

KES Maths Challenge - Crossnumber Instructions

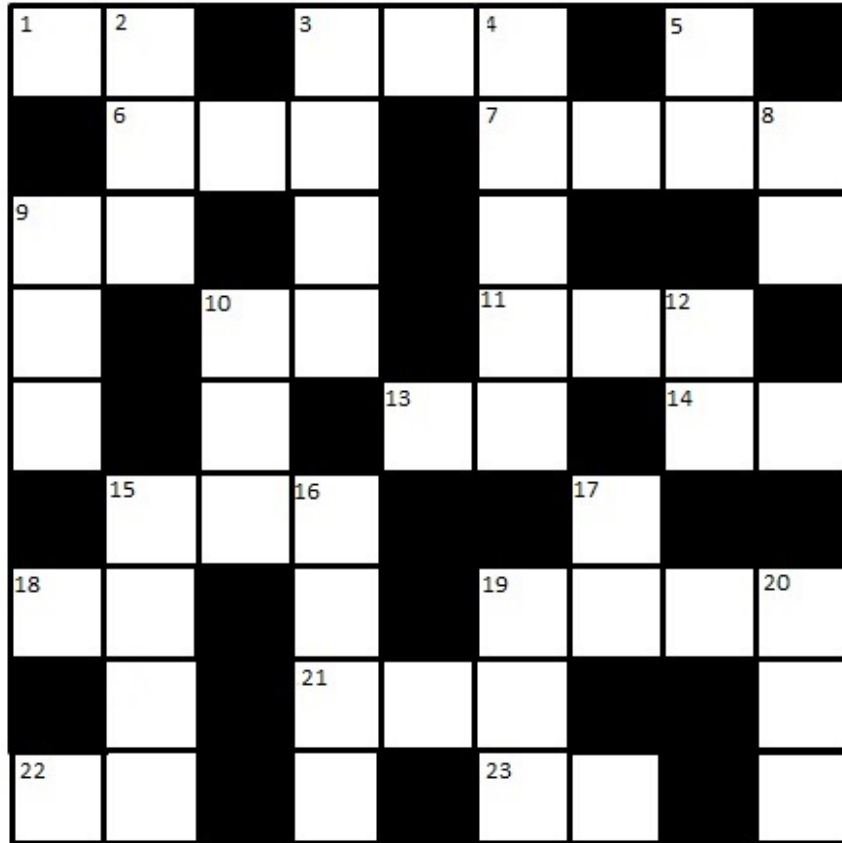
Rules

- Pupils should attempt questions in pairs. Each pair will have a copy of the clues and an answer grid. There will also be a 'mastercopy' which is in front of the teacher.
- When a pair think they have an answer they write it on the mastercopy. It is immediately checked by the teacher. The teacher (who will have a sheet with the solutions on) ticks every correct digit and crosses every incorrect digit. The teacher will also correct every incorrect digit, writing the right answer in its place.
- The correct answer is then shown to the other pair and both pairs can enter it onto their copy..
- The team's score is the number of ticks that they have achieved between them at the end of the round.

Hints

- Only answer questions which you have narrowed down to one possible answer.
- It should be possible to complete the grid without making any guesses. However, if you get completely stuck this might be a worthwhile strategy to get you going again.
- Sometimes it might be possible to get a bit of an answer without working out the whole number. You may enter parts of answers into the mastercopy and have them marked by the teacher.

KES Maths Challenge - Example Crossnumber



Across

1. The sum of the first five square numbers.
3. 16 degrees more than a half-turn.
6. A square number
7. A palindrome (number which is the same forwards and backwards).
9. A square number
10. The sum of the digits is 2
11. $10 \text{ down} \div 2 +$ the only prime number ending in 5.
13. Product of two primes, both of which are larger than 3.
14. The number of legs on 5 down humans and 5 down horses.
15. The two outside digits multiply to give the middle one.
18. A square number
19. $10^3 + 6^2$
21. $6 \times 14 \text{ across} +$ the largest multiple of 10 less than 100.
22. The number of minutes between 10.55 and 12.10.
23. A prime number

Down

2. $10 \text{ down} + 299$.
3. The number of minutes in a day.
4. $400 \times 19 \text{ down} + \sqrt{6} \text{ across} - 1$.
5. The smallest two digit prime number.
8. Two less than a square number.
9. $2 \times 23 \text{ across} + 5 \text{ down}$
10. A multiple of 108.
12. The number of hours in one and a half days.
15. The number of seconds in an hour subtract 185.
16. A multiple of 512.
17. The product of the three smallest prime numbers.
19. $3 \times 1 \text{ across} + 4$
20. 9 across^2 .

KES Maths Challenge - Example Crossnumber Solutions

¹ 5	² 5		³ 1	9	⁴ 6		⁵ 1	
	⁶ 1	4	4		⁷ 7	1	1	⁸ 7
⁹ 2	5		4		6			9
0		¹⁰ 2	0		¹¹ 1	1	¹² 3	
5		1		¹³ 9	1		¹⁴ 6	6
	¹⁵ 3	6	¹⁶ 2			¹⁷ 3		
¹⁸ 6	4		0		¹⁹ 1	0	3	²⁰ 6
	1		²¹ 4	8	6			2
²² 7	5		8		²³ 9	7		5