Year 8 Spring 1 Computing: Computing systems

A) Key knowledge		B) Key knowledge		C) Key knowledge		D) Literacy
Modern computers	Receive input, process it, and produce output	**Storage**	(Secondary memory) is the set of components that stores programs and data. Storage is persistent – it retains its contents when the power is switched off	**Operating system**	A set of programs that controls the operation of a computer system	**Describe the purpose of secondary memory [3].** **Describe why your smartphone is considered to be a computer [3].**
General-purpose computers	Designed to automate any process, as specified by a program. The data and instructions to be performed can be stored in memory	**Common storage devices**	Hard disk drives (HDD), solid-state drives (SSD), USB flash drives or USB sticks, SD cards	**Arithmetic operations**	Such as addition, operate on numbers. The result, the value of an arithmetic expression, is also a number.	
Purpose of a general-purpose computer:	To execute programs that operate on data	**Main memory**	The component that stores the programs and data currently in use. Memory is volatile: its contents are lost when the power is off	**Logical expressions**	Operate on statements that are either True or False. The result, the value of a logical expression, is either True or False.	
Software	The word 'software' simply means 'programs'.	**Processor**	The component that executes program instructions	**Logic gates**	Logical operations – logic gates can be represented using symbols	
Hardware	The physical components of a computer system	**Instructions**	May: ☐ Perform arithmetic or logic operations on data ☐ Perform input/output of data ☐ Control program flow	**Logic circuits**	Logical expressions – logic circuits can be represented using diagrams	
Homework: Look/cover/write and self-mark the information from Section A		**Homework:** Look/cover/write and self-mark the information from Section B		**Homework:** Look/cover/write and self-mark the information from Section C		**Homework:** Literacy task