

COMPUTING YEAR 8

3D Modelling CAD/CAM

AUTUMN TERM 1

Makes choices about what input & output devices to include in specialist computer systems	[]
Recognises the audience when designing and creating digital content	[]
Uses success criteria to help evaluate their solution by cross referencing and justifying how the criteria was met	[]
Designs criteria to critically evaluate the quality of solutions, uses the criteria to identify improvements, and makes appropriate refinements to the solution	[]
Describes how the solution was created, with detailed descriptions of the programming techniques used, with justification	[]
Justifies choices made, with comments	[]
Creates an efficient solution to the problem	[]
Describes how their phone will work, including inputs and outputs	[]
Has justified some of their choices, with reference to the manufacturing of their phone	[]

E Textiles Turtle Stitch

AUTUMN TERM 2

Clearly designs solutions, so that a third party could replicate the program	[]
Recognises the audience when designing and creating digital content	[]
Shows evidence of the debugging process (screenshots)	[]
Uses criteria to evaluate the quality of solutions, and can identify improvements, making some refinements to the current solution and future solutions	[]
Designs criteria to critically evaluate the quality of solutions, uses the criteria to identify improvements, and makes appropriate refinements to the solution	[]
Uses variables to change the outcomes of a program	[]
Creates an efficient solution to the problem	[]
Uses repetitions to speed up and simplify code	[]
Understands that functions can be used to simplify code and save programming time	[]
Has an understanding of how computers are used in manufacture of objects in the real world	[]
Can use Turtle Stitch to produce a design on a piece of material	[]

Game Creation

SPRING TERM 1

Clearly designs solutions, so that a third party could replicate the program	[]
Recognises the audience when designing and creating digital content	[]
Shows evidence of the debugging process (screenshots)	[]
Uses success criteria to help evaluate their solution by cross referencing and justifying how the criteria was met	[]
Can identify similarities and differences in situations and can use these to solve problems (pattern recognition)	[]
Recognises that some problems share the same characteristics and uses the same algorithm to solve both (generalisation)	[]

	Designs criteria to critically evaluate the quality of solutions, uses the criteria to identify improvements, and makes appropriate refinements to the solution	[]
	Makes choices about what input & output devices to include in specialist computer systems	[]
	Uses criteria to evaluate the quality of solutions, and can identify improvements, making some refinements to the current solution and future solutions	[]
	Understands that selections can be nested to narrow choices and improve code	[]
	Designs and justifies the use of iterations in their solution	[]
	Understands how to inspect and change the values held in variables	[]
	Uses variables to change the outcomes of a program	[]
	Creates an efficient solution to the problem	[]
	AI with Ohbot	
SPRING TERM 2	Is able to describe what is meant by machine learning and how this differs from artificial intelligence	[]
	Has an understanding that AI reflects the programmers bias	[]
	Has an understanding that large data sets can reduce the chance of bias when training an AI	[]
	Is able to tell the difference between data and information	[]
	Can test an AI and cross reference the information to check for accuracy and bias	[]
	Can gather large data sets	[]
	Has an understanding of the processes needed to reduce bias in an AI	[]
	Uses AI to form the basis for a wider program or project	[]
	Understands what an AI is	[]
Is able to use some techniques to gather data	[]	
	App Inventor	
SUMMER TERM 1	Understands that devices such as mobile phones are mini-computers	[]
	Clearly designs solutions, so that a third party could replicate the program	[]
	Shows evidence of the debugging process (screenshots)	[]
	Designs criteria to critically evaluate the quality of solutions, uses the criteria to identify improvements, and makes appropriate refinements to the solution.	[]
	Understands that selections can be nested to narrow choices and improve code	[]
	Understands that switches and sensors can feedback information into a system	[]
	Understands how to inspect and change the values held in variables	[]
	Justifies choices made, with comments	[]
	Has described how their phone will work, including inputs and outputs	[]

	Cyber Security	
SUMMER TERM 2	Understands that data is vulnerable to theft or damage	[]
	Understands that organisations should take reasonable steps to protect their data	[]
	Describes some techniques used by organisations to protect their data	[]
	Describes some ways criminals try and access data	[]
	Lists some forms of malware	[]
	Is able to use some techniques to try and defend data from invaders	[]