





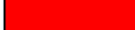
## Co-op Academy Leeds Year 9: Computing - Long Term Plan 2024-25


All lessons will follow the Co-op Academy Lesson Journey and include a (retrieval) Do Now, Lesson Intentions, Success Criteria, Explicit Instruction, Quality Time/Practice, Review

ROLLOVER					
Week	37	38	39	40	41
W/C Date	24-Jun 23	01-Jul 23	08-Jul 23	15-Jul 23	22-Jul 23
Specification	Programming (1) Introduction To Python Programming – I				
Topic	Program Flow				
		Sequence	Selection	Iteration	Trace Tables
Key Objectives	create a pseudocode algorithm for a specific problem	Plan a sequence of instructions for a program in python	Plan selection in set of instructions using Boolean data types and IF, THEN, and ELSE IF statements	Plan iteration in a set of instructions using FOR – NEXT; REPEAT-UNTIL; WHILE-ENDWHILE	Explain dry run testing using trace tables of changing variables
	create a pseudocode algorithm for a specific problem	Create a sequence of instructions for a program in python	Create a selection using Boolean data types, expressions and IF and ELSE IF statements	Create iteration in a set of instructions using FOR – NEXT; REPEAT-UNTIL; WHILE-ENDWHILE	Trace instructions using variables, selection and repetition and predict what the result will be
	create a pseudocode algorithm for a specific problem	Correctly execute a sequence of instructions for a program in python	Correctly execute a selection using Boolean expressions and IF and ELSE IF statements	Correctly execute iteration in a set of instructions using FOR – NEXT; REPEAT-UNTIL; WHILE-ENDWHILE	Rectify instructions involving variables, selection and repetition and make it more efficient
Retrieval / Assessment / DC				mini test	DIRT

### Department Computer Science and ICT

#### Retrieval and Assessment Key

	STAR Assessment / Summative Marking
	Quizzes / Formative Assessment and Marking
	Student Voice
	Live Feedback inc Whole Class Feedback
	DIRT

	Data Capture
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\*\*\*The LTP has declarative (theory) and procedural (practice) knowledge and skills embedded to develop learners holistically in Digital Literacy, Computer Science and IT. It is further saturated in a contextual narrative to give learners a real-life relatable computational thinking and problem-solving perspective. \*\*\*

#### Key Concepts From The National Curriculum For Computing

1. Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
2. Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
3. Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
4. Are responsible, competent, confident and creative users of information and communication technology.

#### Year 9 key knowledge, understanding and skills to be developed:

- To know, understand and take steps to protect yourself against misinformation, disinformation, grooming, and radicalisation
- To know and understand the purpose of components of the CPU
- To know and understand specific network threats and specific security solutions
- To develop computational thinking across the problem based contextual learning
- To develop competence in the use and application of graphic manipulation tools
- To develop competence in spreadsheets and databases, and their integrated tools
- To develop python programming skills
- To develop critical reflection skills in application of artificial technology

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Week	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15				
W/C Date	02-Sep	09-Sep	16-Sep	23-Sep	30-Sep	07-Oct	14-Oct	21-Oct		04-Nov	11-Nov	09-Nov	25-Nov	02-Dec	09-Dec	16-Dec				
Specification	Digital Literacy		ICT: Project & Contextual Based Learning								ICT: Project & Contextual Based Learning									
Topic	Keeping Safe Online		Business Spreadsheets: Ozzy's Car Detailing OR Tammy's Hair and Beauty								Business Spreadsheets: Ozzy's Car Detailing Or Tammy's Hair And Beauty									
	Online Misinformation and Disinformation (Declarative and procedural)	Online Grooming / Radicalisation (Declarative and procedural)	Design A Spreadsheet For A Business		Create A Spreadsheet For A Business						Use Of Data Formatting And Validation Rules			Creating A Dashboard		Assessment				
Key Objectives	define online misinformation and disinformation	define online grooming and radicalisation	analyse requirements to a specified client brief	analyse requirements to a specified client brief	import data from a csv file	import data from a csv file	define a print area in order to present output	define a print area in order to present output	use data formatting	HALF-TERM	use data formatting	enter data through use of validation form controls	enter data through use of validation form controls	enter data through use of validation form controls	explain the purpose of dashboard	create a dashboard	summative submission and marking of project	HALF-TERM	HALF-TERM	
	explain the difference between online misinformation and disinformation	explain the different types of grooming and radicalisation	identify success criteria	identify success criteria	enhance layout and format of the spreadsheet	enhance layout and format of the spreadsheet	create a navigation menu	create a navigation menu	use conditional formatting		use conditional formatting	use validation checks,	use validation checks,	use validation checks,	use validation checks,	design the different styles of a dashboard	create a dashboard			summative submission and marking of project
	assess the different ways you can protect yourself against misinformation and disinformation	assess the impact and identify the different ways you can protect yourself	design a fully functional spreadsheet structure	design a fully functional spreadsheet structure	use form controls to facilitate data entry	use form controls to facilitate data entry	create a navigation menu	create a navigation menu	use of date/time function		use of date/time function	use validation messages	use validation messages	use validation messages	use validation messages	justify the selection of a dashboard	create a dashboard			summative submission and marking of project
Retrieval / Assessment / DC				mini test	DIRT			STAR	DIRT		DC1					quiz	DIRT			

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Week	16	17	18	19	20		21	26	27	28	29	30			31
W/C Date	06-Jan	13-Jan	20-Jan	27-Jan	03-Feb		17-Feb	24-Feb	02-Mar	09-Mar	16-Mar	23-Mar			13-Apr
Specification	ICT: Project & Contextual Based Learning						ICT: Project & Contextual Based Learning							Computer Systems (1) Hardware	
Topic	Business Databases: Anika's Ladies Fashion OR Malik's Online CyberGames:						Business Databases: Anika's Ladies Fashion OR Malik's Online CyberGames:							System Architecture	
	Designing A Business Logo (declarative and procedural)		Plan and Design A Database (declarative and procedural)				Creating and Modifying a Database (procedural)			Assessment				CPU (declarative)	
Key Objectives	analyse requirements to a specified client brief	create a business logo	analyse requirements to a specified client brief	analyse requirements to a specified client brief	design a fully loaded database structure	HALF-TERM	design a fully loaded database structure	create tables, fields, and primary keys and assign appropriate data types	create tables, fields, and primary keys and assign appropriate data types	import data from a given CSV file and add, edit and delete records	import data from a given CSV file and add, edit and delete records	summative submission and marking of Project	HALF-TERM	HALF-TERM	explain the purpose of the CPU (FDE Cycle)
	identify success criteria	create a business logo	identify success criteria	identify success criteria	give detailed justification for field types used		give detailed justification for field types used	apply effective validation rules and error messages	apply effective validation rules and error messages	check and test the data is error free.	check and test the data is error free.	summative submission and marking of Project			outline the common CPU components and their purpose
	identify the different entities within a specified client brief	create a business logo	identify the different entities within a specified client brief	identify the different entities within a specified client brief	justify their choice of validation rules applied to field types		justify their choice of validation rules applied to field types	link tables using key fields and relationships	link tables using key fields and relationships	check and test the database to ensure it functions correctly	check and test the database to ensure it functions correctly	summative submission and marking of project			explain the on Neumann Architecture
Retrieval / Assessment / DC				STAR	DIRT		DC2				mini test and marking	DIRT			

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Week	32	33	34	35	36		40	41	42		43	44	45	46		
W/C Date	20-Apr	27-Apr	04-May	11-May	18-May		01-Jun	08-Jun	15-Jun		22-Jun	01-Jul	06-Jul	13-Jul		
Specification	Computer Systems (1): Hardware						Computer Systems (1): Ethical, legal, cultural and environmental impacts of digital technology									
Topic	System Architecture		Memory			HALF-TERM	Machine Learning: ChatCPT, Amazon Go, Killer Drones and Self-Driving Cars	Smart Cities	Ethical, Legal, Cultural and Environmental Issues	ROLLOVER						
	CPU Performance (declarative)	Embedded Systems (Declarative)	Primary (declarative)	Secondary (declarative)	Summative Assessment											
Key Objectives	describe clock speed, cache size and number of cores	state the purpose and characteristics of embedded systems	outline the purpose of RAM, ROM and virtual memory	explain the common types of storage	summative assessment and marking		define machine learning	describe unsupervised learning and its role in smart cities	outline the ethical, legal, cultural and environmental issues that arise from artificial intelligence		ROLL OVER					
	explain how the characteristics of the CPU affect system performance	explain the function of an embedded system	explain the characteristics of RAM and ROM	identify the storage devices and storage media for a given application	summative assessment and marking		explain how machine learning is different to rule-based learning	explain how unsupervised learning can benefit the management of a smart city	explain the ethical, legal, cultural and environmental arguments for and against artificial intelligence							
	advise a client on the characteristics of the CPU and its effect on system performance	compare an embedded system with a non-embedded system	compare RAM and ROM	discuss the advantages and disadvantages of different storage devices and storage media relating to these characteristics	summative assessment and marking		assess the benefits and limitations of machine learning using real-life examples	assess the impact of unsupervised learning on the future of living in cities	evaluate the ethical, legal, cultural and environmental issues that arise from artificial intelligence							
Retrieval / Assessment / DC			mini test				STAR	DIRT	DC3							