Use What You Know · Year 4 Mixed Subjects

Five free challenge cards

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Free sample · screen

Try one card at a time. The answer is on the following page.

- Use single-page view so the answer stays hidden.
- Ask what information matters before pointing to a clue.

These are five of the fifty cards in the full deck, with the same questions and answers. The full deck includes ten five-card sessions and Tutor Notes & Answers.

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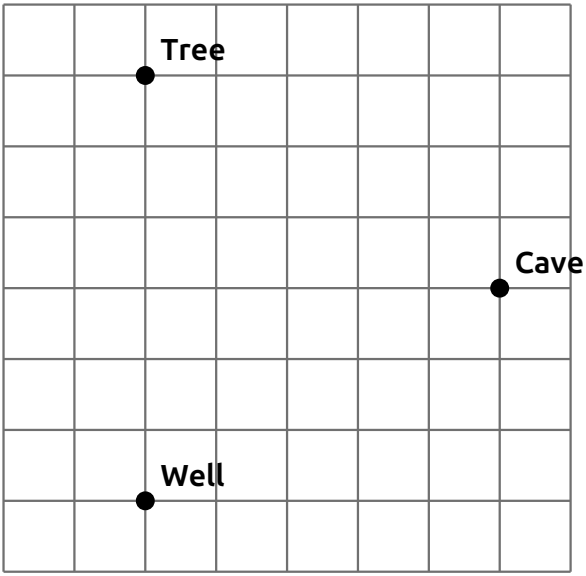
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UseWhatYouKnow-Y4-Mixed-Sample-Screen.pdf

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North is up the page. East is to the right. Mia walked from the Well to the Cave in three straight moves: north to the Tree, then east, then south.



1 grid interval = 10 m

How far did Mia walk altogether?

Answer

140 m

How to work it out

Count the gaps between grid lines along her route. North from the Well to the Tree: 6 intervals, 60 m. East from the Tree until she is straight above the Cave: 5 intervals, 50 m. South down to the Cave: 3 intervals, 30 m. Altogether 60 + 50 + 30 = 140 m. Going from the Well to the Cave along the grid would be only 80 m: she went round by the Tree.

What mattered

Following each part of the route on the map and adding the parts, instead of measuring only from start to finish.

Ruby wanted to find the strongest of her four magnets. She hung paper clips in a chain from each magnet until no more would stay on.

Ruby's results

Magnet	Magnet colour	Size of clips	Clips held
Bar	red	small	9
Horseshoe	red	small	12
Ring	red	large	7
Button	blue	small	4

Ruby's test was not fair for one magnet. Which one?

(A) Bar
(B) Horseshoe
(C) Ring
(D) Button

Answer

C — Ring

How to work it out

In a fair test only the thing you are comparing changes; the way you test stays the same. Ruby is comparing magnets, so each magnet can look different, and a magnet's colour is part of the magnet. The clips are part of the method: three magnets held small clips, but the Ring held large ones. Its 7 cannot be compared with the others, so the Ring's test was not fair.

What mattered

Asking what is being compared, then checking that everything about the method stayed the same.

Two made-up sources.

1 *A letter from the fort, 1,900 years ago*

It is so cold here! Please send socks and warm underpants.

2 *A museum sign at the fort today*

Soldiers lived here for over 300 years. Some came from warm countries far away.

Which question can the letter answer, but the sign cannot?

(A) Were there people at the fort?
(B) Did soldiers come from far away?
(C) Did the writer get the socks?
(D) Was the fort a warm place?

Answer

D — Was the fort a warm place?

How to work it out

Check each question against each source on its own. The letter says 'It is so cold here!', so it answers whether the fort was warm: it was not. The sign's 'warm countries' are the places some soldiers came from, not the fort, so the sign cannot answer it. Both sources show people at the fort, only the sign says they came from far away, and neither says whether the socks arrived. Coming from warm countries says nothing about the fort's own weather.

What mattered

Testing every question against each source separately instead of matching a word like 'warm'.

Rules

- If a sentence starts with words that tell us when something happens, put a comma after those words.
- Example: Later that day, we went home.

Leo's sentences

1. In the morning, Mum made pancakes.
2. The garden was full of snails after the storm.
3. After lunch the rain stopped.
4. Later, everyone went outside.

One sentence breaks the rule. Write it out with the comma in the right place.

Answer

After lunch, the rain stopped.

How to work it out

The rule is about words at the start of a sentence that tell when. Sentence 1 starts 'In the morning' and has its comma. Sentence 2 starts 'The garden', which does not tell when; its time words come at the end, so it needs no comma. Sentence 4 starts 'Later,' and has its comma. Sentence 3 starts 'After lunch' with no comma, so it should be 'After lunch, the rain stopped.'

What mattered

Checking where the 'when' words sit in each sentence before deciding which comma is missing.

A farmer has fewer than 120 eggs and fills as many boxes as she can. In boxes of 3, there are 2 eggs left over. In boxes of 4, there are 3 eggs left over. In boxes of 5, there are no eggs left over.

What is the greatest number of eggs she could have?

Answer

95

How to work it out

Boxes of 5 leave none, so the number is in the 5 times table. Boxes of 4 leave 3, so it is odd. The card asks for the greatest, so start at the top: 115, 105, 95. 115 in boxes of 3 leaves 1: no. 105 in boxes of 4 leaves 1: no. 95: 3 × 31 = 93, so 2 left over; 4 × 23 = 92, so 3 left over. 95 fits every clue.

What mattered

Using 'greatest' to search from the top, and checking every clue for each number tried.