

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

The spending cap is the total money you may use. Add each cost in turn and keep the running total at or below the cap so the plan stays on budget.

→ 28 pupils each put in €8 to make a cap of €224.

→ A €56 food bill shared by 28 pupils is $€56 \div 28 = €2$ each.

MODEL THIS ON THE BOARD

PLAN UNDER THE €224 CAP

- ① Cap from 28 pupils $\times €8 = €224$.
- ② Food after 10% off a €60 order: $€60 - €6 = €54$. Running total **€54**.
- ③ Activity share: $€56 \div 28 = €2$ each, so activity total **€56**. Running total **€110**.
- ④ Drinks €40 and decorations €30 bring the running total to **€180**, still under the cap.

LESSON ARC

Open with the brief on screen — €8 each from 28 pupils — and steer hands-up answers toward finding the total before any spending. Talk through the finished class-budget interactive: cap of €224, 10% bulk discount on food, then a fair per-pupil share of the activity. Plan one celebration together at the board, watching the running balance bar. Pupils copy a fresh four-category plan into their maths copybook, then take turns on Class Challenge allocations under the same €224 cap.

TEACHING MOVES

1. **Getting Started.** Display €8 per pupil and 28 pupils as the class settles. Take three hands-up answers only — listen for ‘how much have we got altogether?’ Steer toward the total cap but leave $28 \times €8$ for Watch and Notice.
2. **Watch and Notice.** The budget tray already holds the finished plan — point, don’t edit. Pause after the cap (€224) for a quick turn-and-name confirming 28 eights. Point the Food row: €60 with 10% off frees €6. Point Activity: $€56 \div 28 = €2$ each — stress fair share, not discount. Don’t leave until pupils can read the green-to-red balance bar.
3. **Try It Together.** Take a category from the class, send one pupil up to enter the amount, and keep every eye on the running balance. When the bar nears the cap, ask ‘how much have we left?’ If a suggestion tips over €224, ask which other category they would trim.

4. **Write the Plan in Your Copy.** This is whole-class copybook practice, not marking. Walk the room for column alignment and the final subtract-from-€224. Watch for pupils dividing by the number of categories instead of 28 — the first share ($€56 \div 28 = €2$) is pre-worked as their model.
5. **Class Challenge.** Keep board turns brisk: allocation, then bulk discount, then per-pupil share, then the percentage-saving stretch. On the last item, point at the worked €10-on-€50 example and read $\text{saving} \div \text{original} \times 100$ aloud so the method is on screen while they try.
6. **What Did We Notice?.** Steer need-versus-nice-to-have, not one category being ‘more powerful’ — a euro trimmed anywhere frees a euro. If you bring in per-head savings, keep it accurate: 50c less food each saves the class €14. Revoice one strong trim the class agreed wouldn’t spoil the day.

COMMON MISCONCEPTIONS

⚠ Pupils divide a shared cost by the number of categories instead of by 28, so €56 becomes ‘€14 each’ because there are four lines on the plan.

Stop and point back at the Activity row on the interactive: ‘twenty-eight pupils, one total bill.’ Rewrite $€56 \div 28$ beside their copybook line and have them say ‘per pupil’ out loud.

⚠ Pupils treat the 10% bulk discount as €10 off any price, or subtract 10 from 60 to get 50, instead of finding 10% of €60.

Rebuild on the Food row: 10% of €60 is €6, so the new cost is €54. Ask ‘what stays in the balance?’ so they see the freed €6, not a flat ten-euro cut.

⚠ Pupils total the four costs and stop — they never subtract from €224, so they can’t say how much of the cap is left.

At the copybook walk-round, point at the empty ‘left’ line: ‘your four costs are the spend; the cap minus the spend is what remains.’ Have them finish $€224 - €168$ before moving on.

DIFFERENTIATION

EMERGING

- Keep categories in whole euros only and leave the first share line pre-filled so they copy the $\div 28$ method before trying the next three.
- During Try It Together, limit their board turn to entering one amount you have already agreed as a class — they watch the balance bar rather than inventing the figure.

DEVELOPING

- After the copybook total, ask: if decorations drop by €7, what happens to the amount left under the cap — and to each pupil’s decorations share?
- On a Class Challenge allocation that lands under €224, ask how much more they could still spend without breaking the cap.

PROFICIENT

- On the percentage-saving stretch, swap one item for a cheaper option and justify the saving as a percentage of the original price using $\text{saving} \div \text{original} \times 100$.
- Challenge them to hit exactly €224 with all four categories still funded — no leftover, nothing cut to zero — and explain the final trim out loud.

✓ **Cross-curricular:** Link to SPHE end-of-year transition — the celebration marks leaving primary, so need-versus-nice-to-have talk doubles as a real class decision.

ANSWER KEY

a) €182

b) €54

c) €3

Q1: €225

Q2: €63

Q3: €3

Q4: €114

a) **Always** : The rule lets the running total reach the cap but not go over it.

b) **Never** : Any cost that breaks the cap makes the plan over budget.

c) **Always** : All costs come from the same fund so a euro saved is a euro free.

d) **Never** : The cap is fixed by the money collected; sharing only splits one cost.