

Year 3 Scheme of Learning: Computing

Year 3 - Coding

Lesson 1	
Learning Objective	To review previous coding knowledge and understand what a flowchart is.
Declarative Knowledge	• To know how to read and explain a flowchart. • To know how to use a flowchart to create a computer program. • To know how to create a computer program that uses click events and timers.
Procedural Knowledge	Tinkering - Revisit programming language. Creating - Plan, design and make a project.
Key Vocabulary	Algorithm, background, object, implement, predict, run, properties, event, action, scene, and flowchart.

Lesson 2	
Learning Objective	To understand that there are different types of timers.
Declarative Knowledge	• To know how to create a program that uses a timer-after command. • To know how to create a program that uses a timer-every command. • To know that there can be different ways to solve a problem.
Procedural Knowledge	
Key Vocabulary	Flowchart, sequence, predict, run, timer, interval.

Lesson 3	
Learning Objective	To understand how to use the repeat command.
Declarative Knowledge	• To know how the turtle object moves. • To know how to use the repeat command with an object. • To know how to create a computer program that includes use of the repeat command.
Procedural Knowledge	Debugging - Code and test approach. Persevering - To understand that bugs are a normal part of coding.
Key Vocabulary	Command, collision detection event, button, input, turtle object, repeat, right-angle, degrees.

Lesson 4	
Learning Objective	To use coding knowledge to create a range of programs.
Declarative Knowledge	- To know how to create computer programs using prior knowledge. - To know how to run, test and debug their programs.
Procedural Knowledge	Creating - Plan, design and make a project. Debugging - Use logical reasoning to detect and correct errors.
Key Vocabulary	Object, action, event, code, test, debug, debugging, timer, repeat, nesting.

Lesson 5	
Learning Objective	To begin to design and create an interactive scene.
Declarative Knowledge	- To know how to use the properties table to set the properties of objects. - To know how to plan their scene and code before they create their program.
Procedural Knowledge	Creating – to create an interactive scene. Debugging - Use logical reasoning to detect and correct errors.
Key Vocabulary	Object, scene, properties, sequence, predict, run, test, debug, debugging, alert.

Lesson 6	
Learning Objective	To design and create an interactive scene.
Declarative Knowledge	To know how to make several different things happen in a program.
Procedural Knowledge	Creating - Plan, design and make a project. - to create an interactive scene. Debugging - Code and test approach.
Key Vocabulary	Object, scene, properties, sequence, predict, run, test, debug, debugging, alert.

Year 3 - Touch Typing

Lesson 1	
Learning Objective	To introduce typing terminology.
Declarative Knowledge	- To know the names of the fingers. - To know the correct way to sit at a keyboard.
Procedural Knowledge	Tinkering – investigate new software. Persevering - Nurture tenacity.
Key Vocabulary	Typing, posture, keys.

Lesson 2	
Learning Objective	To know what is meant by the home, bottom, and top rows.
Declarative Knowledge	To learn how to use the home, top and bottom row keys.
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering.
Key Vocabulary	Typing, keys, home, row.

Lesson 3	
Learning Objective	To practice and improve typing for home, bottom, and top rows.
Declarative Knowledge	To know how to use two hands to type the letters on the keyboard.
Procedural Knowledge	Persevering - Develop and refine skills. Tinkering - Identify successes and failures in their tinkering.
Key Vocabulary	Typing, posture, keys, keyboard.

Lesson 4	
Learning Objective	To practice the keys typed with the left hand.
Declarative Knowledge	To know how to touch type using the left hand.
Procedural Knowledge	Persevering - Develop and refine skills.
Key Vocabulary	Posture, keys, typing, left.

Lesson 5	
Learning Objective	To practice the keys typed with the right hand.
Declarative Knowledge	To know how to touch type using the right hand.
Procedural Knowledge	Persevering - Develop and refine skills. Tinkering - Identify successes and failures in their tinkering.
Key Vocabulary	Posture, keys, typing, right.

Lesson 6	
Learning Objective	To practice touch typing.
Declarative Knowledge	To know how to touch type.
Procedural Knowledge	Persevering - Develop and refine skills. Tinkering - Identify successes and failures in their tinkering.
Key Vocabulary	Posture, keys, typing, left, right.

Year 3 - Simulations

Lesson 1	
Learning Objective	To find out what a simulation is and understand the purpose of simulations.
Declarative Knowledge	• To know that a computer simulation can represent real and imaginary situations. • To know some examples of simulations used for fun and for work. • To know how to give suggestions of advantages and problems of simulations.
Procedural Knowledge	Tinkering – investigate new software.
Key Vocabulary	Simulation, modelling, advantages, disadvantages.

Lesson 2	
Learning Objective	To explore a simulation, making choices and discussing their effects.
Declarative Knowledge	• To know how to explore a simulation. • To know how to use a simulation to try out different options and to test predictions.
Procedural Knowledge	Tinkering - Note similarities and differences between programs. Collaborating - Sharing with others, what they have learned.
Key Vocabulary	Simulation, modelling, point of view, solution, realistic, unrealistic.

Lesson 3	
Learning Objective	To explore a simulation, making choices and discussing their effects.
Declarative Knowledge	• To know how to begin to evaluate simulations by comparing them with real situations and considering their usefulness. • To know how to analyse choices made using a branching database.
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering. Collaborating - Sharing with others, what they have learned.
Key Vocabulary	Simulation, modelling, point of view, solution, realistic, unrealistic.

Lesson 4	
Learning Objective	To work through and evaluate a more complex simulation.
Declarative Knowledge	• To know how to recognise patterns within simulations and make and test predictions. • To know how to identify the relationships and rules on which the simulations are based.
Procedural Knowledge	Persevering - Develop and refine ideas. Creating - Decomposing a complex process into several planned phases.
Key Vocabulary	Solution, realistic, unrealistic, analysis, decision.

Lesson 5	
Learning Objective	To work through and evaluate a more complex simulation.
Declarative Knowledge	• To know how to evaluate a simulation to determine its usefulness for purpose. • To know how to create their own simple simulation (extension).
Procedural Knowledge	Collaborating - Recognising when someone else's idea is better than your own. Tinkering - Identify successes and failures in their tinkering.
Key Vocabulary	Solution, realistic, unrealistic, analysis, decision, evaluation.