

Place value problem-solving and review

WHAT THIS LESSON TEACHES

Use clues about digits in the tenths, hundredths and thousandths places to narrow down a mystery decimal number in games and play.

- 'I have three tenths and no hundredths' pins two columns but leaves the thousandths free.
- 'I am bigger than 0.3 but smaller than 0.31' crosses off everything that is 0.31 or more.

MODEL THIS ON THE BOARD

CRACKING THE MYSTERY DECIMAL CLUE BY CLUE

- 1 Read clue 1: a decimal with two places and tenths digit 4 so list 0.40 to 0.49 on the mat.
- 2 Apply clue 2 to cross off numbers that do not match the new rule.
- 3 Continue with each clue until only one number remains.

DISCUSSION STARTER

REFLECT Which is trickier to compare — large whole numbers or decimals? Why?

ANSWER KEY

Scaffold: visual check on the page

Q1: 0.30x (e.g. 0.300–0.309)

Q2: 0.60–0.69

Q3: 0.301–0.309

Q4: 0.425

Q5: 0.69

- a) **Always** — The tenths place is fixed so all others are eliminated.
- b) **Sometimes** — Three clues can narrow to several candidates until a fourth clue is added.
- c) **Always** — Each clue targets its own column without changing the others.
- d) **Never** — Two clues often leave a range of numbers that fit.