



Sustainability Ambassadors



Literacy



Healthy Citizens



Cultural Explorers



Designers



Mathematics



Careers Pathfinders



Scientific Investigators



Digital Learners



Global Enquirers



Engineers

Subject: Computing Unit: Programming

Year Group: 6 Term: Summer Term

Medium Term Plan:

How can I write a code that requires input from the user?

Essential Vocabulary

program
input
print screen
if
else
random
loop

Big Concepts

Programming has many more applications than simply controlling an object on screen and using a repeat in sequences of instructions. In everyday lives we use machines that require the program to handle inputs from the user and produce outputs. By using coding we can create programs to make our lives easier, more efficient and produce accurate answers.

Flag any content that might not have been covered during school closure

Year 4 coding unit was not delivered due to school closure. Pupils have used 2Code previously in Year 3

Retrieve Essential knowledge to support learning of big unit concepts

Pupils to be reminded of experience of using 2Code and that programming/coding requires clear precise instructions. Link to instructions that they have recently been writing in English on the Mummification process.

Subsequent National Curriculum Coverage

To be able to design, write and debug more complex programs

Sequence of Teaching and Learning

Consideration has been given to the reduced time available for foundation subjects and a focus on key concepts that are priority for the remainder of this year. Teachers are able to either use the ICT suite or chromebooks as the Purple Mash 2Code will be used in the lessons.

Notes: Year 6 pupils have used 2Code and Logo in Year 3 and Year 4. Unfortunately due to school closure they did not cover any programming in year 5. The content covered in this unit will ensure pupils are able to write and debug programs to achieve specific goals while simulating physical systems and solve problems. It is important that the teacher models and then allows pupils to complete activities. Each activity has either 3 or 4 challenge with the last challenge providing opportunity for pupils to demonstrate their own understanding in an independent task.

After each activity is complete, if there is time available in the lesson, please direct pupils back to the 2Code page and select from either the Gibbon or Gorilla activities. This will provide further opportunities for pupils to develop their knowledge and skills in writing programs.

In the Year 6 folder there are the following documents to support deliver of this unit:

- ✓ 2Code objectives and success criteria pdf – see Page 6 for this unit
- ✓ Coding Principles solutions pdf – this has the solutions for each of the challenges so that teachers can use to support their own understanding prior to lesson
- ✓ Glossary of coding terms
- ✓ 2Code colour key – this shows the colour of the command blocks and the description of the type of block and its purpose

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L.O. To write a program which gets an input from the user and produces an output

Retrieval included on Lesson 1 teacher ppt

Display L.O. and slides in teacher ppt. (notes have been added for teacher to support in delivery).

Teacher to model Handling Input 2Code activity and explain that these coding blocks are:

Print to screen – output command – this generates output from the computer

Text - (What is your name) a piece of text

Get input – input command – commands that ask the user for input

Input icon – function

If/Else command – tests if something is true or false

Pupils are then to complete each challenge (it may be beneficial for teacher to model each challenge for the first lesson as it is some time since pupils used 2Code). Following on from this pupils should be able to retrieve prior knowledge easier and apply new knowledge.

Teacher cpd video is in Lesson 1 folder.

Please look at the documents highlighted in the Notes section as they will help with the understanding of the delivery of this unit and develop subject knowledge in order to support pupils.

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2	<p>L.O. To create different number sequences by creating programs that count up and down</p>	<p>Retrieval</p> <p>Teacher to model Counting machine 2Code activity and explain that these coding blocks are: When clicked – this is a command event – this results in an action being carried out when this command is run 'b count' – this is a variable – it stores information within a program 'result' – another variable =set to, add, subtract etc – these are assignment – this changes the value of a variable Text block</p> <p>Pupils are then to work through challenges</p>

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3	<p>L.O. To be able to create programs to solve counting machine problems</p>	<p>Retrieval</p> <p>Teacher to model Calculation machines 2Code activity and explain that these coding blocks are: When clicked – this is a command event – this results in an action being carried out when this command is run 'b calculate' – this is a variable – it stores information within a program 'answer' – another variable =set to, add, subtract etc – these are assignment – this changes the value of a variable Text block</p> <p>Pupils are then to work through challenges</p>

Skills for Life

Resilience

Communication

Being
Safe

Team-working

Problem
Solving

Self-motivation

Real World Links including pupil experiences:

Using programs to solve problems – pupils will use calculators, search engines, apps etc. All of these require user input which is then used to produce an output.

Skills for Life/ Core Values:

Safe
Resilience
Problem solving
Communication
Self-motivation

Influential Figures:

Plan for deliberate Reading opportunities: