

Computing Outcomes Portfolio



Year 6 - Spring 1
Block Coding (2Code - Coding Principles)

Intent

This unit consists of lessons that continue on from Years 1, 2, 3, 4 and 5. The lessons will be based on the Coding Principle activities in Purple Mash's 2Code.

The Coding Principles guided activities provide further practice of the concepts that the children will be learning and can be used as extension activities. More able children can be encouraged to explore other things that they can change in their programs and experiment with the options available, such as variables and If statements.

Children will often be able to solve their own problems when they get stuck, either by reading through their code again or by asking their peers; this models the way that coding work is really done. More able children can be encouraged to support their peers, if necessary, helping them to understand but without doing the work for them.

Lesson 1: L.Q. How can input from a user be handled?

The image shows a Scratch IDE interface. At the top, there are navigation icons: a purple folder icon, a refresh icon, a play button icon, a question mark icon, and a back arrow icon. Below these is a challenge text: "Challenge: The monkey is trying to password protect a program with the password 'banana7'. Can you fix it?" with a lightbulb icon and a "See Code" link. The main workspace contains a script with the following blocks: "Print print to screen 'What is the password?'", "get input", "repeat until" block containing "Input equals 'banana7'", an "if" block with the condition "Input not equals 'banana7'" and a "Then" block containing "Print print to screen 'Incorrect password - try again'", and finally "Print print to screen 'Access granted'". On the left, a "Variable Watch" panel is empty. At the bottom, a console log shows three lines of green text: "INFO: Waiting for the user to enter some input", "INFO: User has entered some input", and "INFO: Create a loop that will repeat until". To the right of the console are playback controls including a play button, a slider set to "Fast", and a refresh icon.

Challenge: The monkey is trying to password protect a program with the password 'banana7'. Can you fix it?

What is the password?
banana7
Access granted

Print print to screen 'What is the password?'

get input

repeat until Input equals 'banana7'

if Input not equals 'banana7' Then

Print print to screen 'Incorrect password - try again'

Print print to screen 'Access granted'

Variable Watch

INFO: Waiting for the user to enter some input
INFO: User has entered some input
INFO: Create a loop that will repeat until

Fast

Lesson 2: L.Q. How can programs that calculate sums be created?

Next challenge >

Challenge: The monkey's 5 times table machine is broken. Can you fix it?

Counting Machine

Result:

20

Count 5

Variable Watch
result = 20

when clicked **b** count5

1.0 result **+** add 5

INFO: Increase the value of the variable result
INFO: Increase the value of the variable result

Fast

Lesson 3: L.Q. How can programs that calculate sums be created?

Next challenge >

Challenge: I'm trying to make an adding machine! The first time you click calculate it works. After that it gives the wrong answer. 🔊

Adding Machine

3 + 5

Calculate

= 8

Variable Watch

myInput1	=	3
myInput2	=	5
Answer	=	8

when clicked **b** Calculate

123 Answer = set to myInput1 + myInput2

SUCCESS: Challenge completed
INFO: Set the value of the variable Answer
INFO: Set the value of the variable Answer
INFO: Set the value of the variable Answer

Slow

Lesson 4: L.Q. Can text be programmed to be added together to make random sentences?

Challenge: The monkey's sentence generator is broken. Can you fix it?

setColor
onClick
function of
print'hello
background See Code

quiet monkey danced
smelly monkey danced
loud monkey sat
smelly monkey jumped
hard monkey ran
hard monkey jumped
quiet monkey sat
large monkey danced
large monkey ran
small monkey ran

repeat 10 times

Print print to screen


random Adjective + ' ' + random Verb

INFO: Run print to screen command
INFO: Repeat 10 out of 10 times
INFO: Run print to screen command

Fast

Lesson 5: L.Q. Can loops be used to generate a variety of number sequences?

Next challenge >

Challenge: This program should print the two times table but instead it prints 2 over and over again. Can you fix it?  See Code

```
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24
```

Variable Watch
myNumber1 = 26

UAB create 6 number myNumber1 = 2
repeat 12 times
Print print to screen myNumber1
myNumber1 + add 2

INFO: Repeat 12 out of 12 times
INFO: Run print to screen command
INFO: Increase the variable myNumber1
INFO: Repeating completed

Fast