Personalised Learning Checklist

Subject: Computing

Year group: 9 – Term 2

Dear Student,

The list below is the learning you should will complete in term 2. Your teacher will use the list to check your progress during this time. It may be used for short quizzes, mini assessments or homework. Where there are gaps your lessons will focus on improving your knowledge and understanding.

Objective	My personal RAG rating (Red- do not understand, Amber- some understanding, Green- I am confident			Teacher RAG rating
Describe how digital images are composed of individual elements	RED	AMBER	GREEN	
Recall that the colour of each picture element is represented using a sequence of binary digits	RED	AMBER	GREEN	
Define key terms such as 'pixels', 'resolution', and 'colour depth'	RED	AMBER	GREEN	
Describe how an image can be represented as a sequence of bits	RED	AMBER	GREEN	
Describe how colour can be represented as a mixture of red, green, and blue, with a sequence of bits representing each colour's intensity	RED	AMBER	GREEN	
Compute the representation size of a digital image, by multiplying resolution (number of pixels) with colour depth (number of bits used to represent the colour of individual pixels)	RED	AMBER	GREEN	
Describe the trade-off between representation size and perceived quality for digital images	RED	AMBER	GREEN	
Perform basic image editing tasks using appropriate software and combine them in order to solve more complex problems requiring image manipulation	RED	AMBER	GREEN	
Explain how the manipulation of digital images amounts to arithmetic operations on their digital representation	RED	AMBER	GREEN	
Describe and assess the creative benefits and ethical drawbacks of digital manipulation (Education for a Connected World)	RED	AMBER	GREEN	
Recall that sound is a wave	RED	AMBER	GREEN	
Explain the function of microphones and speakers as components that capture and generate sound	RED	AMBER	GREEN	
Define key terms such as 'sample', 'sampling frequency/rate', 'sample size'	RED	AMBER	GREEN	

Describe how sounds are represented as sequences of bits	RED	AMBER	GREEN	
Calculate representation size for a given digital sound, given its attributes	RED	AMBER	GREEN	
Explain how attributes such as sampling frequency and sample size affect characteristics such as representation size and perceived quality, and the trade-offs involved	RED	AMBER	GREEN	
Perform basic sound editing tasks using appropriate software and combine them in order to solve more complex problems requiring sound manipulation	RED	AMBER	GREEN	
Recall that bitmap images and pulse code sound are not the only binary representations of images and sound available	RED	AMBER	GREEN	
Define ‘compression’, and describe why it is necessary	RED	AMBER	GREEN	