

Letter-symbols: using a letter for an unknown

MODULE 8 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS

ALGEBRA

HOW TO ANSWER TODAY

- **Letter expressions.** A letter stands for a number. Swap the letter for its value, then work out the answer.

If $n = 3$, then $2n + 5 = 2 \times 3 + 5 = 11$

 STRETCH PROBLEMS

- 1** Saoirse is setting up a sleepover and lays out biscuits on plates for her friends. Each plate gets **3** biscuits for every guest except herself, plus **4** extra biscuits on a sharing plate in the middle. If $n = \mathbf{5}$ is the total number of friends at the sleepover, how many biscuits are there in total when you work out $\mathbf{3}(n - \mathbf{1}) + \mathbf{4}$?

If $n = 5$, what is the value of $3(n - 1) + 4$?

- 2 5th class are planting seedling trays in the school polytunnel. Each row holds $3(n - 1) + 4$ seedlings, where n is the number of pupils planting in that row. If $n = 7$, what is the value of $3(n - 1) + 4$?

- 3** Cara keeps a bird-feeder tally at the classroom window. She works out a points score with the rule $4(n + 1) - 3$, where n is the number of birds she counted. If $n = 7$, what is the value of $4(n + 1) - 3$?

- 4 Mr Ó Briain hands out pencils from the classroom store. Each table gets $3(n - 1) + 4$ pencils, where n is the number of pupils at the table. If $n = 6$, how many pencils does the table get?

If $n = 6$, what is the value of $3(n - 1) + 4$?

- 5** On the sponsored cycle around the school cycle path, Tadhg cycles $2n + 7$ laps, where n is the number of laps his younger sister completes. If $n = 5$, how many laps does Tadhg cycle?

If $n = 5$, what is the value of $2n + 7$?