

LESSON 2

Which One's Different? The Odd One Out

30 minutes

The World of Logic

WHAT THIS LESSON DOES

In this lesson, you will guide students through a series of activities designed to enhance their understanding of categorisation and outlier identification. Starting with a game of 'Word Tennis', you'll then present a 'What doesn't Belong' slideshow and worksheet. These interactive tasks aim to develop students' critical thinking skills, a vital aspect of computer science and coding.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Develop understanding of categorisation and identification of outliers.
- Enhance critical thinking skills through interactive activities.
- Identify items that do not belong in a group using visual aids.
- Apply knowledge to complete a worksheet, identifying the odd one out in various groups.
- Design their own 'Odd One Out' exercise, demonstrating understanding of the concept.

BEFORE THE LESSON

- This is an unplugged lesson: pupils need no devices. Have the 'What Doesn't Belong' slideshow open on the whiteboard and the interactive board switched on and tested.
- Print and have ready one 'What Doesn't Belong' worksheet per pupil, plus pencils.
- Have a short list of Word Tennis categories to hand (fruits, colours, animals, farm animals, and so on) so rounds move quickly.

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HOW THE LESSON RUNS

Introduction

Word Tennis

What doesn't Belong Slideshow

What doesn't belong Worksheet

Conclusion

TEACHING MOVES

- 1. Introduction. Anchor it in something concrete: sorting LEGO by colour, or cars into one pile. Then flip it. Today we find the one piece that does not belong, the way a computer spots data that breaks the pattern.
- 2. Word Tennis. Keep rounds fast and low stakes. Pick two pupils, name a category, let them volley items until one repeats or stalls. Swap pupils often so more get a turn, and change categories to keep it fresh.
- 3. What doesn't Belong Slideshow. Do not accept just the answer. For every slide push the second question: why does it not belong? Make them name the rule the others follow. That rule is the point, not the pointing.
- 4. What doesn't belong Worksheet. Let them circle independently first. For the design task, insist their group has one clearly correct outlier, not a puzzle where two answers could work. Have them test it on a partner.
- 5. Conclusion. Name the link plainly: sorting things into groups is what computers do with photos and files, and spotting the odd one out is what a programmer does hunting a bug. Their game was the real skill.

WHAT TO WATCH FOR

- A pupil picks an odd one out based on a superficial feature (colour, size) rather than the category the group is actually built on. Ask them to state the rule for the whole group out loud first. If the rule holds for four items and breaks for one, that one is the outlier. Their reason has to fit every other item.
- When designing their own puzzle, a pupil makes a group where two or more items could each be argued as the odd one out. Ask them to explain why their intended answer is the only right one. If a partner can defend a different choice, the group needs a tighter rule.

DIFFERENTIATION

- Emerging: Start them with very familiar categories from the Word Tennis list, such as animals or colours, before the slideshow. Sit beside them for the first worksheet row and think the rule aloud together.
- Developing: Prompt them to say the category rule before they circle, so the reasoning drives the answer. Pair them so they check each other's rule out loud.
- Proficient: Challenge them to make their design-your-own puzzle harder, where the rule is subtle, then defend why only one answer works. Have them explain a slideshow answer back to the class, naming both the rule and the exception.