Lesson 116 ALGEBRA

The link between × and ÷ (multiplication and division)

WHAT THIS LESSON TEACHES

Sharing a total back into equal groups undoes multiplying those groups together, so the same three numbers give both a times fact and a share fact.

→ 3 groups of 4 make 12, so 12 shared into 3 groups gives 4 back.
→ 2 rows of 5 counters make 10, so 10 shared into 2 groups gives 5.

MODEL THIS ON THE BOARD

GAME COUNTERS TIMES AND SHARE LINK

1. Set out **2** rows of **5** counters for a board game.
2. Multiply the groups: **2** x **5** = **10** counters in all.
3. Share the **10** counters back into **2** equal groups to undo it.
4. Each group has **5**: so **10** / **2** = **5** uses the same three numbers.

DISCUSSION STARTER

REFLECT Can a times fact help you solve a sharing problem? When does that work best?

ANSWER KEY

a) 6×8=48, 8×6=48, 48÷6=8, 48÷8=6

b) 3×4=12, 4×3=12, 12÷3=4, 12÷4=3

c) 5×4=20, 4×5=20, 20÷5=4, 20÷4=5

Q1: 56

Q2: 5

Q3: 63

Q4: 4

a) Always — Multiplying groups and sharing the total back always link the same three numbers.

b) Always — That is the exact link between multiplying and dividing.

c) Always — Rows and columns show the groups and the total at once.

d) Never — It works for any equal groups such as 3 x 4 = 12 and 12 / 3 = 4.