p>Logic Gates</p> <p>Control Systems</p> <p>All other webpages should be ready for use but blank</p>	

## Summer Term ~ 1

Programming – conversion to Python – use **Learning to Program in Python** books.

The summer term will be spent working through this book at approximately 1 chapter per 2 weeks. We will continue to use computer maths starters, and will also be completing some of the theory webpages.

Week	4 <sup>th</sup> Form ~ Summer Term 1	
1	<p><b>Programming</b></p> <p><b>What is a computer system</b> – recap &amp; introduction</p> <ul style="list-style-type: none"> <li>• Hardware</li> <li>• Software – programs are a series of instructions</li> <li>• Data</li> <li>• Users</li> </ul> <p><b>Computer languages</b> – recap</p> <ul style="list-style-type: none"> <li>• High Level – natural language eg in English</li> <li>• Low Level – assembly language</li> <li>• Machine Code – all high level languages end up as machine code</li> </ul> <p>Compare Little Man and Small Basic</p>	<p><b>Python 1</b></p> <p>Introduction to programming in Python</p> <p><b>Learning to Program in Python</b> – textbook</p> <p>Programming concepts revision – compare Python syntax to Small Basic</p> <ul style="list-style-type: none"> <li>• Inputs</li> <li>• Variables – including naming conventions</li> <li>• Print – concatenate strings, numbers, variables</li> </ul> <p>Directed work through examples in workbook – save examples to Python folder</p> <p><b>Worksheets</b></p> <p><b>Programming Terms</b> – recap</p> <p><b>Webpages</b></p> <p><b>Computer Languages</b> – recap</p> <p><b>Programming</b></p>
2	<p><b>Programming ~ Python 2</b></p> <p>Introduction to programming in Python</p> <p><b>Learning to Program in Python</b> – textbook</p> <p>Programming concepts revision</p> <p>Directed work through examples in workbook</p> <p><b>Prep</b></p> <p><b>From Python Book</b></p>	<p><b>Research &amp; Plagiarism</b></p> <p>Search Engines</p> <p>Plagiarism vs Copyright</p> <p><b>Search Algorithms?</b></p> <p>How do these work</p> <p>Why do we get the results we do?</p> <p><b>Video</b></p> <p>Royal Society – Christmas Lecture</p> <p><b>Webpages</b></p> <p><b>Research &amp; Plagiarism</b></p>
3	<p><b>Programming ~ Python 3</b></p> <p>Introduction to programming in Python</p> <p><b>Learning to Program in Python</b> – textbook</p> <p>Programming concepts revision</p> <p>Directed work through examples in workbook</p> <p><b>Prep</b></p> <p><b>From Python Book</b></p>	<p><b>Programming ~ Python 4</b></p> <p>Introduction to programming in Python</p> <p><b>Learning to Program in Python</b> – textbook</p> <p>Programming concepts revision</p> <p>Directed work through examples in workbook</p> <p><b>Prep</b></p> <p><b>From Python Book</b></p>

Week	<b>4<sup>th</sup> Form ~ Summer Term 1</b>	
<b>4</b>	<b>Programming ~ Python 5</b> Introduction to programming in Python <b>Learning to Program in Python –</b> textbook Programming concepts revision Directed work through examples in workbook <b>Prep</b> <b>From Python Book</b>	<b>Data Types</b> Binary – txt – rtf – bitmap – jpeg – gif – mpeg File sizes – compression – conversion <b>Webpages</b> <b>Data Types</b>
<b>5</b>	<b>Programming ~ Python 6</b> Introduction to programming in Python <b>Learning to Program in Python –</b> textbook Programming concepts revision Directed work through examples in workbook <b>Prep</b> <b>From Python Book</b>	<b>Programming ~ Python 7</b> Introduction to programming in Python <b>Learning to Program in Python –</b> textbook Programming concepts revision Directed work through examples in workbook <b>Prep</b> <b>From Python Book</b>
<b>6</b>	<b>Programming ~ Python 8</b> Introduction to programming in Python <b>Learning to Program in Python –</b> textbook Programming concepts revision Directed work through examples in workbook <b>Prep</b> <b>From Python Book</b>	<b>Exam Prep 1</b> Revision checklists Number crunching – maths practice Review of website contents <b>Worksheets</b> <b>Revision checklist</b> <b>Webpages</b> <b>Review all pages so far</b> <b>Ring Binder</b> <b>Practice exam papers</b>
<b>Web Pages</b>	<b>Personal Website</b> The following webpages should be completed: <b>Home</b> <b>Computer Defined</b> <b>Build a PC</b> <b>Inside the Computer</b> <b>Software 1 – Operating Systems</b> <b>Software 2 – Application Software</b> <b>Types of Computer</b> <b>Computer Languages</b> <b>Processors</b> <b>Logic Gates</b> <b>Control Systems</b> <b>Research &amp; Plagiarism</b> <b>Programming</b> <b>Data Types</b> All other webpages should be ready for use but blank	

## Summer Term ~ 2

School exam week followed by feedback – all students to have clean worked examples in their ring binders for later revision.

Introduction to Systems analysis, development, testing, evaluation, and change management.

Week	4 <sup>th</sup> Form ~ Summer Term 2	
<b>1</b>	<b>Exam Prep 2</b> Revision checklists Number crunching – maths practice Review of website contents <b>Worksheets</b> Revision checklist <b>Webpages</b> Review all pages so far <b>Ring Binder</b> Practice exam papers	<b>Exam Prep 3</b> Revision checklists Number crunching – maths practice Review of website contents <b>Worksheets</b> Revision checklist <b>Webpages</b> Review all pages so far <b>Ring Binder</b> Practice exam papers
<b>2</b>	<b>School Exam Week 1</b> All students taking exams in all subjects No Lessons	<b>School Exam Week 2</b> All students taking exams in all subjects No Lessons
<b>3</b>	<b>Exam Feedback 1</b> Feedback on exams Working through major missing questions All students to have a completed fair copy <b>Ring Binder</b> Completed papers	<b>Exam Feedback 2</b> Feedback on exams Working through major missing questions All students to have a completed fair copy <b>Ring Binder</b> Completed papers
<b>4</b>	<b>Systems Development 1</b> Introduction to: Systems Life Cycle Analysis Design <b>Diagrams</b> Systems Life Cycle <b>Worksheets</b> Systems Life Cycle – notes	<b>Systems Development 2</b> Introduction to: Systems Life Cycle Build Implementation <b>Diagrams</b> Systems Life Cycle <b>Worksheets</b> Systems Life Cycle – notes

Week	4 <sup>th</sup> Form ~ Summer Term 2	
<b>5</b>	<p><b>Systems Development 3</b></p> <p><b>Systems Life Cycle</b></p> <ul style="list-style-type: none"> <li>Testing</li> <li>Evaluation</li> <li>Maintenance</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li>Testing Terms</li> </ul> <p><b>Diagrams</b></p> <ul style="list-style-type: none"> <li>Systems Life Cycle</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li>Systems Life Cycle – notes</li> </ul>	<p><b>Systems Development 4</b></p> <p><b>Change Management</b></p> <ul style="list-style-type: none"> <li>Pilot running</li> <li>Immediate changeover</li> <li>Parallel running</li> <li>Phased introduction</li> </ul> <p><b>Diagrams</b></p> <ul style="list-style-type: none"> <li>Change Management</li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li>Systems Life Cycle</li> </ul>
<b>6</b>	<p><b>Control &amp; Robotics 3</b></p> <p><b>Flowol</b></p> <p>Flow diagram control system</p> <p><b>Examples</b></p> <ul style="list-style-type: none"> <li>Bridge Lights</li> <li>Lighthouse</li> <li>Railway</li> <li>Fairground</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li>Flowol Notes</li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li>Control Systems</li> </ul>	<p><b>Control &amp; Robotics 4</b></p> <p><b>Flowol</b></p> <p>Flow diagram control system</p> <p><b>Examples</b></p> <ul style="list-style-type: none"> <li>Bridge Lights</li> <li>Lighthouse</li> <li>Railway</li> <li>Fairground</li> </ul> <p><b>Worksheets</b></p> <ul style="list-style-type: none"> <li>Flowol Notes</li> </ul> <p><b>Webpages</b></p> <ul style="list-style-type: none"> <li>Control Systems</li> </ul>
<b>Web Pages</b>	<p><b>Personal Website</b></p> <p>The following webpages should be completed:</p> <ul style="list-style-type: none"> <li>Home</li> <li>Computer Defined</li> <li>Build a PC</li> <li>Inside the Computer</li> <li>Software 1 – Operating Systems</li> <li>Software 2 – Application Software</li> <li>Types of Computer</li> <li>Computer Languages</li> <li>Processors</li> <li>Logic Gates</li> <li>Control Systems</li> <li>Research &amp; Plagiarism</li> <li>Programming</li> <li>Data Types</li> <li>Systems Life Cycle</li> </ul> <p>All other webpages should be ready for use but blank</p>	

## 5<sup>th</sup> iGCSE

The 5<sup>th</sup> Form is the time to refine the students' programming skills, cover any gaps in the use IT systems, and develop the students' knowledge of the place and ethics of using computers in the modern world.

During this year we will continue working through the text books, using these to supplement the practical learning the students gain through their practical work.

We will continue to work through the Learning to Program in Python workbook in the autumn term, and make use out of the Cambridge iGCSE Python Programming Book. The aim is that the students should be capable of independent development work to a level suitable to tackle the summer exam pre-release material by the end of the autumn term.

During the autumn term we will spend a double period per week on programming, and a double on theory. We will start many lessons with some computer maths – little and often.

Later on in this year we also spend some time practicing exams and past papers. The students will sit a mock iGCSE in January; this will include both of the theory papers. Later on in the spring term we will make use out of past papers to refine exam techniques.

### Paper 2 – Problem-solving and Programming pre-release material

The Paper 2 Problem-solving and Programming pre-release material is available to the students in the early part of the spring term. This pre-release material becomes part of the exam, and Centres shortly after the estimated entries deadline for the June and November examinations. It is also reproduced in the question paper. Candidates must not bring any prepared material into the examination.

## Autumn Term ~ 1

Week	5 <sup>th</sup> Form ~ Autumn Term 1	
<b>1</b>	<p><b>The Computer ~ revisited</b> Hardware &amp; Software – review Computer Model.xls     Input – Processing – Output     Backing Stores – Working Memory</p> <p><b>Webpages ~ revision</b> Home Computer Defined Software 1 – Operating Systems Software 2 – Application Software</p>	<p><b>Programming ~ Python 9</b> Introduction to programming in Python <b>Learning to Program in Python</b> Programming concepts revision Directed work through examples in workbook <b>Recap on work from 4<sup>th</sup> Form</b></p>
<b>2</b>	<p><b>Input Devices &amp; Sensors 1</b> Explain how <b>input devices</b> and <b>sensors</b> are used in real-life situations Research examples of the use of devices and sensors with photos</p> <p><b>Worksheets</b>     <b>Input Devices</b> – review</p> <p><b>Webpages</b>     <b>Input Devices</b></p>	<p><b>Programming ~ Python 10</b> Introduction to programming in Python <b>Learning to Program in Python</b> Programming concepts revision Directed work through examples in workbook</p>



<b>5<sup>th</sup> Form ~ Autumn Term 1</b>	
<b>3</b>	<p><b>Input Devices &amp; Sensors 2</b></p> <p>Explain how <b>input devices</b> and <b>sensors</b> are used in real-life situations</p> <p>Research examples of the use of devices and sensors with photos</p> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>Input Devices</b> – review</p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>Input Devices</b></p>
<b>4</b>	<p><b>Output Devices 1</b></p> <p>Explain how <b>output devices</b> are used in real-life situations</p> <p>Research examples of the use of devices with photos</p> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>Output Devices</b> – review</p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>Output Devices</b></p>
<b>5</b>	<p><b>Output Devices 2</b></p> <p>Explain how <b>output devices</b> are used in real-life situations</p> <p>Research examples of the use of devices with photos</p> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>Output Devices</b> – review</p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>Output Devices</b></p>
<b>6</b>	<p><b>Storage Devices</b></p> <p>Explain how <b>storage devices</b> are used in real-life situations</p> <p>Provide examples of the use of devices with photos</p> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>Storage Devices</b> – review</p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>Storage Devices</b></p>

Week	5 <sup>th</sup> Form ~ Autumn Term 1
<b>Web Pages</b>	<p data-bbox="300 215 507 248"><b>Personal Website</b></p> <p data-bbox="300 259 855 293">The following webpages should be completed:</p> <ul data-bbox="395 304 815 943" style="list-style-type: none"><li data-bbox="395 304 472 338"><b>Home</b></li><li data-bbox="395 338 624 371"><b>Computer Defined</b></li><li data-bbox="395 371 520 405"><b>Build a PC</b></li><li data-bbox="395 405 647 439"><b>Inside the Computer</b></li><li data-bbox="395 439 791 472"><b>Software 1 – Operating Systems</b></li><li data-bbox="395 472 815 506"><b>Software 2 – Application Software</b></li><li data-bbox="395 506 632 539"><b>Types of Computer</b></li><li data-bbox="395 539 655 573"><b>Computer Languages</b></li><li data-bbox="395 573 528 607"><b>Processors</b></li><li data-bbox="395 607 536 640"><b>Logic Gates</b></li><li data-bbox="395 640 592 674"><b>Control Systems</b></li><li data-bbox="395 674 663 707"><b>Research &amp; Plagiarism</b></li><li data-bbox="395 707 560 741"><b>Programming</b></li><li data-bbox="395 741 536 775"><b>Data Types</b></li><li data-bbox="395 775 616 808"><b>Systems Life Cycle</b></li><li data-bbox="395 808 560 842"><b>Input Devices</b></li><li data-bbox="395 842 584 875"><b>Output Devices</b></li><li data-bbox="395 875 552 909"><b>Data Storage</b></li></ul> <p data-bbox="300 954 935 987">All other webpages should be ready for use but blank</p>

## Autumn Term ~ 2

We continue with the Learning to Programme in Python workbooks, aiming to complete this and some small projects before then end of term. The theory this half-term is based around networks, the device required and how it all works. Plus we will look at how the internet is structured and works.

Week	5 <sup>th</sup> Form ~ Autumn Term ~ 2	
1	<p><b>Networks 1</b></p> <p>What a network is</p> <p><b>Cambridge iGCSE Coursebook</b></p> <p>Chapter 2 – Page 21</p> <p><b>Why do we network</b></p> <ol style="list-style-type: none"> <li>1. Main reasons</li> <li>2. Secondary reasons</li> </ol> <p><b>Networks</b></p> <ol style="list-style-type: none"> <li>1. Formats</li> <li>2. Topology</li> <li>3. Devices</li> </ol> <p><b>Diagram</b></p> <p>School Topology</p> <p><b>Worksheets</b></p> <p>Network Devices</p> <p>Network Terms</p> <p><b>Webpages</b></p> <p>Networks</p>	<p><b>Networks 2</b></p> <p>What a network is</p> <p><b>Cambridge iGCSE Coursebook</b></p> <p>Chapter 2 – Page 21</p> <p><b>Why do we network</b></p> <ol style="list-style-type: none"> <li>1. Main reasons</li> <li>2. Secondary reasons</li> </ol> <p><b>Networks</b></p> <ol style="list-style-type: none"> <li>1. Formats</li> <li>2. Topology</li> <li>3. Devices</li> </ol> <p><b>Diagram</b></p> <p>School Topology</p> <p><b>Worksheets</b></p> <p>Network Devices</p> <p>Network Terms</p> <p><b>Webpages</b></p> <p>Networks</p>

Week	5 <sup>th</sup> Form ~ Autumn Term ~ 2	
<p><b>2</b></p>	<p><b>Networks 3</b> How a network works <b>Cambridge iGCSE Coursebook</b> Chapter 2 – Page 21</p> <p><b>Video</b> PupilData\General\Networks\STEM - Networks</p> <p><b>Data Transmission</b></p> <ol style="list-style-type: none"> <li>1. Serial</li> <li>2. Parallel</li> <li>3. Simplex</li> <li>4. Duplex</li> <li>5. Half-duplex</li> </ol> <p><b>Network Protocols</b></p> <ol style="list-style-type: none"> <li>1. IP</li> <li>2. TCP</li> <li>3. MAC</li> <li>4. FTP</li> <li>5. HTTP(s)</li> <li>6. Bluetooth</li> </ol> <p><b>Worksheets</b> Data Transmission</p> <p><b>Webpages</b> Networks</p>	<p><b>Networks 4</b> How a network works <b>Cambridge iGCSE Coursebook</b> Chapter 2 – Page 21</p> <p><b>Network Protocols</b></p> <ol style="list-style-type: none"> <li>1. IP</li> <li>2. TCP</li> <li>3. MAC</li> <li>4. FTP</li> <li>5. HTTP(s)</li> <li>6. Bluetooth</li> </ol> <p><b>Error Detection</b></p> <ol style="list-style-type: none"> <li>1. Checksum</li> <li>2. Parity Bits</li> <li>3. ARQ – Automatic Repeat reQuest</li> </ol> <p><b>Worksheets</b> Error Correction and Compression</p> <p><b>Webpages</b> Networks</p>
<p><b>3</b></p>	<p><b>Internet 1</b> What is the Internet? <b>Cambridge iGCSE Coursebook</b> Chapter 2 – Page 30</p> <p><b>History of the Internet</b></p> <ol style="list-style-type: none"> <li>1. Pre-internet systems military – Roman, Georgian, WW2, leading to ARPANET</li> <li>2. CERN Tim Berners-Lee &amp; Robert Calliou</li> <li>3. Development current uses – future developments</li> </ol> <p><b>Worksheets</b> Internet</p> <p><b>Webpages</b> Internet</p>	<p><b>Internet 2</b> How does it work? <b>Cambridge iGCSE Coursebook</b> Chapter 2 – Page 30</p> <p><b>Connecting to the Internet</b></p> <ol style="list-style-type: none"> <li>1. Internet Service Provider – ISP</li> <li>2. Hardware</li> <li>3. Software</li> </ol> <p><b>Internet Protocols</b></p> <ol style="list-style-type: none"> <li>1. HTTP</li> <li>2. HTTPS</li> <li>3. FTP</li> </ol> <p><b>Worksheets</b> Internet</p> <p><b>Webpages</b> Internet</p>

Week	5 <sup>th</sup> Form ~ Autumn Term ~ 2	
<p><b>4</b></p>	<p><b>World Wide Web ~ www</b></p> <p><b>Introduction</b></p> <ol style="list-style-type: none"> <li>1. What is the world wide web?</li> <li>2. History of the world wide web?</li> </ol> <p><b>Web address – URL</b></p> <ol style="list-style-type: none"> <li>1. Types of Domain</li> <li>2. Domain structure</li> </ol> <p><b>Uses for websites</b></p> <ol style="list-style-type: none"> <li>1. Information</li> <li>2. Online shopping/banking</li> <li>3. Blog</li> <li>4. Wiki</li> <li>5. Social Media</li> <li>6. MMOC and virtual worlds</li> </ol> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>World Wide Web – www</b></p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>World Wide Web – www</b></p>	<p><b>Web Page Development 1</b></p> <p>Review of personal websites</p> <p><b>Languages of the www</b></p> <ol style="list-style-type: none"> <li>1. HTML – Hyper Text Markup Language</li> <li>2. PHP - Hypertext Preprocessor</li> <li>3. CSS – Cascading Style Sheet</li> </ol> <p><b>Software used to create web pages</b></p> <ol style="list-style-type: none"> <li>1. Text editors</li> <li>2. Dedicated development software</li> </ol> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>World Wide Web – www</b></p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>World Wide Web – www</b></p>
<p><b>5</b></p>	<p><b>Web Page Development 2</b></p> <p>Review of personal websites</p> <p><b>Web site file structure</b></p> <ol style="list-style-type: none"> <li>1. Webpages</li> <li>2. Images</li> <li>3. Downloads</li> </ol> <p><b>Explain the layers of a webpage</b></p> <ol style="list-style-type: none"> <li>1. Content Layer</li> <li>2. Presentation Layer</li> <li>3. Behaviour Layer</li> </ol> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>World Wide Web – www</b></p> <p><b>Webpages</b></p> <p style="padding-left: 40px;"><b>World Wide Web – www</b></p>	<p><b>Exam Preparation ~ 1</b></p> <p>Introduction to iGCSE exam papers</p> <p>Preparation for January Mocks</p> <p style="padding-left: 40px;">Revision Guide</p> <p style="padding-left: 40px;">Practice papers</p> <p><b>Ring Binders</b></p> <p style="padding-left: 40px;"><b>Revision Guide</b></p> <p style="padding-left: 40px;"><b>Practice papers</b></p>
<p><b>6</b></p>	<p><b>Computer Maths 4</b></p> <p><b>Binary</b></p> <p style="padding-left: 40px;">Fractions</p> <p style="padding-left: 40px;">Multiplication</p> <p><b>Worksheets</b></p> <p style="padding-left: 40px;"><b>Maths for Computing 2</b></p>	<p><b>Exam Preparation ~ 2</b></p> <p>Introduction to iGCSE exam papers</p> <p>Preparation for January Mocks</p> <p style="padding-left: 40px;">Revision Guide</p> <p style="padding-left: 40px;">Practice papers</p> <p><b>Ring Binders</b></p> <p style="padding-left: 40px;"><b>Revision Guide</b></p> <p style="padding-left: 40px;"><b>Practice papers</b></p>

Week	5 <sup>th</sup> Form ~ Autumn Term ~ 2
<b>Web Pages</b>	<p data-bbox="300 215 507 248"><b>Personal Website</b></p> <p data-bbox="300 259 855 293">The following webpages should be completed:</p> <ul style="list-style-type: none"> <li data-bbox="395 304 472 338"><b>Home</b></li> <li data-bbox="395 342 624 376"><b>Computer Defined</b></li> <li data-bbox="395 380 520 414"><b>Build a PC</b></li> <li data-bbox="395 418 647 452"><b>Inside the Computer</b></li> <li data-bbox="395 456 788 490"><b>Software 1 – Operating Systems</b></li> <li data-bbox="395 495 815 528"><b>Software 2 – Application Software</b></li> <li data-bbox="395 533 632 566"><b>Types of Computer</b></li> <li data-bbox="395 571 655 604"><b>Computer Languages</b></li> <li data-bbox="395 609 528 642"><b>Processors</b></li> <li data-bbox="395 647 536 680"><b>Logic Gates</b></li> <li data-bbox="395 685 596 719"><b>Control Systems</b></li> <li data-bbox="395 723 668 757"><b>Research &amp; Plagiarism</b></li> <li data-bbox="395 761 564 795"><b>Programming</b></li> <li data-bbox="395 799 533 833"><b>Data Types</b></li> <li data-bbox="395 837 619 871"><b>Systems Life Cycle</b></li> <li data-bbox="395 875 564 909"><b>Input Devices</b></li> <li data-bbox="395 913 587 947"><b>Output Devices</b></li> <li data-bbox="395 952 555 985"><b>Data Storage</b></li> <li data-bbox="395 990 517 1023"><b>Networks</b></li> <li data-bbox="395 1028 496 1061"><b>Internet</b></li> <li data-bbox="395 1066 703 1099"><b>World Wide Web – www</b></li> <li data-bbox="395 1104 695 1137"><b>Web Page Development</b></li> </ul> <p data-bbox="300 1099 938 1133">All other webpages should be ready for use but blank</p>

## Spring Term ~ 1

The Spring term starts with the students doing mock iGCSE exams, followed by feedback, then finishing off some of the major topics. We will also have received the exam board pre-release material, and can start to look at this with the students.

Week	5 <sup>th</sup> Form ~ Spring Term ~ 1	
<b>1</b>	<b>January Mocks</b> iGCSE mock exams	<b>January Mocks</b> iGCSE mock exams
<b>2</b>	<b>Exam Feedback 1</b> Feedback on exams Working through major missing questions All students to have a completed fair copy <b>Ring Binder</b> <b>Completed papers</b>	<b>Exam Feedback 2</b> Feedback on exams Working through major missing questions All students to have a completed fair copy <b>Ring Binder</b> <b>Completed papers</b>
<b>3</b>	<b>Problem Solving 1</b> Decompose problems <b>System Analysis</b> Defining the system Flow Charts Data Flow Flowol – mimics <b>Worksheets</b> <b>Flowcharts</b> <b>Data Flow</b>	<b>Exam Board ~ Pre-Release Material 1</b> Introduction to CIE pre-release material Analyse what is required Flow Charts & Data Flow Structuring programmes
<b>4</b>	<b>Problem Solving 2</b> Decompose problems <b>System Analysis</b> Defining the system Flow Charts Data Flow Flowol – further mimics <b>Worksheets</b> <b>Flowcharts</b> <b>Data Flow</b>	<b>Exam Board ~ Pre-Release Material 2</b> Introduction to CIE pre-release material Prototyping Solutions Recording Development
<b>5</b>	<b>Pseudocode &amp; Programming 1</b> What is Pseudocode Why use it – why not just code? Standard forms <b>Worksheets</b> <b>Pseudocode</b> <b>Personal Website</b> <b>Pseudocode</b>	<b>Exam Board ~ Pre-Release Material 3</b> Introduction to CIE pre-release material Prototyping Solutions Recording Development Programming libraries Develop Use

Week	5 <sup>th</sup> Form ~ Spring Term ~ 1	
<b>6</b>	<b>Pseudocode &amp; Programming 2</b> What is Pseudocode Why use it – why not just code? Standard forms <b>Worksheets</b> <b>Pseudocode</b> <b>Personal Website</b> <b>Psuedocode</b>	<b>Exam Board ~ Pre-Release Material 4</b> Introduction to CIE pre-release material Prototyping Solutions Recording Development Programming libraries Develop Use
<b>Web Pages</b>	<b>Personal Website</b> The following webpages should be completed: Home Computer Defined Build a PC Inside the Computer Software 1 – Operating Systems Software 2 – Application Software Types of Computer Computer Languages Processors Control Systems Logic Gates Research & Plagiarism Programming Data Types Systems Life Cycle Input Devices Output Devices Data Storage Networks Internet World Wide Web – www Web Page Development Pseudocode All other webpages should be ready for use but blank	



## Spring Term ~ 2

The second half of the Spring term will concentrate on revising major topics, completing practice questions and papers, and practicing the exam board pre-release material.

Week	5 <sup>th</sup> Form ~ Spring Term ~ 2	
<b>1</b>	<b>Databases 1</b> What is a database <b>Types of Database</b> Flat File Relational <b>Analysing Databases</b> ER diagrams <b>Building Databases</b> Tables Fields Relationships Forms Reports <b>Webpages</b> Databases	<b>Databases 2</b> <b>Building Databases</b> Tables Fields Relationships Forms Reports <b>Database Projects</b> Flat File Relational <b>Webpages</b> Databases
<b>2</b>	<b>Uses for Database</b> Historical development of systems Stock Control Systems <b>Video</b> Decathlon <b>Worksheets</b> Decathlon <b>Webpages</b> Stock Control	<b>Data Protection &amp; ID Theft ~ 1</b> Information Commissioners Office Data Protection Act Freedom of Information Act <b>Webpages</b> Data Protection & ID Theft
<b>3</b>	<b>Computer Misuse</b> Hacking – History – Methods – Reasons Viruses – Worms – Trojans Prevention – best practice & security software <b>Webpages</b> Computer Misuse	<b>IT &amp; Crime</b> Crimes committed using computers Scams & Spam <b>Webpages</b> IT & Crime

Week	5 <sup>th</sup> Form ~ Spring Term ~ 2	
<p><b>4</b></p>	<p><b>Copyright &amp; Piracy</b>  BBC Money Programme – Cyber Pirates  Music &amp; Video Piracy  Copyright worksheets – 1  <b>Webpages</b>  <b>Copyright &amp; Piracy</b>  <b>Research &amp; Plagiarism</b></p>	<p><b>Computer Maths ~ recap</b>  Different bases  Binary  Octal  Decimal  Hexadecimal  Conversion between all bases  Basic operations in all bases  Addition  Subtraction  Multiplication  <b>Webpages</b>  <b>Computer Maths</b></p>
<p><b>5</b></p>	<p><b>Programming ~ Little Man 5</b>  Problem solving algorithms  Linear Sorts  Bubble Sorts  Programming Languages  High Level  Low Level  <b>Worksheets</b>  <b>Little Man – notes</b></p>	<p><b>Files &amp; Compression</b>  Files types – recap  <b>Calculating file sizes</b>  Chapter 8 – Page 121  Graphics  Text  Database  Audio  Video</p>
<p><b>6</b></p>	<p><b>Personal Websites</b>  IT Careers  The Role of the IT Professional  <b>Webpages</b>  <b>The Role of the IT Professional</b></p>	<p><b>Personal Websites</b>  Complete work on personal websites  Check everything is there  Revision use</p>

Week	5 <sup>th</sup> Form ~ Spring Term ~ 2
<b>Web Pages</b>	<p data-bbox="300 215 507 248"><b>Personal Website</b></p> <p data-bbox="300 259 1230 293">The personal website should now be completed and ready to use for revision:</p> <ul style="list-style-type: none"> <li data-bbox="395 304 469 338"><b>Home</b></li> <li data-bbox="395 342 624 376"><b>Computer Defined</b></li> <li data-bbox="395 380 517 414"><b>Build a PC</b></li> <li data-bbox="395 418 647 452"><b>Inside the Computer</b></li> <li data-bbox="395 456 788 490"><b>Software 1 – Operating Systems</b></li> <li data-bbox="395 495 815 528"><b>Software 2 – Application Software</b></li> <li data-bbox="395 533 632 566"><b>Types of Computer</b></li> <li data-bbox="395 571 655 604"><b>Computer Languages</b></li> <li data-bbox="395 609 528 642"><b>Processors</b></li> <li data-bbox="395 647 536 680"><b>Logic Gates</b></li> <li data-bbox="395 685 596 719"><b>Control Systems</b></li> <li data-bbox="395 723 564 757"><b>Programming</b></li> <li data-bbox="395 761 533 795"><b>Data Types</b></li> <li data-bbox="395 799 619 833"><b>Systems Life Cycle</b></li> <li data-bbox="395 837 564 871"><b>Input Devices</b></li> <li data-bbox="395 875 587 909"><b>Output Devices</b></li> <li data-bbox="395 913 555 947"><b>Data Storage</b></li> <li data-bbox="395 952 517 985"><b>Networks</b></li> <li data-bbox="395 990 501 1023"><b>Internet</b></li> <li data-bbox="395 1028 703 1061"><b>World Wide Web – www</b></li> <li data-bbox="395 1066 695 1099"><b>Web Page Development</b></li> <li data-bbox="395 1104 549 1137"><b>Pseudocode</b></li> <li data-bbox="395 1142 512 1176"><b>Database</b></li> <li data-bbox="395 1180 564 1214"><b>Stock Control</b></li> <li data-bbox="395 1218 608 1252"><b>Computer Maths</b></li> <li data-bbox="395 1256 632 1290"><b>Identity Theft/Loss</b></li> <li data-bbox="395 1294 663 1328"><b>Threats to Computers</b></li> <li data-bbox="395 1332 523 1366"><b>IT &amp; Crime</b></li> <li data-bbox="395 1370 799 1404"><b>Intellectual Property &amp; Copyright</b></li> <li data-bbox="395 1408 671 1442"><b>Research &amp; Plagiarism</b></li> <li data-bbox="395 1447 767 1480"><b>The Role of the IT Professional</b></li> </ul> <p data-bbox="300 1417 746 1451">All webpages should be ready for use</p>

## Summer Term ~ 1

The final little push before students go on study leave whilst doing their iGCSE exams.

Week	5 <sup>th</sup> Form ~ Summer Term ~ 1	
<b>1</b>	<b>Exam Preparation ~ 1</b> Introduction to iGCSE exam papers Preparation for summer exams Revision Guide Practice papers <b>Ring Binders</b> <b>Revision Guide</b> <b>Practice papers</b>	<b>Exam Board ~ Pre-Release Material 5</b> Introduction to CIE pre-release material Prototyping Solutions Recording Development Programming libraries Develop Use
<b>2</b>	<b>Exam Preparation ~ 2</b> Introduction to iGCSE exam papers Preparation for summer exams Revision Guide Practice papers <b>Ring Binders</b> <b>Revision Guide</b> <b>Practice papers</b>	<b>Exam Board ~ Pre-Release Material 6</b> Introduction to CIE pre-release material Prototyping Solutions Recording Development Programming libraries Develop Use
<b>3</b>	<b>Exam Preparation ~ 3</b> Introduction to iGCSE exam papers Preparation for summer exams Revision Guide Practice papers <b>Ring Binders</b> <b>Revision Guide</b> <b>Practice papers</b>	<b>Exam Board ~ Pre-Release Material 7</b> Introduction to CIE pre-release material Prototyping Solutions Recording Development Programming libraries Develop Use
<b>4</b>	<b>Study Leave</b>	
<b>5</b>	<b>Study Leave</b>	
<b>6</b>	<b>Study Leave</b>	