

Curriculum Recovery Brief Outline

Half-term (or specific weeks)	Programme of Learning Title	Catch Up Elements	Assessments	Remote Contingency
Autumn 1	Base Testing – poster design Rules of good design – consistency, rule of three, 2/3 colours Begin E safety	n/a	Base Test – ability to follow a brief. Students are required to create a formal poster to be displayed in a classroom that follows the brief they have been given and the design rules Students begin to research about staying safe online. They watch a series of media clips and gather research to use for their own booklets	Lesson 1 – Introduction to systems, passwords, email, Show my Homework, Foldr Lesson 2 – Base test – ability to follow a specific brief. Students design a computer room rules poster using the elements of good design. Work submitted to teacher as <i>Assessment 1</i> Lesson 3 – Students begin to research how to stay safe online. Particular focus on Cyberbullying, Email scams, phishing, identity theft Lesson 4 – Students collect specific resources from internet to use in their booklets. Reliability of resources to be considered?
Autumn 2	E Safety – research, create 4 page booklet	n/a	E Safety Booklet and Evaluation. Students create their own 4 page booklets about different aspects of E safety e.g. cyberbullying, phishing, email scams They are also required to evaluate other examples of booklets created and discuss in details the positives and negatives of each example. Development of key evaluation language is the key learning skill	Lesson 5 – Students are shown an example of a 4 page E Safety booklet as exemplar. Students create their own booklets using good design rules and their own research

				<p>Lesson 6 – Students continue to create their own booklets.</p> <p>Lesson 7 – Students complete an evaluation exercise where they discuss the strengths and weaknesses of their own product</p> <p>Lesson 8 –Students make improvements to their original booklets and explain in detail what, how and why they have made the changes</p> <p>Work submitted to teacher as <i>Assessment 2</i></p>
<p>Spring 1</p>	<p>Hardware & Software Complete online booklet</p> <p>Binary exercises</p>	<p>n/a</p>	<p>Booklet assessment. A booklet is issued to all students allowing them to work through and answer detailed questions following on from key information. This is levelled against the criteria of detail and language used</p>	<p>Lesson 9 – Students are issued with an electronic booklet on their school accounts. This is a detailed self-learning resource allowing students to work through. They can use any internet resources to help them.</p> <p>Lesson 10 – Students continue to work through booklet from previous lesson</p> <p>Lesson 11 –Binary exercises. Students can watch a video clip explaining the concept of binary numbers. They then complete a spreadsheet exercise converting</p>

				<p>numbers form binary to denary and vice versa.</p> <p>Lesson 12 – Students continue to work on binary exercises from previous lesson.</p> <p>Students also submit hardware and software booklets completed as <i>Assessment 3</i></p>
Spring 2	Logo evaluation	n/a	Logo Evaluation. Students select 3 logos from a logo design website (logobee.com) and evaluate against the 5 set criteria. This is levelled against the criteria of detail and language used	<p>Lesson 13 – Logo Evaluation. Students are shown a website from a logo design company. They must select three from different categories and write a detailed evaluation of the design of each and whether they follow the rules of good design. An exemplar (level 8) is provided.</p> <p>Lesson 14 – Students continue with their logo evaluations making sure they use appropriate language and judgements</p>
Summer 1	Logo Creation Internet research	n/a	Year 7 exam. This will be based around the key aspects of the previous tasks and will include practical skills and evaluation.	<p>Lesson 15 – students use a program of their choice to create a logo for a Bramhall Zoo, following the aspects of good design from the previous task</p> <p>Lesson 16 Students view example zoo fact sheets and select their animal of choice to</p>

				research information from the Internet. They use this research appropriately to create their own factsheet following key design elements.
Summer 2	Zoo Factsheet	n/a	Students create a detailed factsheet of a chosen zoo animal. Ability to follow a specific brief and develop drafts that are then improved is key. A final evaluation takes place to ensure key skill is covered	<p>Lesson 17 Students continue making their own factsheets keeping to the design brief outlined and the examples provided</p> <p>Lesson 18 Students share their work with others via either email, Foldr etc and evaluate each others making improvement targets. These targets can then be worked to improve the final product</p> <p>Lesson 19 Bring together all resources created this year to create final showcase of work as a portfolio</p>

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Autumn 1	<p>Introduction to PYTHON</p> <p>This is a detailed and extensive booklet that students work through alongside using the REPL website to code effectively. The key learning skill is not just the practical skill of using the correct code, but being able to explain what each part of the code does</p>	n/a	Booklet assessment. This booklet is levelled against agreed criteria of depth and detail of response	<p>Lessons 1- 8</p> <p>Students have all been issued with a self-learning booklet that takes them through each stage and enables them to progress at their own pace to assist learning. Each student has a REPL account to be able to code successfully and then booklet is where the results are explained and evaluated. A Streams lesson will be provided to assist and explain each section</p>
Autumn 2	<p>Spreadsheet modelling.</p> <p>Students follow a set programme of building simple spreadsheet models that increase in complexity</p>	n/a	Final model and Evaluation of final spreadsheet	<p>Lesson 9-10</p> <p>Students begin by creating a simple spreadsheet model for a sweetshop. An exemplar example is provided and students can adapt and use their own products and prices. A stream lesson will be provided</p> <p>Lesson 11-13</p> <p>Students are now challenged with a more</p>

				<p>complex model to create based on a theme park. They are provided with a menu of rides and facilities to select from and have to work within a set budget. Conditional formatting is introduced to provide a warning message when budget is exceeded.</p> <p>Lesson 14-15 Students are now given a different scenario to build a complex model based on flexitime for an organisation. They are using times of the day rather than currency and have to adapt accordingly their models</p>
Spring 1	<p>Mobile Technology Worksheets researching mobile phone technologies and comparisons between models</p>	n/a	Booklet assessment	<p>Lesson 16-21 Student can access this work from home via FOLDR and Show my Homework. This can also be submitted by SMHW too. Book is student led and can be completed from home and students can use the internet to help them with any questions they find difficult. This will be assessed via SMHW.</p>
Spring 2	<p>Microbits Computer programming using microbits plugged into computers.</p>	n/a	Evaluation assessment	<p>Lesson 22-27 Can be accessed via SMH Tutorial videos will be</p>

				created to aide students completing work. Microbit emulator used from home if not in school
Summer 1	E Commerce Work book looking at online payment systems, log ins etc	n/a	YEAR 8 EXAMS	Lesson 28-33 Student can access this work from home via FOLDR and Show my Homework. This can also be submitted by SMHW too. Book is student led and can be completed from home and students can use the internet to help them with any questions they find difficult.
Summer 2	Scratch Exercises Advanced scratch materials and game creation	n/a	Evaluation assessment	Lesson 34-39 Students can download SCRATCH from home as it is free to use software and complete video tutorials that will be uploaded to SMHW along with worksheets to submit.

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Autumn 1	SIRI Project Advanced computer programming based upon if statements and arrays, preparing pupils for GCSE	n/a	SIRI project evaluation	<p>Lessons 1- 8 Students have all been issued with a self-learning booklet that takes them through each stage and enables them to progress at their own pace to assist learning. Each student has a REPL account to be able to code successfully and then booklet is where the results are explained and evaluated. A Streams lesson will be provided to assist and explain each section</p> <p>Student can access this work from home via FOLDR Task is designed to be student led and should be able to be completed from home with some teacher input</p>
Autumn 2	Algorithms – Unit 1 GCSE specification – Looking at topic 1 Algorithms Algorithms lead into all other units and are the basis for all computer science theory and practical units	n/a	Unit 1 test	<p>Lesson 9-17 Lessons will be delivered on Microsoft teams across 7 lessons. Each lesson will</p>

				contain a minimum of 2 tasks to be completed using Microsoft word. Work can be sent and submitted via SMHW where it will be assessed.
Spring 1	Turtle Exercises Using REPL.IT and creating python programs using Python Turtle to create different graphics.	n/a	Exam	Lesson 18-22 Pupils have a repl.it account they will log in to from home. Practice tasks will be sent to all pupils via SMHW and pupils can complete and then improve their work with additional skills. Year 9 exam is also due in this time.
Spring 2	System Security Topic 14 on GCSE spec. Useful for all pupils and interesting so can be taught to year 9s	n/a	Unit 14 test	Lesson 23-26 Lessons will be delivered on Microsoft teams across 7 lessons. Each lesson will contain a minimum of 2 tasks to be completed using Microsoft word. Work can be sent and submitted via SMHW where it will be assessed.
Summer 1	Digital Safety Certificate JK unit to sort	n/a	Certificate awarded	Lesson 27-33 Online accounts created can be accessed from home

Summer 2	Adobe CS6 program skills e.g. FLASH, PHOTOSHOP Pupils learning how to use photoshop and other digital editing tools to create images and short videos	n/a	Showcase of practical resources created	Lesson 34-39 May require adjustment to programs if unable to access versions of programs from home (free programs looked at such as Inkscape)
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Year 10 focuses on Paper 2 of the GCSE – Computational Thinking and Algorithms. This paper focuses on topics that were traditionally taught at college level but not at GCSE – bridging the gap for pupils so they are better prepared for programming either in college or an apprenticeship. Topics included are; Algorithms, Iteration, Boolean, Data Types, Searching and Sorting Algorithms, Input and Output, Problem Solving, Binary and Hex, Programming Languages. Many of these topics have been looked at in Year 7 and 8 which means they can be focused on in more depth.

Half-term (or specific weeks)	Programme of Learning	Catch up elements	Assessments	Remote Contingency
COMPONENT 1	<p>COMPONENT 1 Topic 1 – the CPU</p> <ul style="list-style-type: none"> • Explain the Purpose of the CPU • Describe the components of the CPU and their functions • Describe the Fetch-Execute cycle • Describe von Neumann architecture • Explain how the cache size, clock speed and number of cores affect CPU performance • Explain the purpose of and characteristics of an embedded system 	n/a	Create an algorithm and code a dice gambling game following a specification.	<p>OCR ELEVATE – unit assessments contained within it</p> <p>Weeks 1-6</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>1.a 1.1 Kose4030 Kose4029 Kose4031 1.2 1.3 1.4 1.c 1.5 Practice questions Final challenge https://www.youtube.com/watch?v=eS1rEJZKr4U</p>
COMPONENT 1	<p>COMPONENT 1 Topic 2 – Primary and Secondary storage</p> <ul style="list-style-type: none"> • Explain the need for secondary storage • Describe the purposes and differences of RAM and ROM • Explain how Virtual Memory works • Explain the need for secondary storage • Describe common types of secondary storage • Describe common types of storage devices • Describe the advantages and disadvantages of different storage devices 	n/a	Design a logic circuit and truth table for a healthy drinks company factory.	<p>OCR ELEVATE – unit assessments contained within it</p> <p>Weeks 7-13</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>2.1 Kose4068 2.2 2.a Kose4035 Kose4069</p>

				2.b 2.3 Kose4017 2.4 Practice questions Final Challenge
COMPONENT 1	<ul style="list-style-type: none"> ● COMPONENT 1 ● Topic 3 – Data Representation ● Convert binary numbers into denary and vice versa ● Carry out addition on binary numbers ● Explain overflow, why it occurs, when it occurs and what it means ● Use left and right shifts ● Explain how hexadecimal numbers are used ● Convert between hexadecimal, denary and binary ● Explain how characters are represented in binary ● Calculate the ASCII code for any character ● Explain differences between ASCII, extended ASCII and Unicode ● Explain how images are represented in binary ● Calculate the size of an image file ● Explain the use of metadata ● Explain how sound is represented in binary ● Calculate the size of an audio file ● Explain the disadvantages of large audio and image files ● Explain the differences between lossy and lossless compression 	n/a	Create an algorithm and code a Caesar cipher that allows a user to ENCRYPT and DECRYPT a message.	OCR ELEVATE – unit assessments contained within it Weeks 14-19 Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed: 3.1 Kose4014 3.a Kose4015 Kose4016 3.2 3.3 Kose4018 3.b 3.4 Kose4019 3.5 3.6 3.c 3.7 3.d 3.8 Kose4020 3.9 Kose4021 3.10 3.e 3.11 Kose4024 Kose4025 3.12

				<p>Kose4026 3.f Kose4027 3.13 3.g Practice Questions Final Challenge</p>
COMPONENT 1	<p>COMPONENT 1 Topic 4 – Networks</p> <ul style="list-style-type: none"> • Explain what is meant by a computer network and list the different type of networks • Describe the factors that affect the performance of networks • Describe the differences in client-server and peer-to-peer networks • Explain the functions of hardware needed to connect computers • Explain how computers connect using cable and microwave • Describe how the internet is a network of networks • Explain the features of IP addresses • Explain the purpose and roles of DNS and web servers • Explain the use of cloud for data and software storage • Describe benefits and drawbacks of using cloud • Describe star and mesh topologies • Recommend a topology for a particular scenario 			<p>OCR ELEVATE – unit assessments contained within it Weeks 20-23 Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed: 4.1 4.a 4.2 4.b Kose4040 Kose4039 4.3 4.c Practice Questions Final Challenge</p>
COMPONENT 1	<p>COMPONENT 1 Topic 5 – Protocols and Layers</p> <ul style="list-style-type: none"> • Explain how data is transmitted across the internet • Explain the use of protocols 			<p>OCR ELEVATE – unit assessments contained within it Weeks 24-26</p>

	<ul style="list-style-type: none"> Describe the functions and purposes of protocols Explain how layers are used in protocols 			<p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>5.1 Kose4042 Kose4043 5.a 5.b 5.2 Practice Questions Final Challenge</p>
<p>COMPONENT 1</p>	<p>COMPONENT 1 Topic 6 – Threats to computer systems and networks</p> <ul style="list-style-type: none"> Describe the different strategies that criminals use to attack computer networks Explain how people are the greatest security risk to networks Describe the threats posed to networks Explain how these threats can be identified, prevented and combatted 			<p>OCR ELEVATE – unit assessments contained within it</p> <p>Weeks 27-29</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>6.1 6.a 6.2 6.b 6.3 Kose4044 Kose4047 Kose4048 Kose4045 Kose4046 Practice Questions Final Challenge</p>
<p>COMPONENT 1</p>	<p>COMPONENT 1 Topic 7 – Operating Systems and Utility Software</p> <ul style="list-style-type: none"> Explain what is meant by systems software Explain what is meant by an operating system Explain what is meant by utility systems software List some examples of utility software and their functions 			<p>OCR ELEVATE – unit assessments contained within it</p> <p>Weeks 30-32</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>7.1 Kose4036 7.a</p>

				7.b 7.2 Practice Questions Final Challenge
COMPONENT 1	<p>COMPONENT 1 Topic 8 – Ethical, Legal, Cultural and Environmental Impacts of Digital Technology</p> <ul style="list-style-type: none"> Discuss the following issues in relation to the impact on digital technology and society: <ol style="list-style-type: none"> Ethical Legal Cultural Environmental Privacy Discuss the legislation relevant to digital technology: <ol style="list-style-type: none"> The Data Protection Act 2018 Computer Misuse Act 1990 Copyright Designs and Patents Act 1988 Software licenses 			<p>OCR ELEVATE – unit assessments contained within it</p> <p>Weeks 32-34</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>8.1 8.2 8.3 8.4 8.5 Kose4051 8.6 8.a 8.7 8.8 Kose4052 8.9 8.b Practice Questions Final Challenge</p>
CODING TASKS	<p>LOW DEPENDENCY SKILLS</p> <p><i>Variables</i> <i>Operators (Boolean)</i> <i>Operators (Mathematical)</i> <i>Operators (Assignment)</i> <i>Input/Output</i> <i>Data Types</i></p> <p>MEDIUM DEPENDENCY SKILLS</p> <p><i>Sequence</i> <i>Selection</i></p>			<p>Weeks 35-39</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>Complete the following tasks</p> <p>Low Dependency</p> <p><i>Unit Converter</i> <i>Year Addition</i> <i>Tilers Mate</i> <i>Fizz Buzz</i></p> <p>Medium Dependency</p>

	<i>Iteration</i> <i>String Manipulation</i> <i>Random Numbers</i> HIGH DEPENDENCY SKILLS <i>Arrays</i> <i>File handling</i> <i>Sub programs</i>			<i>Find the factorial</i> <i>Reverse it</i> <i>Random Password</i> High Dependency <i>Game of Chance</i> <i>Hack-proof</i> <i>Records</i> <i>Text-Based game</i>
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Curriculum Intent: Year 11 GCSE Computing J276

Year 11 focuses on Paper 1 of the GCSE – Computer Systems. This focuses on topics that are more traditionally taught at GCSE within the old specification but in more depth, again preparing pupils for college and beyond. Topics in this unit are; Hardware, Software, Networks, Security and Ethical, Legal, Cultural and Environmental concerns. Many of these topics have been looked at in Year 7 and 8 which means they can be focused on in more depth.

Half-term (or specific weeks)	Programme of Learning	Catch up elements	Assessments	Remote Contingency
PAPER 1	<p>PAPER 1 Topic 11 – Computer Hardware</p> <ul style="list-style-type: none"> • explain what is meant by a computer system • explain what is meant by an embedded system • describe the structure of the central processing unit and the functions of its components • describe the fetch-decode-execute cycle • explain the need for and role of multiple cores and cache and virtual memory • describe secondary storage media and the advantages and disadvantages of each. 	n/a .	Hardware mini examination.	<p>OCR ELEVATE – unit assessments contained within it. Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>Week 1 - 3 NEA assessment Weeks 4 – 8 Complete Topic 11 tasks: 11.1 11.2 11.a 11.b Watch: fetch-execute video 11.5 11.6 Watch: Von Neumann Bottleneck 11.7 11.8 Practice Questions Final Challenge</p>
PAPER 1	<p>PAPER 1 Topic 12 – Computer Software</p> <ul style="list-style-type: none"> • explain what is meant by systems software • explain what is meant by an operating system 	n/a .	Software mini examination.	<p>OCR ELEVATE – unit assessments contained within it.</p>

	<ul style="list-style-type: none"> • describe the functions of the operating system • explain what is meant by utility systems software • list some examples of utility systems software and their functions. 			<p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>Weeks 9-10</p> <p>12.a 12.1 12.b 12.2 12.4</p> <p>Practice Questions</p>
PAPER 1	<p>PAPER 1 Topic 13 – Networks</p> <ul style="list-style-type: none"> • explain what is meant by a computer network and list the different types of networks • describe the differences between client-server and peer-to-peer networks • explain the functions of the hardware needed to connect computers • explain how computers communicate using cable and microwave • describe network topologies • explain how users connect to and use the internet • explain how data is transmitted across networks • explain the use of protocols • explain how virtual networks can be set up. 	n/a	Year 11 mock examination.	<p>OCR ELEVATE – unit assessments contained within it.</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>Weeks 11-16</p> <p>13.1 13.a 13.2 13.b 13.3 13.c 13.4 13.d 13.e</p> <p>Practice questions Final Challenge</p>
PAPER 1	<p>PAPER 1 Topic 14- System security</p>			<p>OCR ELEVATE – unit assessments contained within it.</p>

	<ul style="list-style-type: none"> • Describe the different strategies that criminals use to attack computer network • explain how people are the greatest security risks to networks • describe the threats posed to networks • explain how these threats can be identified, prevented and combatted • explain the role of network policies 			<p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>Weeks 17-19</p> <p>14.1 14.a 14.2 14.b 14.3 14.c Practice Questions</p>
<p>PAPER 1</p>	<p>PAPER 1 Topic 15 – Ethical, Legal, Cultural and Environmental Concerns</p> <ul style="list-style-type: none"> • investigate and discuss the following issues in relation to the development and impact of computer science technologies: • environmental • ethical • legal • cultural • discuss issues of data collection and privacy • describe the legislation relevant to computer science. 	<p>n/a .</p>	<p>Topic 15 exam questions from 15.5 – 15.11</p>	<p>OCR ELEVATE – unit assessments contained within it.</p> <p>Lessons will be delivered via Microsoft teams with work sent via show my homework. These are the following tasks to be completed:</p> <p>Weeks 20-24</p> <p>15.1 15.a 15.2 15.3 15.4 15.5 15.6 15.7 15.8 15.9 15.10 15.11 15.b Practice Questions</p>

EXAM PREPARATION	EXAM PREPARATION Exam prep with practice questions and mock exams ready for exam	n/a	Mock examinations	Weeks 25-29 Exams converted into word doc so can be completed on computers if needed. Exam papers will be sent via show my homework if needed
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