Subject: Computing

Assessment Y5/6

Unit 6.1 Coding

KS2 Programmes of Study

Program of study

- 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
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Additional guidance

Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content.
Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Knowledge, skills and concepts

In this unit, the children will aim:

- To design a playable game with a timer and a score.
- To plan and use selection and variables.
- To understand how the launch command works.
- To use functions and understand why they are useful.
- To understand how functions are created and called.
- To use flowcharts to test and debug a program.
- To create a simulation of a room in which devices can be controlled.
- To understand the different options of generating user input in 2Code.
- To understand how user input can be used in a program.
- To understand how 2Code can be used to make a text-based adventure game.

Key Questions

- How can you use Tabs in 2Code Gorilla?
- What is a function in coding? Give an example that you have used in 2Code Gorilla.
- In 2Code Gorilla, how can a program receive user input?

Key Vocabulary Action, algorithm, command, co-ordinates, events, decomposition, execute, debug, flowchart, function, input, launch command, object, output, procedure, properties, predict, selection, sequence, repeat, tab, simulation, timer, variable	
Cultural Capital	

Key Assessment Opportunity

- To design and make a text-based adventure game.

Assessment Task in week 6 **To design and make a text-based adventure game.** • I can follow through the code of how a text adventure can be programmed in 2Code. • I can design my own text-based adventure game based on one I have played. • I can adapt an existing text adventure so it reflects my own ideas.	**Year 5 - Working towards expectations** - Children begin to experiment with sequence, selection and repetition in their code. They being to understand the use of functions to make their programming more efficient. - As their coding becomes more complex, they will require support to tackle debugging in a logical rather than trial and error way.	
	Year 5 - Working at Expectations - Children begin to experiment with sequence, selection and repetition in their code. They being to understand the use of functions to make their programming more efficient. - Children understand what a physical system is and can consider how they can program objects to behave like they would in real life. - Children being to understand ow functions work. - Children understand that there are different variable types and being to explore how they can be used.	
	Year 5 - Working at greater depth - Children intuitively grasp the concepts of selection, repetition and variables. They like to challenge themselves to combine these with other coding structures to personalise and to improve their programs. They understand how to use functions to improve efficiency. - Children understand and can apply mathematical concepts including co-ordinates, angles and negative numbers with ease when coding. - Children understand that there are different variable types, can see purpose for them and create and use them with ease.	
	Year 6 – Working towards expectation - Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task and then decomposing them in a logical way with support. - They can then use this design to write a program using 2code. - Support needed to tackle debugging in a logical way.	

	Year 6 – working at expected - Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task and then decomposing them in a logical way using their knowledge of possible coding structures. - They can then use this design to write a program using 2code. - Children can test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs.	
	Year 6 – working at greater depth - Children can turn a more complex programming task into an algorithm by identifying the important aspects of the task and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. - They can then use this design to write a program using 2code. - Children's designs show that they are thinking both of the required task, and of how to accomplish this in code. - Children can test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs.	
Assessment notes / evaluation – include SEN / PP next step learning and areas that need more focus		

Year 6	Working below expectations	Working within Expected Standard	Working above expected

Target	**14 – 20%** **(no more than 2 children)**	**80 %- 86%**	**20%**
Term 1			
Term 2			
Term 3			

Year 5	Working below expectations	Working within Expected Standard	Working above expected
Target	**14 – 20%** **(no more than 2 children)**	**80 %- 86%**	**20%**
Term 1			
Term 2			
Term 3			