YEAR 5

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Programming B Selection in Quizzes	**The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other learning is built upon.** **No Specific ELG links.**	To be introduced to on-screen programming. To explore sprites and backgrounds, using programming blocks to use, modify and create programs. To be introduced to program design through algorithms.	To understand that sequences of commands have an outcome. To use and modify designs to create and evaluate a project.	To explore the links between events and actions. To move sprites in four directions. To introduce programming extensions, changing the size and colour. To design and code their own program.	To explore the concept of repetition in programming. To look at similarities and differences between count controlled and infinite loops. To modify, design and create a game using repetition, applying stages of programming design throughout.	To develop knowledge of selection by revisiting how conditions can be used in programming. To create algorithms and programs using this understanding. To design, write and evaluate a quiz program.	To use the four programming constructs (sequence, repetition, selection and variables) whilst using a physical device. To design, build and test a simple program and transfer to device.

Programming B
Selection in Quizzes

COMPOSITES

Computing

design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

use sequence, selection, and repetition in programs; work with variables and various forms of input and output

use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

COMPONENTS

	1	2	3	4	5	6	End Point
	How is selection is used in computer programs?	**Can I relate that a conditional statement connects a condition to an outcome?**	**How does selection direct the flow of a program?**	**Can I design a program that uses selection?**	**Can I create a program that uses selection?**	**Can I evaluate my program?**	**This unit assumes that learners will have prior experience of programming using block-based construction (e.g. Scratch), understand the concepts of 'sequence' and 'repetition', and have some experience of using 'selection'. Ideally, learners will have completed 'Programming A – Selection in physical**

							computing' before undertaking this unit, as this will provide them with the required knowledge of 'selection'. They will design, test and evaluate a quiz using a program.
CONCEPTS **Link to concept map**	Programming B Selection in Quizzes Information Technology Computer Science	Programming B Selection in Quizzes Information Technology Computer Science	Programming B Selection in Quizzes Information Technology Computer Science	Programming B Selection in Quizzes Information Technology Computer Science	Programming B Selection in Quizzes Information Technology Computer Science	Programming B Selection in Quizzes Information Technology Computer Science	
SKILLS	Identify conditions in a program Modify a condition in a program	Use selection in an infinite loop to check a condition Identify the condition and outcomes in an 'if… then… else…' statement Create a program that uses selection to produce different outcomes	design the flow of a program that contains 'if… then... Else…' Show that a condition can direct program flow in one of two ways	Use a design format to outline my project Identify the outcome of user input in an algorithm	Implement my algorithm to create the first section of my program Test my program	Identify ways the program could be improved Identify the setup code I need in my program Extend my program further	They learn how to write programs that ask questions and use selection to control the outcomes based on the answers given. They use this knowledge to design a quiz in response to a given task and implement it as a program. To conclude the unit, learners evaluate their program by identifying how it meets the requirements of the task, the ways they have improved it, and further ways it could be improved.
KNOWLEDGE	Recall how conditions are used in selection To know conditions in a program	Develop understanding of selection by using the 'if… then… else' structure in algorithms and programs.	Explain that program flow can branch according to a condition	Outline a given task	To have the knowledge and understanding to share my program with others	To know how to improve and extend my program	Following from the knowledge building blocks in Programming Unit A, pupils develop a deeper knowledge of computer programming and are exposed to a broadening vocabulary.
LESSON LINK	Programming B – Selection in quizzes	Programming B – Selection in quizzes	Programming B – Selection in quizzes	Programming B – Selection in quizzes	Programming B – Selection in quizzes	Programming B – Selection in quizzes	

PROGRESSIVE VOCABULARY	selection, condition, true, false, count-controlled loop	selection, condition, true, false, outcomes, conditional statement (the linking together of a condition and outcomes), algorithm, program, debug	selection, condition, true, false, outcomes, question, answer, algorithm, program, debug	task, design, algorithm, input, program, selection, condition, outcomes	implement, design, algorithm, program, selection, condition, outcome, test, run	design, algorithm, program, debug, test, setup, selection, condition, outcome	Children will understand, articulate and use the vocabulary
CURRICULUM EXPERIENCES					Creation of a quiz using taught skills.		
END POINT	In this lesson, the children revisit previous learning on 'selection' and identify how 'conditions' are used to control the flow of actions in a program. They are introduced to the blocks for using conditions in programs using the Scratch programming environment. They modify the conditions in an existing program and identify the impact this has.	In this lesson, the pupils will develop their understanding of selection by using the 'if… then… else' structure in algorithms and programs. They will revisit the need to use repetition in selection to ensure that conditions are repeatedly checked. They identify the two outcomes in given programs and how the condition informs which outcome will be selected. The children use this knowledge to write their own programs that use	In this lesson, the pupils consider how the 'if… then... else…' structure can be used to identify two responses to a binary question (one with a 'yes or no' answer). They identify that the answer to the question is the 'condition', and use algorithms with a branching structure to represent the actions that will be carried out if the condition is true or false. They learn how questions can be asked in Scratch, and how the answer,	In this lesson, the children will be provided with a task: to use selection to control the outcomes in an interactive quiz. They will outline the requirements of the task and use an algorithm to show how they will use selection in the quiz to control the outcomes based on the answer given. They will complete their designs by using design templates to identify the questions that will be asked, and the outcomes for both correct	In this lesson, the children will use the Scratch programming environment to implement the first section of their algorithm as a program. They will run the first section of their program to test whether they have correctly used selection to control the outcomes, and debug their program if required. They will then continue implementing their algorithm as a program. Once completed, they will consider the value of sharing their program with others so	In this lesson, pupils will return to their completed programs and identify ways in which the program can be improved. They will focus on issues where answers similar to those in the condition are given as inputs, and identify ways to avoid such problems. Learners will also consider how the outcomes may change the program for subsequent users, and identify how they can make use of 'setup' to provide all users with the same experience. They will implement their identified improvements by returning to the	

		selection with two outcomes.	supplied by the user, is used in the condition to control the outcomes. They use an algorithm to design a program that uses selection to direct the flow of the program based on the answer provided. They implement their algorithm as a program and test whether both outcomes can be achieved.	and incorrect answers. To demonstrate their understanding of how they are using selection to control the flow of the program, pupils will identify which outcomes will be selected based on given responses.	that they can receive feedback. Pupils conclude the lesson by using another learner's quiz and providing feedback on it.	Scratch and adding to their programs. They conclude the unit by identifying how they met the requirements of the given task, and identifying the aspects of the program that worked well, those they improved, and areas that could be improved further.	