

Finding a half, a third and a quarter of a quantity

CURRICULUM ALIGNMENT

NUM.FRC.3b calculate the fraction of quantities and express in multiple ways.

INTERACTIVES Equal Groups (Sharing) · challenge, display, explore

WHAT THIS LESSON TEACHES

Finding a fraction of an amount means sharing that amount into equal groups and taking one group. The bottom number tells you how many equal groups to make.

- One quarter of 8 means 4 equal groups with 2 in each group.
- One half of 12 is 6 but one quarter of 12 is only 3.

MODEL THIS ON THE BOARD

ONE QUARTER OF 12 COUNTERS

- 1 Start with 12 counters to share fairly among family.
- 2 Make 4 equal groups because the bottom number of one quarter is 4.
- 3 Share the counters so each group gets the same amount with none left over.
- 4 Count the counters in just one group: there are 3.
- 5 So one quarter of 12 is 3.

DISCUSSION STARTER

REFLECT Does finding a fraction of a number feel more like sharing or like grouping?

LESSON ARC

Open with 12 counters and the fair-sharing question, then name sharing-into-four as finding a quarter. In Watch and Notice, deal 8 counters into two groups (half), then four groups (quarter), pausing for a predict-more-or-fewer beat. Pupils take turns at the equal-groups interactive for one half of 6, one third of 6, one quarter of 12. Copybook holds one half of 10 and one quarter of 8 as drawn groups plus number sentences.

TEACHING MOVES

1. **Getting Started.** Five seconds of quiet think-time, then take three hands-up answers, not open call-outs. Say once aloud that sharing 12 fairly into four is finding a quarter of 12 — but don't formalise it; that lands in Watch and Notice.
2. **Watch and Notice.** As the eight counters split into two groups, point to the bottom number and say 'the two told us to make two groups.' Before revealing the quarter, hold the counters and take one hands-up guess — more or fewer? This is the pay-off: same 8, more groups, smaller answer.
3. **Try It Together.** Invite a different pupil to the board for each fraction. After one third of 6, ask the class to compare with one half of 6 — same 6, more groups, smaller answer. Remind the board pupil to reset the total to 12 before dealing the quarter.
4. **Work It in Your Copy.** Walk the room glancing for the right number of groups AND a completed number sentence. Watch for pupils who draw the four groups correctly but then write the whole 8 instead of the one group holding 2 — that's the error to catch here.

5. **Class Challenge.** Brisk board turns — pupil sets the group count from the fraction, deals, reads one group, presses Check, class confirms. Drop the callout 'a quarter makes more groups than a half, so the answer is smaller' at quarter of 8. Half of 14 is the stretch total.
6. **What Did We Notice?.** Listen for pupils naming the group count as the reason. Revoice a strong answer: 'the same 12 counters spread across more groups means fewer land in each group.' Anchor any bigger-bottom-number-means-bigger thinking straight back to the counters they just dealt.

COMMON MISCONCEPTIONS

- ⚠ A pupil says 'one quarter of 8 is bigger than one half of 8, because four is bigger than two.'
Deal both live on the equal-groups interactive side by side: 8 into two groups holds four each, 8 into four groups holds two each. More groups, fewer in each. Have the pupil read one group off both, out loud.
- ⚠ In the copybook a pupil draws the correct four groups for one quarter of 8 but writes 'one quarter of 8 = 8' — reading the whole total instead of one group.
Ask them to put a finger on just one group and count only that. 'A quarter is one of the four groups, not all of them.' Circle the single group on their page so the answer reads 2.

DIFFERENTIATION

EMERGING

- Stay on halves only while the class moves to quarters — deal even totals into two groups on the interactive and let the pupil read one group.
- In the copybook, pre-draw the group circles so the pupil only shares the counters in, not invent how many circles to make.

DEVELOPING

- After the copybook, ask: one third of 6 is 2 — so what is two thirds of 6? Deal it as two of the three groups.
- Give a missing-total variant: one quarter of ____ = 3. How many counters did we start with?

PROFICIENT

- During the Class Challenge, narrate a harder variant for fast finishers: one third of 15, then one fifth of 15 — predict which is smaller before dealing, and explain why to the class.
- Pull them ahead into the next copybook row and ask them to write the rule in their own words: how does the bottom number decide the number of groups?

✚ **Cross-curricular:** Tie to SPHE snack-sharing — share a plate of 12 crackers fairly between 4, then between 2, and name each as a quarter and a half.

ANSWER KEY

Scaffold: visual check on the page

Q1: 3

Q2: 2

Q3: 5

Q4: 3

Q5: 3

Spot: Finding one quarter means sharing into 4 equal groups and taking one group. $12 \div 4 = 3$, so one quarter of 12 is 3.

EXTENSION SHEET · STRETCH ANSWERS

Investigation: Fractions of our class — open-ended; scan pupils' working for valid solution paths rather than a single answer.