

Reasoning prompt cards

Twelve game cards that help you explain your maths thinking.



✂ **Cut out the cards** along the dashed lines. Pick a card. Read the prompt, try the example, then use the starter to say your thinking out loud.

1  How do you know? SAY "I know because ..." TRY Is 36 an even number? MODEL Yes. I know because it ends in 6, and $36 = 18 + 18$. 1	2  Is there another way? SAY "Another way is ..." TRY $25 + 19$ MODEL Way 1: $25 + 20 - 1 = 44$. Way 2: move 1 across, $24 + 20 = 44$. 2
3  Convince me SAY "You can believe me because ..." TRY Convince me that $3 \times 4 = 4 \times 3$. MODEL 3 rows of 4 dots, turned round, is 4 rows of 3 dots. Both make 12. 3	4  Always, sometimes or never? SAY "It is ... because ..." TRY An odd number plus an odd number is even. MODEL Always. $3 + 5 = 8$, $7 + 9 = 16$. The two odd ones out make a pair. 4
5  What is the same and what is different? SAY "They are the same because ..." TRY 24 and 42 MODEL Same: both use the digits 2 and 4, both are even. Different: 42 is 18 more. 5	6  Spot the mistake SAY "The mistake is ... It should be ..." TRY $46 + 37 = 73$ MODEL $6 + 7 = 13$, so there is an extra ten. $46 + 37 = 83$. 6

Reasoning cards: explore

Six more prompts: test ideas, draw proofs and check with estimates.



Play in pairs. Take turns to turn over a card and explain the example. If your partner agrees with your reason, colour a token.



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What if ...?

SAY "If ..., then ... because ..."

TRY $9 - 4 = 5$. What if both numbers go up by 10?

MODEL $19 - 14 = 5$. The difference stays the same.

7

8



Prove it with a picture

SAY "My picture shows ..."

TRY Prove that $\frac{1}{2} = \frac{2}{4}$.



MODEL The shaded parts are the same length.

8

9



Estimate first

SAY "I estimate ... because ..."

TRY $49 + 52$

MODEL About $50 + 50 = 100$. Exact answer: 101. It is close, so it makes sense.

9

10



Which one does not belong?

SAY "... does not belong because ..."

TRY 4, 9, 16, 20

MODEL 20, because $4 = 2 \times 2$, $9 = 3 \times 3$ and $16 = 4 \times 4$ are square numbers.

10

11



Explain it to a partner

SAY "First I ..., then I ..., so ..."

TRY 34×2

MODEL First I did $30 \times 2 = 60$, then $4 \times 2 = 8$, so $60 + 8 = 68$.

11

12



Can you give an example?

SAY "One example is ... because ..."

TRY A number between 20 and 30 in the 4 times table.

MODEL 24, because $6 \times 4 = 24$. (28 works too.)

12