KS3 Computing   Year 8   Autumn 1

Week	Unit Name	Learning Objectives	Resources	Assessment
1	Programming 2	Establish Seating Plan, Entry and Exit Routines	Unit: Programming essentials in Scratch: part II | Teacher Hub | Oak National Academy (thenational.academy) Programming essentials in Scratch – part II (teachcomputing.org)	End of Unit Assessment
1	Programming 2	Effectively use and navigate SharePoint/Teams		
1	Programming 2	Remember the rules of the computing lab		
2	Programming 2	Define a subroutine as a group of instructions that will run when called by the main program or other subroutines		
2	Programming 2	Define decomposition as breaking a problem down into smaller, more manageable subproblems		
2	Programming 2	Identify how subroutines can be used for decomposition		
3	Programming 2	Identify where condition-controlled iteration can be used in a program		
3	Programming 2	Implement condition-controlled iteration in a program		
4	Programming 2	Evaluate which type of iteration is required in a program		
5	Programming 2	Define a list as a collection of related elements that are referred to by a single name		
5	Programming 2	Describe the need for lists		
5	Programming 2	Identify when lists can be used in a program		
5	Programming 2	Use a list		
6	Programming 2	Decompose a larger problem into smaller subproblems		
7	Programming 2	Apply appropriate constructs to solve a problem		

KS3 Computing   Year 8   Autumn 2

Week	Unit Name	Learning Objectives	Resources	Assessment
1	Data Science	Define data science		
		Explain how visualising data can help identify patterns and trends in order to help us gain insights		
		Use an appropriate software tool to visualise data sets and look for patterns or trends		
2	Data Science	Recognise examples of where large data sets are used in daily life		
		Select criteria and use data set to investigate predictions	Unit: Data Science | Teacher Hub | Oak National Academy (thenational.academy)	End of Unit Assessment
		Evaluate findings to support arguments for or against a prediction		
3	Data Science	Define the terms 'correlation' and 'outliers' in relation to data trends		
		Solve a problem by implementing steps of the investigative cycle on a data set	Data science (teachcomputing.org)	
		Use findings to support a recommendation		
4	Data Science	Identify the steps of the investigative cycle		
		Identify the data needed to answer a question defined by the learner		
		Create a data capture form		
5	Data Science	Describe the need for data cleansing		
		Apply data cleansing techniques to a data set		
6	Data Science	Visualise a data set		
		Analyse visualisations to identify patterns, trends, and outliers		
		Draw conclusions and report findings		

KS3 Computing   Year 8   Spring 1

Week	Unit Name	Learning Objectives	Resources	Assessment
1	IT and the world of work	Examine traditional and modern team working		
		Interpret the advantages and disadvantages of 24/7/365 availability		
		Compare inclusivity and accessibility within traditional and modern teams		
2	IT and the world of work	Examine modern technology tools that assist inclusivity and accessibility		
		Explore communication tools		
		Evaluate collaborative working	[Unit: IT and the world of work | Teacher Hub | Oak National Academy (thenational.academy)](#)	
3	IT and the world of work	Recall collaboration and communication platforms		
		Evaluate effective online communication		
		Formulate a proposal that identifies essential skills for the modern workplace		End of Unit Assessment
4	IT and the world of work	Assess the functions and features of cloud computing		
		Justify the selection of communication platforms	[IT and the world of work (teachcomputing.org](#)	
		Evaluate the security of using the cloud for storage and document/data creation		
5	IT and the world of work	Recognise methods of creating a network when mobile or remote working		
		Evaluate the advantages and disadvantages of ad hoc networks		
		Judge the security of ad hoc networks		
6	IT and the world of work	Evaluate the impact of mental well-being on individuals		
		Evaluate the impact of physical well-being on individuals		
		Create a positive working environment		

KS3 Computing　　　　**Year 8**　　　　**Spring 2**

Week	Unit Name	Learning Objectives	Resources	Assessment
1	Cybersecurity	Critique online services in relation to data privacy	Unit: Cybersecurity | Teacher Hub | Oak National Academy (thenational.academy)	End of Unit Assessment
1	Cybersecurity	Identify what happens to data entered online		
1	Cybersecurity	Explain the need for the Data Protection Act		
2	Cybersecurity	Recognise how human errors pose security risks to data		
2	Cybersecurity	Implement strategies to minimise the risk of data being compromised through human error		
3	Cybersecurity	Define hacking in the context of cyber security		
3	Cybersecurity	Explain how a DDoS attack can impact users of online services		
3	Cybersecurity	Identify strategies to reduce the chance of a brute force attack being successful		
3	Cybersecurity	Explain the need for the Computer Misuse Act		
4	Cybersecurity	List the common malware threats		
4	Cybersecurity	Examine how different types of malware causes problems for computer systems		
4	Cybersecurity	Question how malicious bots can have an impact on societal issues		
5	Cybersecurity	Compare security threats against probability and the potential impact to organisations	Cybersecurity (teachcomputing.org)	
5	Cybersecurity	Explain how networks can be protected from common security threats		
6	Cybersecurity	Identify the most effective methods to prevent cyberattacks		

KS3 Computing   Year 8   Summer 1

Week	Unit Name	Learning Objectives	Resources	Assessment
1	Animations	Add, delete, and move objects	Unit: Animations | Teacher Hub | Oak National Academy (thenational.academy) Media – Animations (teachcomputing.org)	End of Unit Assessment
1	Animations	Scale and rotate objects		
1	Animations	Use a material to add colour to objects		
2	Animations	Add, move, and delete keyframes to make basic animations		
2	Animations	Play, pause, and move through the animation using the timeline		
2	Animations	Create useful names for objects		
2	Animations	Join multiple objects together using parenting		
3	Animations	Use edit mode and extrude		
3	Animations	Use loop cut and face editing		
3	Animations	Apply different colours to different parts of the same model		
4	Animations	Use proportional editing		
4	Animations	Use the knife tool		
4	Animations	Use subdivision		
5	Animations	Add and edit set lighting		
5	Animations	Set up the camera		
5	Animations	Compare different render modes		
6	Animations	Create a 3–10 second animation		
6	Animations	Render out the animation		

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Week	Unit Name	Learning Objectives	Resources	Assessment
1	Mobile app development	Identify when a problem needs to be broken down	[Unit: Mobile app development | Teacher Hub | Oak National Academy (thenational.academy)](#) [Mobile app development (teachcomputing.org)](#)	End of Unit Assessment
		Implement and customise GUI elements to meet the needs of the user		
2	Mobile app development	Recognise that events can control the flow of a program		
		Use user input in an event-driven programming environment		
		Use variables in an event-driven programming environment		
		Develop a partially complete application to include additional functionality		
3	Mobile app development	Identify and fix common coding errors		
		Pass the value of a variable into an object		
		Establish user needs when completing a creative project		
4	Mobile app development	Apply decomposition to break down a large problem into more manageable steps		
		Use user input in a block-based programming language		
		Use a block-based programming language to create a sequence		
		Use variables in a block-based programming language		
5	Mobile app development	Reflect and react to user feedback		
6	Mobile app development	Use a block-based programming language to include sequencing and selection		
		Evaluate the success of the programming project		