

Batter up

Scratch lesson plan – Code Playground





Lesson overview

In this lesson, students will create a baseball game using Scratch. This lesson will develop coding skills such as working with variables, conditional logic, and broadcast messages which are essential for controlling game mechanics and interactions. The players will aim to hit a homerun by timing their actions correctly.

Time	Key learning outcomes	Resources
50 mins	• Learn to create and use variables to control game mechanics and track progress	Laptops or desktop computers
	 Use conditional statements to determine outcomes based on player actions, such as hitting or missing the baseball 	Access to Scratch website - <u>https://scratch.mit.edu</u> .
	 Understand broadcast messages to trigger certain events in the game. 	

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Introduction

Introduce the concept of the project:

"Today, we'll create a baseball themed game in Scratch where timing and precision are key to hitting the baseball and scoring points."

Real-life connection

"In baseball, players must time their swings perfectly to hit a fast-moving ball. They must adjust their swings based on the ball's speed."

Tie this project to both maths and physical education, encouraging logical reasoning, and real-life sport strategies, such as timing and precision in hitting a ball.

Scratch practical

Ask the children to log into Scratch and locate the background and sprites as described in the workbook. Show the batter up video as a guided lesson pausing regularly when the pupils need to catch up.

- Children should be able to follow along with the workbook or the guided lesson video
- By the end of the lesson children should be able to create a working program showcasing the batter up game.





Activity – Batter up

This project will support you to create variables, conditionals and broadcast messages in Scratch.

By creating these coding concepts, they will help you to control the baseballs movement and interactions in the game.

"Can you think of a real-world scenario where these coding concepts might be useful? "

This programme uses variables. Discuss with the class why variables are important to the project and how they work.

Scratch practical

Using the video and workbooks support the children to follow the instructions and complete the coding project. Have them think of other ways to enhance the project if they have extra time.

Activity wrap up

Prepare to share your project with the class

- Can you explain why we need variables like speed and score in this game?
- How did broadcast messages help in our project?

Encourage customisation:

- Add sound effects when the baseball is hit
- Redesign the game with a different theme, such as a space adventure where players hit asteroids instead of baseballs.



Batter

Code snippets

Baseball



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The following information is an example of what a child at an expected level would be able to demonstrate when completing these activities with additional examples to demonstrate how this would vary for a child with emerging or exceeding achievements.

Assessment guidance

Differentiation – Lower ability/ASN

- Provide visual guides or printouts of the scripts
- Focus on one concept at a time, starting with creating variables
- Allow paired work for additional support.

Differentiation – Higher ability/extension

- Challenge students to add instructions on how to play the game
- Create a game over screen
- Introduce different pitches or foul balls to the game.

Plenary

- What did you find most challenging about coding the baseball game and how did you overcome it?
- How did conditional statements help the game?
- If you could add one new feature to the game, what would it be and why?

Assessment questions

- 1. How did the variables affect the gameplay?
- 2. What coloured block did you use to determine if the baseball was within certain coordinates?
- 3. If the baseball didn't move across the screen, which part of the code would you check first, and why?