TEACHER RESOURCE BOOK · MATHS FOR 6TH CLASS

Lesson 117 MIXED

Design-and-cost project — an end-of-primary celebration on a budget

CURRICULUM ALIGNMENT

MEA.MON.4 solve and pose practical tasks to investigate and make informed judgements about transactions and financial plans.

NUM.FRC.4a explore (model, compare and convert) the relationships between fractions, decimals and percentages.

NUM.FRC.4b investigate proportionality and ratios of quantities (sets).

INTERACTIVES Class Budget · challenge, display, explore

WHAT THIS LESSON TEACHES

Look back through your maths journal to judge which pieces are strong and what you would do differently now. Choose work that shows a clear method, taught you something new, or makes you proud.

→ Comparing an early decimal-line entry with a later ratio task to see how your method got clearer.

→ Choosing a journal piece because it shows your working line by line, not just the answer.

MODEL THIS ON THE BOARD

JUDGING ONE EARLY PIECE

1. Open the journal at the September page that shows 23 + 45.
2. Notice the digits were not lined up by place value.
3. Decide that today you would rewrite it with tens and units in neat columns.
4. Write one sentence: I chose this piece because it taught me to line up place values.

LESSON ARC

Display the brief — €8 each, 28 pupils — and draw out the cap before any spending: 28 × €8 = €224. Narrate the pre-built class-budget interactive in three beats — the cap, the food row dropping from €60 to €54 with 10% off, and €56 ÷ 28 = €2 per pupil. Pupils build one plan together at the board watching the balance bar, then copy a fresh worked plan into their copybooks. The Class Challenge has them design their own plan under the cap.

TEACHING MOVES

1. **Getting Started.** Put the brief up as pupils settle and take three hands-up answers, not call-outs. Listen for 'how much have we got altogether?' and steer toward the cap — but hold the 28 × €8 calculation back for the next step.
2. **Watch and Notice.** This is a static snapshot on the class-budget interactive — narrate it, don't drag. Pause after 'twenty-eight eights make 224' for a quick turn-and-name so the class confirms the cap before you layer the €6 discount and the €2 share. Don't move on until pupils can say what the green-to-red balance bar means.
3. **Try It Together.** Take a category from the class, send one pupil up to enter the amount, and have everyone watch the running balance. When the bar nudges the cap, stop and ask 'how much have we left?'; if an amount tips it over €224, ask which other category they'd trim.

4. **Write the Plan in Your Copy.** Walk the room glancing at column alignment and the running total. Watch for two slips: pupils who divide by the number of categories instead of 28, and pupils who forget to subtract their €168 total from €224 at the end.
5. **Class Challenge.** Keep the board work brisk — pupils take turns, the class checks each answer, then move on. The bank steps up to a percentage-saving stretch; point back to the worked €10-on-€40 example on screen rather than re-explaining the method cold.
6. **What Did We Notice?.** Steer the talk to need-versus-nice-to-have, not to one category being 'more powerful' — a euro saved anywhere frees a euro. Revoice a strong answer about which items the class agreed they could trim without spoiling the day.

COMMON MISCONCEPTIONS

⚠ Pupils divide the food cost by the number of categories (4) instead of by 28 pupils to find the per-pupil share — €56 ÷ 4 = €14.

Stop and re-read the share definition aloud: 'shared between everyone' means 28 pupils, not 4 lines. Rebuild €56 ÷ 28 = €2 on the board and ask 'who is the cost actually split between — the four categories, or the twenty-eight of us?'

⚠ Pupils apply the 10% discount by subtracting €10 flat ('ten off') rather than 10% of €60 — so they make the food €50 instead of €54.

Point at the Food row on the interactive. '10% means ten in every hundred. Sixty isn't a hundred — so what's ten percent of sixty?' Work 10% of €60 = €6 together, then subtract to get €54.

⚠ Pupils finish the copybook plan with the four costs totalled but never work out how much of the €224 is left.

As you walk the room, prompt the missing line: 'You've spent €168 — but the question asks what's left of the cap.' Have them write €224 − €168 = €56 underneath the total.

DIFFERENTIATION

EMERGING

- Give these pupils the pre-worked first share (€56 ÷ 28 = €2) as their template and ask them to complete only the three remaining shares, copying the same layout line by line.
- On the board work, hand them categories where the share divides cleanly (€56, €84) so the division stays within reach while the rest of the class meets trickier numbers.

DEVELOPING

- After the copybook plan, ask: if two more pupils join, the cap rises to 30 × €8 = €240 — which category would you boost, and by how much?
- Pose a missing-cost line: the plan must total exactly €224 with three costs given — what does the fourth have to be?

PROFICIENT

- Set the percentage-saving stretch from the Class Challenge as a teacher-narrated harder variant: swap a €45 item for a €36 one and find the saving as a percentage, then ask whether a bigger euro saving always means a bigger percentage saving — explain why or why not.

↗ **Cross-curricular:** Tie to your real end-of-primary event — pupils price an actual class party from supermarket leaflets in euros and test whether it fits the €224 cap.

ANSWER KEY

Scaffold: visual check on the page

Q1: page 45

Q2: May shows clear method/working (every step + place value); September does not.

Q3: any 3 justified choices (p10/p40/p80)

a) Always — One of the three agreed criteria is a clear method.

b) Never — Working must be shown line by line for the method to be clear.

c) Always — The whole point of the review is to spot growth and changes in thinking.

d) Never — Choice rests on clear method, new learning or pride, not on the score alone.