

LESSON 3

The Decision Maker

40 minutes

Unplugged Adventures

WHAT THIS LESSON DOES

In this lesson, you'll explore decision-making with conditionals: if, then and else. Learn to draw a flowchart that maps each choice to a clear outcome. Engage in fun unplugged activities with paper, pencil, or by acting out scenarios to understand these concepts.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the use of conditionals - if, then and else - in decision-making processes.
- Follow each path of a decision through to the outcome it leads to.
- Construct and interpret flowcharts to visualise decision-making paths and outcomes.
- Develop problem-solving skills by creating decision-based scenarios and solutions.
- Recognise the relevance of structured decision-making in coding and everyday life.

BEFORE THE LESSON

- This is an unplugged lesson: no devices needed. Have mini-whiteboards or copybooks ready for every pupil for the quick-fire round and their own flowcharts.
- Have a board or large paper free to model the Break Time Planner and the pencil flowchart live as you explain each path.
- Prepare the three quick-fire if/then sentences and the flowchart suggestions (animal, plant, shoe) so you can read them without pausing.

The Decision Maker

HOW THE LESSON RUNS

Introduction

Quick-Fire Decisions

Connecting to Code

Introducing "Else"

Visualising Our Logic: Introducing Flowcharts

Create a Flowchart

Which Bin Should It Go In?

Create your Own!

Wrap-Up

TEACHING MOVES

- 1. Introduction. Anchor if/then/else in the getting-dressed example before any coding language. Say it aloud: if it is a school day, then uniform, else casual. Keep it about decisions pupils already make.
- 2. Quick-Fire Decisions. Read one sentence, give 30 to 45 seconds to write, then take two clear answers before the next. Push for specific, safe actions rather than the first funny thing shouted out.
- 3. Connecting to Code. Name the two parts explicitly: the if is the condition, the then is the action. Write those two words on the board and point back to them all lesson.
- 4. Introducing "Else". Introduce else as the backup plan meaning otherwise. Use the rain example: if raining, then indoors, else playground. Stress that else covers everything the if did not.
- 5. Visualising Our Logic: Introducing Flowcharts. Draw the Break Time Planner as a flowchart while pupils watch, starting at the top. Show how the decision splits the arrows so they see the path change, not just hear it.
- 6. Create a Flowchart. Lead the pencil flowchart but let pupils supply every step. Draw the yes path to write and press them for the no path so they discover a second decision is needed.
- 7. Which Bin Should It Go In? Keep it to two bins only. Start with the question is it paper or cardboard, then let pupils direct the yes path to recycling and the no path to general rubbish.
- 8. Create your Own! One decision, two clear outcomes, short labels, Yes and No on the arrows. Have pupils trace their own logic once to check it actually works before they finish.
- 9. Wrap-Up. Ask a few pupils to share a flowchart and have the class trace both paths aloud. Name what they did: they took a big problem and broke it into a logical plan.

WHAT TO WATCH FOR

- Pupils write an action in the else that is really a second if condition, so their else no longer covers everything else. Ask what happens in every other case, not just the next one. Remind them else means otherwise, catching all situations the if did not.
- Pupils forget that each decision must have exactly two labelled paths and leave an arrow blank or unlabelled. Point at each arrow and ask what makes a pupil follow it. Insist on Yes and No written on the arrows before the flowchart is done.
- Pupils treat a flowchart as a list to read top to bottom rather than a set of paths that split at a decision. Trace one path aloud with a finger, then a different answer down the other path, so they see the choice sends you one way or the other.

DIFFERENTIATION

- Emerging: Give a ready-made condition and let them supply only the two actions, so they start with the split already drawn. Pair them with a partner and have them say their decision aloud before drawing anything.
- Developing: Have them trace their own flowchart aloud, following each answer, and explain back to you why each arrow goes where it does.
- Proficient: Challenge them to add a second decision on one path, turning a two-outcome flowchart into a three-outcome one. Ask them to design a flowchart for a partner to test, checking that every possible answer has a path.