Year 6 Summer 2

Question: Can you create your own program?
Programming B- sensing

National Curriculum Link:

-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

-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

International Baccalaureate Learner Profile Link:

Communicators.
How do we express and present ourselves to others?
How can we communicate with others?
We can be clear in both written and oral form?

Principled.
To take my time and think before acting.
To remain calm, thoughtful and deliberate in my actions.

Caring
What does it mean to be caring?
What people, actions and ideas do I care most about?
How do I show that I care through my actions and words?

Prior Skills: Year 5	New Skills: Year 6	Future Skills: KS3
To experiment with a repeat-until loop. To use a condition in an 'if... then…' statement to produce a given outcome. To show that a condition can switch program flow in one of two ways. To use a condition in an 'if... then... else...'	To identify a variable in an existing program. To experiment with the value of an existing variable. To choose a name that identifies the role of a variable to make it more usable (to humans).	To understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems To understand how instructions are stored and executed within a computer system;

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statement to produce given outcomes.	To decide where in a program to set a variable. To update a variable with a user input. To use an event in a program to update a variable. To use a variable in a conditional statement to control the flow of a program. To use the same variable in more than one location in a program.	understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits

Knowledge, Skills and Understanding
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To test the program and recognising when it needs to be debugged. To attempt to debug their own programs and corrects/ debugs errors in code. To recognise an error in an existing program and attempt to debug/ fix the program.

Resources: Hardware: iPads, Computers. makecode.microbit.org Teach computing page.	**Websites or Apps:** Apps: Book creator. https://www.stem.org.uk/resources/community/collection/481673/ks2-programming-monitoring-and-controlling-systems https://www.tes.com/teaching-resource/computing-ks2-obstacles-and-sensors-12176471
	Extended Writing Opportunities: Create a micro:bit based step-counter.

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Vocabulary: Programming, micro:bit, design, input, process, output, code, variable, algorithm, repetition, sequence,	**Numeracy skills:** Data handling. Directional language.
Suggested Quality Texts: See selection in library.	**WOW Experience:** NCCE link.
Cross Curricular Links:	