Question: How do you create a game using repetition?
Programming B- repetition in games

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:

Balanced.
To understand the impact on my mind, body and emotions.
Understanding the impact on others.
Principled.
To take my time and think before acting.
To remain calm, thoughtful and deliberate in my actions.

Prior Skills: Year 3	New Skills: Year 4	Future Skills: Year 5
To use a computer to create an animation (tell a story). To set up a device to capture freeze frame photos. To capture a series of images. To use tools to review subject position. To move a subject between captures. To play a sequence of images back to review. To remove images to improve an animation. To add sound effects. To add text (captions). To play back and review a film. To export film.	To list an everyday task as a set of instructions including repetition. To use an indefinite loop to produce a given outcome. To use a count-controlled loop to produce a given outcome. To plan a program that includes appropriate loops to produce a given outcome. To recognise tools that enable more than one process to be run at the same time (concurrency). To create two or more sequences that run at the same time.	To explain that a condition can only be true or false . To relate that a count-controlled loop contains a condition. To compare a count-controlled loop with a condition-controlled loop. To explain that a condition-controlled loop will stop when a condition is met. To explain that when a condition is met, a loop will complete a cycle before it stops. To create a condition-controlled loop. To use a condition in an 'if...then…' statement to start an action. To explain that selection can be used to branch the flow of a program. To explain that a loop can be used to repeatedly check whether a condition has been met. To use selection to switch the program flow in one of two ways. To use a condition in an 'if...then...else…' statement to produce given outcomes. To explain the importance of instruction order in 'if...then...else...' statements.

<u>Knowledge, Skills and Understanding</u> To use technology to collect, sort and display information that could include data, photos, video or sound. To learn and access different types of media content on their device. Including; sound, images, books, podcasts/ audiobooks and video via the web.
<u>Challenge</u>

Resources: Hardware: iPads, Computers Scratch Teach computing page.	**Websites or Apps:** Apps: Book creator https://www.twinkl.co.uk/teaching-wiki/repetition https://www.bbc.co.uk/teach/class-clips-video/computing-ks2-repetition/zjp62v4 https://www.kidscreektherapy.com/the-repetition-game/
	Extended Writing Opportunities: Plan a program build for a partner to help debug.
Vocabulary: Repetition, instructions, code, count-controlled, infinite loops, programming, algorithms,	**Numeracy skills:** Basic counting skills. Data sheets.
Suggested Quality Texts: See selection in library.	**WOW Experience:** Member of NCCE to attend a lesson.
Cross Curricular Links: Art/DT: Build the program and design different outcomes using other media.	