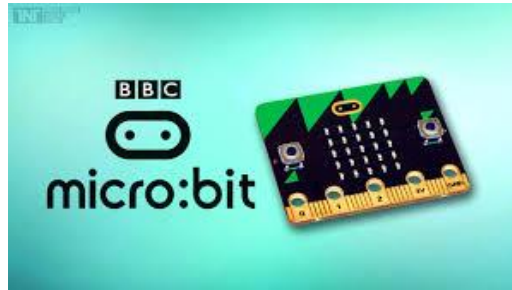


Computing
Independent Learning
Challenge



INDEPENDENT LEARNING CHALLENGES

There are 3 parts to this challenge:

Challenge 1 – Fortune Teller: Create a program using **Microsoft Block Develop** Editor on <http://microbit.org/>, which will do the following: 2 marks for each brief in **bold** correctly done

- **Display a random Y or N when button A pressed**
- **Change the Y and N to more interesting responses**
- **Change the random statement to pick numbers from 0 to 3 and have 4 possible messages**
- Run your code to test that it works
- Take a print screen of your final code and paste it on a Word document

Suggested Time



Once Complete

Time scale

3 hrs plus 3 additional hours for extended learning challenge.

Start Date

w/c 6th February 2017

Submission Date

w/c 13th March 2017

Blocks that you could use:

INDEPENDENT LEARNING CHALLENGES

Suggested Time

There are 3 parts to this challenge;



Once Complete

Challenge 2 – Reaction Timer (who can press their button fastest?)

: Create a program using **Microsoft Block Develop** Editor, which will do the following: **[6]** – 2 marks for each brief in **bold** correctly done

- **Press button A&B to clear the screen**
- **Wait a random time up to 20 seconds**
- **Display a star icon**
- **When the first person presses their button, show an arrow pointing to their button**
- **Display a blinking dot or flashing animation while waiting for a button to be pressed**
- **Repeat the challenge 10 times**
- **Keep a score to display after 10 goes**
- Run your code to test that it works
- Take a print screen of your final code and paste it on the next page

1 hour

2 hours

Blocks that you could use:

The image shows various code blocks from the Microsoft Block Develop editor:

- on button A+B pressed** (purple)
- clear screen** (teal)
- set Wait to pick random 0 to 10** (purple)
- Wait** (purple)
- pause (ms) 0 x 1000** (teal)
- if button A is pressed** (blue)
- while do** (green)
- not button B is pressed** (purple)
- show leds** (teal) - Two examples showing different LED patterns.
- show number ScoreA** (teal)
- not button A is pressed** (purple)
- repeat 4 times do** (green)
- show string "A wins"** (teal)
- change ScoreA by 1** (purple)
- and** (blue)
- pause (ms) 1** (teal)

EXTENDED INDEPENDENT LEARNING CHALLENGE

Challenge 3 – Timed Target

Create a program using **Microsoft Block Develop** Editor on <http://microbit.org/>, which will do the following: **[6]** – 2 marks for each brief in **bold** correctly done

- **Press button A to display a target number between 1 and 10**
- **Make the micro:bit count from 0 to 10**
- **Time how long it takes to press button B after the target displays**
- **Display a message to say how long it took to press B**
- Run your code to test that it works
- Take a print screen of your final code and paste it on the next page

3 hours

LITERACY – Command Words

Analyse the elements that make up the solution to the problem

Describe the programming techniques used to code and solve the problem

Explain how you carried out testing for your program

Evaluate – the strengths and weaknesses of your program and how it could be improved.

USEFUL RESOURCES, WEBSITES, BOOKS

You can visit the Microbit website for additional information and support with coding using different editors: <http://microbit.org/>.

If you are unable to access a working computer at home, attend Computing club on Tuesday lunchtimes in C4 to work independently on the homework.

THE PERSONAL LEARNING AND THINKING SKILLS USED IN THIS CHALLENGE ARE:



LITERACY SKILLS USED IN THIS ILC IS:

- Punctuation, spelling and grammar.
- Extended writing.
- Applying understanding of terminology

NUMERACY SKILLS USED IN THIS ILC ARE:

- Reasoning and problem-solving.
- Being numerate; decision making.

FURTHER SUPPORT CONTACT DETAILS

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CHECKLIST

- Has my work achieved its purpose?
- Have I re read my planning to check spellings and grammar?
- Have I developed my ideas to create a fully working program?
- Have I presented my work to the best of my ability?
- Have I saved my work onto my student access folder?