

Year 5 Scheme of Learning: Computing

Year 5 - Coding

Lesson 1	
Learning Objective	To code efficiently.
Declarative Knowledge	- To know how to review existing coding knowledge. - To know how to be able to simplify code. - To know how to create a playable game.
Procedural Knowledge	Tinkering - Revisit programming language. - Identify successes and failures in their tinkering.
Key Vocabulary	Event, object, action, variable, selection, co-ordinates, input, simplify, efficient, computer generated variable.

Lesson 2	
Learning Objective	To simulate a physical system.
Declarative Knowledge	- To know how to understand what a simulation is. - To know how to program a simulation using 2Code.
Procedural Knowledge	Tinkering – Revisit programming language.
Key Vocabulary	Algorithm, simulation, properties, object, flowchart, sequence, repeat, nesting, timer, physical system.

Lesson 3	
Learning Objective	To use decomposition and abstraction.
Declarative Knowledge	- To know what decomposition and abstraction are in Computer Science. - To know how to take a real-life situation, decompose it and think about the level of abstraction. - To know how to use decomposition to make a plan of a real-life situation.
Procedural Knowledge	Creating - Decomposing a complex process into several planned phases.
Key Vocabulary	Simulation, object, variable, decomposition, abstraction.

Lesson 4	
Learning Objective	To use friction and functions when coding.
Declarative Knowledge	- To know how to use friction in code. - To know what a function is and how functions work in code.
Procedural Knowledge	Debugging - Use logical reasoning to detect and correct errors.
Key Vocabulary	Predict, decomposition, simulation, abstraction, friction, function.

Lesson 5	
Learning Objective	To create and use strings in programming.
Declarative Knowledge	- To know what the different variable types are and how they are used differently. - To know how to create a string.
Procedural Knowledge	Creating - plan, design and make a project. Debugging - code and test approach.
Key Vocabulary	String, variable, collision, when key, output, tabs, random.

Lesson 6	
Learning Objective	To use text variables and concatenation.
Declarative Knowledge	- To know how to begin to explore text variables when coding. - To know what concatenation is and how it works.
Procedural Knowledge	Creating - plan, design and make a project. Debugging - code and test approach.
Key Vocabulary	String, random, debug/debugging, variable, 'if' statement, 'if/else' statement, tabs, concatenation, print to screen.

Year 5 – Game creator

Lesson 1	
Learning Objective	To begin planning a game.
Declarative Knowledge	- To know how to review and analyse a computer game. - To know how to describe some of the elements that make a successful game. - To know how to begin the process of designing their own game.
Procedural Knowledge	Tinkering – investigate new software. Creating – to begin to create a game.
Key Vocabulary	Evaluation, theme, scene, texture, image.

Lesson 2	
Learning Objective	To design the game environment.
Declarative Knowledge	- To know how to design the setting for their game so that it fits with the selected theme. - To know how to upload images or use the drawing tools to create the walls, floor, and roof.
Procedural Knowledge	Tinkering – investigate new software. Creating – plan, design and make a project.
Key Vocabulary	Evaluation, theme, scene, texture, image, screenshot.

Lesson 3	
Learning Objective	To create characters for your game.
Declarative Knowledge	- To know how to design characters for their game. - To know how to decide upon, and change, the animations and sounds that the characters make.
Procedural Knowledge	Creating – plan, design and make a project.
Key Vocabulary	Evaluation, theme, scene, texture, image, screenshot, quest.

Lesson 4	
Learning Objective	To finish and share the game.
Declarative Knowledge	- To know how to make their game more unique by selecting the appropriate options to maximise the playability. - To know how to write informative instructions for their game so that other people can play it.
Procedural Knowledge	Creating – creating a game. Debugging – code and test approach.
Key Vocabulary	Evaluation, theme, scene, texture, image, screenshot, quest, instructions.

Lesson 5	
Learning Objective	To self and peer evaluate.
Declarative Knowledge	To know how to evaluate their own and peers' games to help improve their design for the future.
Procedural Knowledge	Collaborating - sharing with others what they have learned. - recognising when someone else's idea is better than your own.
Key Vocabulary	Evaluation, theme, scene, texture, image, screenshot, quest, instructions, feedback, promotion.

Year 5 – Word Processing (MS Word)

Lesson 1	
Learning Objective	To know what a word processing tool is for.
Declarative Knowledge	• To know what a word processing tool is for. • To know how to create a word processing document altering the look of the text and navigating around the document.
Procedural Knowledge	Tinkering - Investigate new software. - Identify successes and failures in their tinkering. Creating - creating a document.
Key Vocabulary	Word processing, document, front screen, zoom, selecting, highlighting, font, text formatting.

Lesson 2	
Learning Objective	To add and edit images to a word document.
Declarative Knowledge	• To know how to add images to a word document. • To know how to edit images to reduce their file size. • To know the correct way to search for images that they are permitted to reuse. • To know how to attribute the original artist of an image
Procedural Knowledge	Tinkering - Investigate new software. - Identify successes and failures in their tinkering. Creating - creating a document.
Key Vocabulary	Word processing, document, page orientation, copy and paste, copyright, creative commons, attributing.

Lesson 3	
Learning Objective	To know how to use word wrap with images and text.
Declarative Knowledge	• To know how to edit their images within Word to best present them alongside text. • To know how to wrap images and text.
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering. Creating - creating a document. Persevering - develop and refine ideas.
Key Vocabulary	Copyright, attributing, image editing, cropping, image transparency, text wrapping.

Lesson 4	
Learning Objective	To change the look of text within a document.
Declarative Knowledge	- To know how to add appropriate text to their document, formatting in a suitable way. - To know how to use a style set in Word. - To know how to use bullet points and numbering.
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering. Creating - creating a document. Persevering - develop and refine ideas.
Key Vocabulary	Text formatting, styles, bulleted lists, numbered lists.

Lesson 5	
Learning Objective	To add features to a document to enhance its look and usability.
Declarative Knowledge	- To know how to add text boxes and shapes. - To know how to consider paragraph formatting such as line spacing, drop capitals. - To know how to add hyperlinks to an external website. - To know how to add an automated contents page
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering. Creating - creating a document. Persevering - develop and refine ideas. Collaborating - sharing with others, what they have learned.
Key Vocabulary	Text formatting, drop capital, text box, caption, hyperlink.

Lesson 6	
Learning Objective	To use tables within MS Word to present information.
Declarative Knowledge	- To know how to add tables to present information. - To know how to edit properties of tables including borders, colours, merging cells, adding and removing rows and columns. - To know how to add word art for a heading.
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering. Creating - creating a document. Persevering - develop and refine ideas. Collaborating - sharing with others, what they have learned.
Key Vocabulary	Word art, merge cells, column, row, distributing columns.

Lesson 7	
Learning Objective	To introduce children to templates and to consider page layout including heading and columns.
Declarative Knowledge	- To know how to use a Word template and edit it appropriately. - To know how to format a page using a combination of images, headers and columns.
Procedural Knowledge	Tinkering - Identify successes and failures in their tinkering. Creating - creating a document. Persevering - develop and refine ideas. Collaborating - sharing with others, what they have learned.
Key Vocabulary	Text formatting, template, spell check, grammar check.