Day 28 · Find the missing part

What is missing? Can another calculation check it?

Useful purpose: Use addition/subtraction inverse relationships to find an unknown and check contextual meaning.

1 · Find the starting point

Explain whole/known part with a new small example. Check that subtraction is not always 'make the largest shown digit smaller'.

2 · Prepare a suitable invitation

Offer an empty part-whole strip or usual communication. MODEL 126 cm of trim plus an unknown piece gives 304 cm total. Paper task needs no actual cord/scissors; no children handling cable/electrical equipment.

3 · Brief worked model

126 + missing = 304. I find 304 − 126 = 178 cm, then check 126 + 178 = 304. About 300 − 100 gives about 200, so 178 is sensible. If I wrote 178 without cm or without knowing it is the missing piece, the job would still be unclear.

4 · Guided new try

Place a known part and an empty unknown part under a whole with unrelated values. Invite counting-on, partitioning or a number line. Show an addition check after the child proposes a result.

5 · Own attempt

Choose a route; keep the unknown visibly empty until your own attempt. Find it, label its role/unit and make a connected check. Do not copy a worked answer into an own blank.

6 · Observe and respond

Record whether the child forms the correct relation, finds the unknown and checks with inverse operations. A rough estimate checks scale; the connected exact calculation checks the proposed value.

Specific next teaching

If the wrong part is subtracted, use another physical or drawn two-part whole before new numbers. If the unknown is secure, let the child choose a different useful unknown situation.

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Pick a route

1 · Trim puzzle

How much more completes it?

MODEL total 275 cm, known part 148 cm. Find 127 cm and check 148 + 127 = 275; show which part is missing.

Observe: Correct relation/127 cm/inverse/context.

Next teaching: Use a new part-whole with no written equation.

Evidence boundary: Supplied measurement-quantity modelling, not physical trim.

2 · Jug top-up

What is needed to reach the target?

MODEL 180 mL present, target 420 mL. Find 240 mL more and check 180 + 240 = 420. Explain that the target must also fit the chosen container's capacity.

Observe: Unknown 240 mL and capacity question recognised.

Next teaching: Offer a new target and a labelled capacity too small; ask what should change.

Evidence boundary: Supplied volume arithmetic; no actual pour.

3 · Unknown-ticket creator

Give a helper one missing part.

Invent a whole between 200 and 500 and a smaller known part; choose cm, g or mL suited to a safe fictional job. Leave unknown empty, then solve and show the inverse relation.

Observe: Self-chosen coherent whole/part/unit/check.

Next teaching: Exchange a new ticket only after the first attempt is complete.

Evidence boundary: Original mathematical proposal, not real measurement.

Ordinary aids and full words · Choose another ordinary day

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