

LESSON 6

The Logic of Games

40 minutes

Pattern Play Without Devices

WHAT THIS LESSON DOES

In this lesson, you'll explore how games teach rules by discussing familiar examples and the importance of clear instructions. Then, follow step-by-step activities to play a demo game, customise your own board, write rules, and test your creation with peers.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the purpose and importance of clear rules in games for fair and enjoyable play.
- Identify key components of game structure, including setup, turns, conditional rules, and winning conditions.
- Apply game design principles by creating a custom board and rule set for a colour-based game.
- Develop problem-solving skills through testing and refining game rules for clarity and balance.
- Collaborate effectively in small groups to design and evaluate a unique game concept.

BEFORE THE LESSON

- This is an unplugged lesson for most steps: you need board templates, one die and counters per group, and pens or markers for pupils to write rules.
- Prepare the board with four headings ready to write under: Setup, Turns, If then rules, How to win.
- One device with the screen shared is enough for the interactive board-builder in step 5. Test it opens and displays before the lesson.
- Have a simple Snakes and Ladders example in mind to model each of the four rule headings.

The Logic of Games

HOW THE LESSON RUNS

Introduction

How games teach rules

The importance of Rule Books

Our New Game: The Conditional Race

Build Your Own Game: Customise the Board

Your Turn to Program: Design Your Own Game!

Test Your Game and Share It!

Wrap Up

TEACHING MOVES

- 2. How games teach rules. Keep the examples pupil-led and quick. Steer the talk to one honest memory of a game ruined by an unclear rule, that moment is what the whole lesson builds on.
- 3. The importance of Rule Books. Write one plain Snakes and Ladders rule under each of the four headings as pupils watch. Make the If then rule sound conditional out loud: if you land on a ladder foot, then climb up.
- 4. Our New Game: The Conditional Race. Read every rule aloud before the first roll. Play it genuinely as teacher versus class so pupils feel the conditional rules deciding real moves, not just hear them described.
- 5. Build Your Own Game: Customise the Board. Use the interactive on the shared screen to model choosing two colours and their rules, so groups see the pattern before they build their own on paper.
- 6. Your Turn to Program: Design Your Own Game! Insist each group writes something under all four headings before inventing clever colour rules. A game with fun rules but no winning condition cannot be tested.
- 7. Test Your Game and Share It! Frame the swap as debugging: the other group is the test. If they cannot play from the written rules alone, that is a bug to fix, not a fault of the testers.
- 8. Wrap Up. Name the vocabulary explicitly: their four headings are how code is organised, their if then rules are conditional logic, and their fixing was debugging.

WHAT TO WATCH FOR

- Pupils think a rule they hold in their head counts as a written rule, so their game only works when they explain it. During the swap, stand back and let the other group play strictly from the written page. The gap becomes obvious and pupils see what was missing.
- Groups write fun colour rules but forget a clear winning condition, so the game never actually ends. Check each group has filled the How to win heading before they test. Ask them: how does someone know they have won?

DIFFERENTIATION

- Emerging: Give a partly filled template with Setup and Turns already sketched so the pupil starts from If then rules. Let them copy the structure of the teacher versus class game and change only the colours.
- Developing: Prompt them to add a second If then rule so their game has more than one condition. Have them read their rules aloud to you and spot the line a stranger would not understand.