COMPUTING work for students NOT attending school

Monday 14 – Friday 25 September

SUBJECT	Computing
Year Group	7
Fortnight beginning	14th September – 25th September
Remote Classroom work	• **Task 1**: Complete the "About Me" presentation, introducing yourself to the school. Tell us all about your interests and hobbies: Where were you born, your age, who your friends are, Your family, pets, what you like to do for fun, what you would like to be when you are older. Be sure to put images of the things you are talking about into the presentation and use transitions and animations to make it more interesting. • A simple example of a completed presentation can be found here: S:\ICT\Key Stage 3\Year 7\ About me (Example).pptx • A layout or template that you might like to use can be found here: S:\ICT\Key Stage 3\Year 7\ All about me (Template).pptx • To create the presentation you could use Office Online to use PowerPoint, or Log into Google Slides. • **Task 2**: We are going to begin to learn about how computers store information using Binary numbers. • Start by reading the following presentation: S:\ICT\Key Stage 3\Year 7\7.2 - Dragons\Lesson 1 - Binary Fires\Dragons - Lesson 1.pptx • As you progress, open the following document and complete the tasks: S:\ICT\Key Stage 3\Year 7\7.2 - Dragons\Lesson 1 - Binary Fires\ Worksheet 1 - Counting Dragons.docx o Create your own system of counting using only lit and unlit fires o Have a go at converting decimal numbers into Binary numbers

SUBJECT	Computing
Year Group	8
Fortnight beginning	14th September – 25th September

Remote Classroom work	Task 1: This unit, we will be making an Interactive Quiz on the Subject of Computers and Computing. To do this, we need to research into the technologies used by computers and create a well-designed quiz using difficult questions.
	• We need to do some research into how to set out our interactive quiz to make sure that it is well presented and easy to use. To do that, we can review websites that already exist and see what makes them good or bad.
	
	• Task 1: Website Evaluation - Look at the 4 websites on this sheet and write down your feelings about how well you think they are designed. Then, at the end, state three things that you think are important in a well-designed website.
	• Task 2: Good and Bad Website Design – Look in depth at the 2 websites on the sheet and identify the best aspects of design as well as the ways in which improvements can be made
	• Task 3 – Website Evaluation. Review the two websites on the sheet and state the audience (who you think it is aimed at), The purpose of the site, how you navigate around the site (buttons, hyperlinks, menu?), how the colours and images are used to help you take in the information on the page.
	• Task 4 – Interactive Quiz Design – Use the information you have got so far to design your own layout for an interactive quiz. What do you think is important when setting out your own page?
	
	• Files for each of the tasks (1-4) are located here: S:\ICT\Key Stage 3\Year 8\8.1 Interactive Quiz\Lesson 1
	
	Task 2: When you have completed task 1 and evaluated the different websites, Go through the following quiz files. Quiz 1 and Quiz 2
	  • S:\ICT\Key Stage 3\Year 8\8.1 Interactive Quiz\Lesson 2\ICT Quiz – 1.pptx
	  • S:\ICT\Key Stage 3\Year 8\8.1 Interactive Quiz\Lesson 2\ICT Quiz – 2.pptx
	• Look at the difference in the quality of the layout and presentation for both of the presentations. Think about how you would like yours to look.
	• Open the following sheet and design the first 4 slides of your own ICT quiz. You will need a Main Slide, a Question, and "incorrect" answer slide and a Congratulations slide for the end of the presentation.
	• Use colours and images to represent the slides properly.

SUBJECT	Computing
Year Group	9
Fortnight beginning	14th September – 25th September
Remote Classroom work	• We're going to investigate a little further into the way computers process data, and use simpler numbering systems such as binary to communicate. • This task requires you to learn about how Binary works and how to convert it to Decimal or Denary • The second task requires you to create a guide that explains how this works so that you can teach other people. • The task can be found here: S:\ICT\Key Stage 3\Year 9\Computer Science\Unit 1 - Numbering Systems\ 1 - Converting Denary to Binary.pptx

SUBJECT	GCSE Computer Science
Year Group	10
Fortnight beginning	14th September – 25th September
Remote Classroom work	• Students should already have an understanding of the basic python commands and syntax as well as the use of variables from lessons 1 and 2. In the next set of lessons students will continue to look at the use of variables but also combine them with the use of loops and selection • Lesson 3 - Variables Continued • Lesson 4 – While Loops • Lesson 5 – Loops Continued • Lesson 6 – Selection • • Students to read through the presentations for lessons 3 - 6 and complete worksheets 3-6. • Python IDLE can be downloaded here: https://www.python.org/downloads/ • Alternatively an online IDE can be used here: https://repl.it/languages/python3 • All resources can be found at the following location: S:\ICT\Mr Murphy\Key Stage 4\Computer Science\6 - Python

SUBJECT	GCSE Computer Science
Year Group	11
Fortnight beginning	14th September – 25th September
Remote Classroom work	• We will continue looking at the Networks and Communication unit and learning about how security works on a network as well as the different types of Topology available. • You will need to view the following presentations about Network Security as well as WAN, LAN and PAN • The following Website has information about Network Hardware and Security and may be beneficial when completing the tasks: https://www.bbc.co.uk/bitesize/topics/zjxtyrd • S:\ICT\Computer Science\GCSE Computer Science 9-1\7. Networks\New\2b - Network Security (Part 2 - Optional).pptx • S:\ICT\Computer Science\GCSE Computer Science 9-1\7. Networks\New\ 3 - Network Types - LANs WANs PANs.pptx

SUBJECT	BTEC Computing
Year Group	12
Fortnight beginning	14th September – 25th September
Remote Classroom work	• **Mr Allan**: This unit of work, entitled "Fundamentals of Computer Systems", looks at the ways data is stored, the logic associated with manipulating the data as well as the hardware involved. • 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. The task are here:

	• S:\ICT\Computer Science\BTEC Computing\Unit 2 - Fundamentals of Computer Systems\C - Data Representation\1 - Converting Binary and ASCII.pptx • S:\ICT\Computer Science\BTEC Computing\Unit 2 - Fundamentals of Computer Systems\C - Data Representation\2 - Binary Addition and Subtraction.pptx • **Mr Rigby** requires you to continue with the Programming Skill Building Tasks located in his folder on the network. • **Mr Murphy** has created a presentation entitled "Social Trends in Gaming". Read the presentation and complete the tasks as part of your coursework.

SUBJECT	BTEC Computing
Year Group	13
Fortnight beginning	14th September – 25th September
Remote Classroom work	• **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. • This task focuses on Asymmetric Encryption and requires you to go through the presentation and gain an understanding of the equations and algorithm used to develop a security system that uses 2 keys. • You then need to create a guide that explains how you can encode and decode information using an asymmetric encryption system. This should be step by step and use screenshots/examples throughout. • Finally, you should attempt to program an asymmetric encryption program using Python that allows you to select your prime numbers, input an encryption key, decryption key and then encrypt and decrypt information. • Answer the examination questions in the presentation located here: S:\ICT\Computer Science\BTEC Computing\Unit 7 - Network Security and Encryption \1b - Asymmetric Encryption (RSA).pptx • **Mr Rigby** requires you to complete the tasks started in school that shows how the Linear and Binary Searches work on different data sets • **Mr Murphy** would like you to continue with the task where you are evaluating the impact of emerging technology on the development of computer games