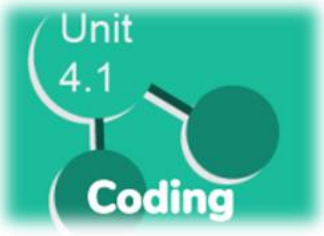
St James' Church of England Primary School
Computing Overview Sheet

Year 4 – 4.1 Coding



Prior and Future Learning Links:
Year 5 – **Coding -** Efficient Coding & Text Variables and Concatenation
Year 3 – **Coding -** Code, test, debug process **Branching Databases -** Modelling selection on a binary model
Year 2 – **Coding -** Collision detection **Questioning** - Forward planning to achieve a solution

Learning Objectives:
· To review coding vocabulary and knowledge.
- To begin to understand selection in computer programming.
- To understand how to use co-ordinates in computer programming.
- To understand the Repeat until command.
- To understand what a variable is in programming.
- To review vocabulary and concepts learnt in Year 4 Coding.

Overview:
Lesson 1: Design, Code, Test and Debug
Lesson 2: IF Statements
Lesson 3: Co-ordinates
Lesson 4: Repeat Until and IF/ELSE Statements
Lesson 5: Number Variables
Lesson 6: Making a Playable Game

Cross Curricular Links

Resources
• iPada • Purple Mash Login Details

Impact/Assessment

Most Children will: Children's designs for their programs show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions (Unit 4.1 Lessons 1 and 6). Children can 'read' others' code and predict what will happen in a program which helps them to correct errors (Unit 4.1). They can also make good attempts to fix their own bugs as their coding becomes more complex (Unit 4.1 Lesson 6). Most children can create programs which accomplish a specific goal utilising a variety of media such as images, sounds and animation effects. (Unit 4.1 Lessons 1 and 6).

Less Able Children will: Children attempt to introduce selection into their code using simple 'if statements' (Unit 4.1 Lesson 2). Children's use of these structures is experimental; they cannot always predict the outcome accurately or anticipate the structures required when planning their code. They have a developing idea that a variable can be used to store information in a program, in lesson 5 they can follow the examples but might struggle when applying this with their own ideas.

More Able Children will: Children realise the constraints of creating purely sequential programs and intuitively grasp the concepts of selection (Unit 4.1 Lessons 2, 3 and 4), repetition (Unit 4.1 Lesson 4) and variables (Unit 4.1 Lesson 5). Children like to challenge themselves to combine these with other coding structures to achieve the effects that they design in all their programs (Unit 4.1). Their designs are ambitious but logical and achievable. Children's designs for their programs show that they are absorbing new knowledge of coding structures such as IF statements, repetition and variables. Children can 'read' others' code and predict what will happen in a program which helps them to correct errors (Unit 4.1). They can also make good attempts to fix their own bugs as their coding becomes more complex (Unit 4.1 Lesson 6).