

REMOTE CLASSROOM



DETERMINED TO MAINTAIN ACCESS TO HIGH QUALITY LESSONS

COMPUTING work for students NOT attending school

Monday 28 September – Friday 9 October

SUBJECT	Computing
Year Group	7
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>Task 1 We are going to Continue to learn about how computers store information using Binary numbers before moving on to viewing how they are converted into letters and characters that humans can understand</p> <p>Start by reading the following presentation: S:\ICT\Key Stage 3\Year 7\7.2 - Dragons\Lesson 2 - Flags and ASCII\Dragons - Lesson 2.pptx</p> <ul style="list-style-type: none"> • As you progress, open the following document and complete the tasks: • S:\ICT\Key Stage 3\Year 7\7.2 - Dragons\Lesson 2 - Flags and ASCII\Worksheet 2 - Counting Villagers.docx <p>You can use the following ASCII chart to help you convert between the different numbers and letters in the ASCII alphabet.</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 7\7.2 - Dragons\Lesson 2 - Flags and ASCII\ASCII Chart.docx <p>Task 2 This task will help you to become more familiar with the work on Binary and ASCII in the previous lesson. Use this lesson to complete your guide explaining how to convert between</p> <ul style="list-style-type: none"> • Denary and Binary • ASCII and Binary <p>If you manage to complete this, have a go at the further challenges in the challenges folder:</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 7\7.2 - Dragons\Lesson 3 - Flag, Catch up and Challenges\Challenges

SUBJECT	Computing
Year Group	8
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>We are continuing with the Interactive ICT Quiz.</p> <p>Task 1 This lesson, open the presentation on the subject of Computer Hardware, Located here:</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 8\8.1 Interactive Quiz\Lesson 4\ Computer Hardware.ppt <p>Read through the presentation and consider what questions you could make up regarding computer hardware with a number of multiple choice answers. For example:</p> <ul style="list-style-type: none"> • What does RAM Stand for • What does CPU stand for • What does ROM do in a computer system • Is a Mouse an Input, Output, Storage or Processing Device? <p>A Video is available in the same folder that may be of assistance for this task:</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 8\8.1 Interactive Quiz\Lesson 4\ \what-components-are-inside-my-computer.wmv <p>Try and create 5 questions on the subject of Computer Hardware and put them into your quiz</p> <p>Task 2 This lesson we will look into creating 5 questions on the subject of Binary and Logic. A presentation is located here that should recap many of the skills you learned in year 7</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 8\8.1 Interactive Quiz\Lesson 5\ Binary Ascii and Logic Gates.pptx <p>Consider creating 5 questions such as:</p> <ul style="list-style-type: none"> • Which of the following is an AND gate • What is the following number in Binary • What does ASCII stand for? <p>You may need to draw logic gates using Paint and then copy them into your presentation. Try to make the answers difficult to guess.</p>

SUBJECT	Computing
Year Group	9
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>We're going to investigate a little further into the way computers process data, and use simpler numbering systems such as binary to communicate.</p> <p>Task 1 This task requires you to gain an understanding of how computers represent characters such as letters and numbers in number form, such as Binary.</p> <p>The task can be found here:</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 9\Computer Science\Unit 1 - Numbering Systems\2 - ASCII - Character Sets.pptx <p>When you have been through the presentation, add a section to the guide you</p>

	<p>created last week on the subject of converting between Binary and Denary. This new section should talk through the steps that you need to use when converting letters into numbers. Use an example in your work.</p> <p>Task 2 We will look further into the character sets that computers use. Firstly, open the following task and see if you can decode the secret message</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 9\Computer Science\Unit 1 - Numbering Systems\3. Coded Message.docx <p>Then, open the presentation found here:</p> <ul style="list-style-type: none"> • S:\ICT\Key Stage 3\Year 9\Computer Science\Unit 1 - Numbering Systems\3 - Character Sets.pptx <p>Once you have read through the presentation, add a section to your guide that explains the difference between ASCII and other character sets such as UNICODE and EBCDIC</p>
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SUBJECT	GCSE Computer Science
Year Group	10
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>Students should now have a good understanding of the basic Python commands and syntax as well as knowledge of the use of variables and loops (while and for).</p> <p>In the following lessons students will investigate the use of selection in programming (if, elif, else) and the use of lists.</p> <ul style="list-style-type: none"> • Lesson 6 – For Loops (complete up to extension task) • Lesson 7 – Selection • Lesson 8 – Lists • Lesson 9 – Lists 2 <p>Students to read through the presentations for lessons 6-9 and complete worksheets 6-8 (worksheet 8 is an extended task which will also be covered in lesson 9)</p> <p>Python IDLE can be downloaded here:</p> <ul style="list-style-type: none"> • https://www.python.org/downloads/ <p>Alternatively an online IDE can be used here</p> <ul style="list-style-type: none"> • https://repl.it/languages/python3 <p>All resources can be found at the following location</p> <ul style="list-style-type: none"> • S:\ICT\Mr Murphy\Key Stage 4\Computer Science\6 - Python

SUBJECT	GCSE Computer Science
Year Group	11
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>Continuing with the networks unit, you will look into the use of Protocols and Layers, before learning about how Packet and Circuit Switching work and finally, learn about the purpose of a VPN.</p> <p>Task 1 Access the following presentation about Protocols and Layers. Explain what each different type of Protocol does and how the layers of TCP/IP work.</p> <ul style="list-style-type: none"> • S:\ICT\Computer Science\GCSE Computer Science 9-1\7. Networks\New\4 - Protocols and Layers.pptx

	<p>Task 2 Open the following presentation and learn about the difference between Packet and Circuit Switching. Attempt the exam question at the end.</p> <ul style="list-style-type: none"> S:\ICT\Computer Science\GCSE Computer Science 9-1\7. Networks\New\5 - Packet and Circuit Switching.pptx <p>Task 3 Read through the following presentation and then answer the questions. Try to explain how a VPN allows people to communicate with a network when you are in a different area. Discuss the benefits of using this for encrypting your information as well.</p> <ul style="list-style-type: none"> S:\ICT\Computer Science\GCSE Computer Science 9-1\7. Networks\New\6 - The Internet and VPNs.pptx
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SUBJECT	BTEC Computing
Year Group	12
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>Mr Allan: We will continue with the “Fundamentals of Computer Systems” unit, looking at the ways data is stored, the logic associated with manipulating the data as well as the hardware involved.</p> <p>This task requires you to demonstrate your skills using Binary and ASCII as well as other character sets, before recapping your skills regarding the addition and subtraction of binary numbers.</p> <p>Task 1 Learn about how Binary Coded Decimal is used for storing numbers and learn about how BCD numbers can be added together</p> <ul style="list-style-type: none"> S:\ICT\Computer Science\BTEC Computing\Unit 2 - Fundamentals of Computer Systems\C - Data Representation\ 5 - Binary Coded Decimal.pptx <p>Task 2 Learn about how a binary number can be used to represent fractions. This is a multi-part lesson and requires you to work through three sections:</p> <ul style="list-style-type: none"> S:\ICT\Computer Science\BTEC Computing\Unit 2 - Fundamentals of Computer Systems\C - Data Representation\ 6 - Floating Point Binary.pptx S:\ICT\Computer Science\BTEC Computing\Unit 2 - Fundamentals of Computer Systems\C - Data Representation\ 7 - Binary Normalisation.pptx S:\ICT\Computer Science\BTEC Computing\Unit 2 - Fundamentals of Computer Systems\C - Data Representation\ 8 - Binary Normalisation (Negative Numbers).pptx <p>Mr Murphy Students to continue investigating the Social Trends in Computer gaming</p> <p>The Presentation can be found at the following location</p> <ul style="list-style-type: none"> S:\ICT\Mr Murphy\Key Stage 5\BTEC Computing\Unit 14 - Computer Games Development\Presentations <p>Complete Worksheet 1 – Social Trends in Computer Gaming</p> <p>Begin the write-up for section 1 using the final 4 slides in the lesson presentation – complete the section for ‘genres’.</p>

SUBJECT	BTEC Computing
Year Group	13
Fortnight beginning	28 th September – 9 th October
Remote Classroom work	<p>Mr Allan: You are undertaking a unit of work called “Network Security and Encryption” in which you will learn about how to ensure that data security is maintained when transmitting across networks.</p> <p>You will need to work on the completion of task P4 which discusses how encryption works</p> <p>Access the following presentation which guides you through the way your work can be presented.</p> <ul style="list-style-type: none"> • S:\ICT\Computer Science\BTEC Computing\Unit 7 - Network Security and Encryption \ 2 - How Encryption Works (P4).pptx <ul style="list-style-type: none"> ▪ Introduction to Encryption <ul style="list-style-type: none"> ▪ What is encryption? ▪ How is encryption similar/different to Compression or Hashing ▪ Why does data need to be encrypted ▪ Overview of basic encryption methods: Symmetric and Asymmetric ▪ Discuss any other possible types of encryption ▪ Symmetric Encryption <ul style="list-style-type: none"> ▪ Explain in detail how Symmetric encryption works ▪ State the positives of this type of encryption: ▪ Discuss the negatives associated with this type of encryption: ▪ Create a guide that discusses how data can be encrypted using the ROT system/Caesar cipher ▪ Demonstrate your Symmetric encryption program ▪ Asymmetric Encryption <ul style="list-style-type: none"> ▪ Explain in detail how Asymmetric encryption works ▪ State the positives of this type of encryption: ▪ Discuss the negatives associated with this type of encryption: ▪ Create a guide that discusses how data can be encrypted using Primary Keys and their Factors ▪ Demonstrate your Asymmetric encryption program <p>Email your completed task to Mr Allan for assessment.</p> <p>Mr Murphy Students are to complete the following Distinction level task:</p> <p>Evaluate the impact of technologies on the design and development of computer games for users and the computer games industry.</p> <p>A short presentation outlining the task can be found at the following location:</p> <ul style="list-style-type: none"> • S:\ICT\Mr Murphy\Key Stage 5\BTEC Computing\Unit 14 - Computer Games Development\Distinction Task <p>Completed work should be around 3 word processed pages in a standard font size 10-12.</p>