

Year 6 Number Knowledge – Autumn 1

Each term, your child will focus on two areas to help them with their understanding of number. We would like you to choose one of the following activities to complete at home each week.

Counting: Negative numbers in context

Find a family member or friend and draw a number line from -13 to 13. Get a counter and put it on zero. The person sat on the left is negative and the person on the right is positive. Take it in turns to roll a die (you can find one online). The positive person adds their number to the number the counter is on and the negative person subtracts. The aim of the game is to get the counter to either -13 if you are negative or 13 if you are positive.



For help, go to:

<https://nrich.maths.org/5898>

Get a family member or friend to write down at least 5 positive and 5 negative numbers on slips of paper. Your challenge is to put the numbers in order from smallest to largest. How quickly can you do it?

E.g.

-31	45	56	29	-18	-64	-29	36	-5	72
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becomes

-64	-31	-29	18	-5	29	36	45	56	72
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CHALLENGE: choose two of the numbers and calculate the different between them.
CHALLENGE: place them accurately on a number line.

1		2		3		4	
						5	6
7	8						
			9		10		
11							
						12	
13				14			
		15					

Across

- 10 - 45
- 50 + 3
- 50 + 102
- 50 - 100
- 1 - 20
- 5 + 18
- 2 + 56
- 10 - 20

Down

- 1 + 521
- 25 + 100
- 2 + 25
- 1 + 52
- 3 - 8
- 100 + 199
- 5 - 30
- 5 + 105
- 15 + 45

Multiplication tables and related division facts: Mental calculations

Choose a calculation from the times tables.
Write out as many **linked** calculations as you can.

E.g.

$$40 \times 8 = 320 \quad 8 \times 4 = 32 \quad 3,200 \div 400 = 8$$

$$32 \div 8 = 4 \quad \mathbf{4 \times 8 = 32} \quad 40 \times 80 = 3,200$$

$$320 \div 80 = 4 \quad 800 \times 40 = 32,000$$

CHALLENGE: set yourself a 1 minute timer and see how many you can find. Can you repeat the task with a different calculation and beat your score?

Draw out the following table in your homework book:

+1000	+100	+10	Original number	x10	x100	x1000

Choose a starting number and then fill in the rest of the table.

E.g.

+1000	+100	+10	Original number	x10	x100	x1000
0.047	0.47	4.7	47	470	4700	47000

Get a family member or friend to write down 4 calculations on separate slips of paper.

E.g.

$$70 \times 40$$

$$70 \times 57$$

$$70 \times 21$$

$$70 \times 100$$

Sort the calculations from easiest to most challenging to solve using mental methods and explain your choice. Now try and see how many you can solve.

For help, go to:

<https://nrich.maths.org/14739>

Create your own game to help a child in year 5 practice solving calculations using mental methods. Make sure it is fun to play and try to include different levels of challenge within your game.