

Mixed-operation problem solving: which operation?

CURRICULUM ALIGNMENT

NUM.OPS.3

understand and apply flexibly the four operations; and the relationships between operations.

ALG.EXP.3

represent and express problems with known and unknown values in different ways to include the use of appropriate letter-symbols or words.

INTERACTIVES

Word Problem · display, explore

Target Number · challenge

WHAT THIS LESSON TEACHES

Read the words of a problem first to choose the operation. 'Altogether' and 'in total' mean add; 'left', 'fewer' and 'how many more' mean subtract; 'each' or 'equal groups' mean multiply; 'shared' or 'split equally' mean divide.

→ In 'How many more points did Cork score than Galway?', 'how many more' signals subtraction.

→ In '6 teams of 9 players', 'teams of' means equal groups, so $6 \times 9 = ?$

MODEL THIS ON THE BOARD

TWO-STEP: ADD THEN SUBTRACT

① "Collects" €175 and €168 means join them first: $175 + 168 = 343$.

② "Spends" €240 and "how much is left" means take away: $343 - 240$.

③ $343 - 240 = 103$.

DISCUSSION STARTER

REFLECT

Which clue words help you choose add, subtract, multiply or divide most reliably?

ANSWER KEY

Scaffold: visual check on the page**Q1:** 285**Q2:** 17**Q3:** 385 members

EXTENSION SHEET · STRETCH ANSWERS

S1: 416**S2:** 6**S3:** 259**S4:** 599**S5:** 11

Investigation: Plan a mini sports day — open-ended; scan pupils' working for valid solution paths rather than a single answer.