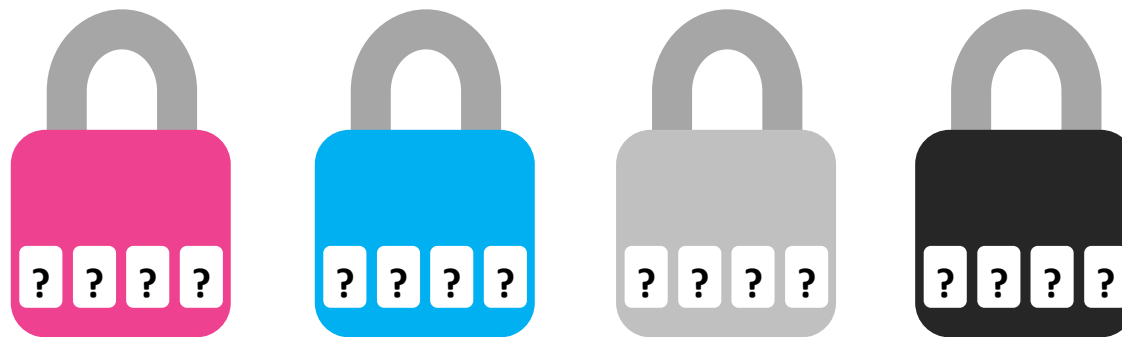




Puzzle Box Challenges



Free Samples - Year 1 to 6

INSTRUCTIONS

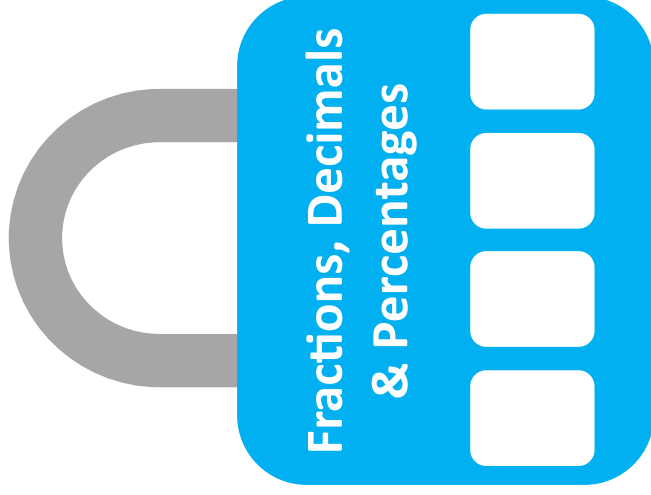
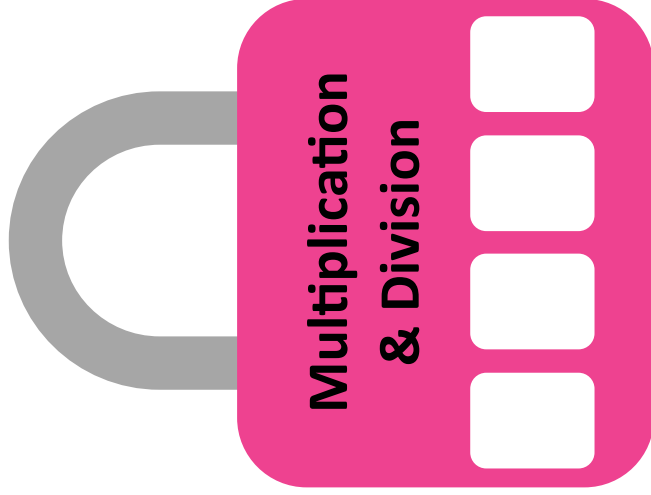
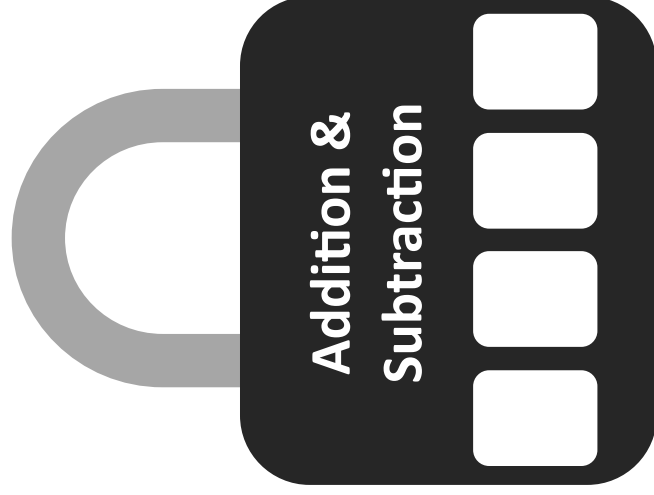
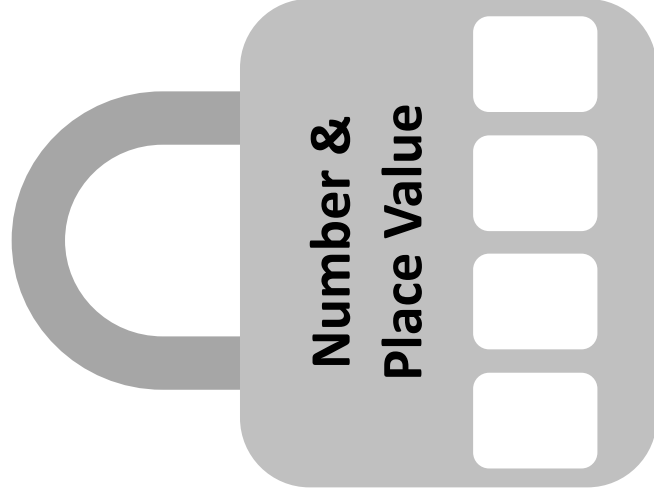
Number Stacks Puzzle Box Challenges are designed to help children practise the fluency skills they have learnt across different areas of maths. Challenges can be completed either with or without using practical resources depending on the children's level of confidence.

There are 6 sets of challenges in this free sample (one for each year group) and all you need to do is choose one set and give them to your children to solve! If you are using our online Puzzle Box, set each padlock to the relevant solution before you begin (making sure the children don't see the answers!) or if not, simply print out our blank answer sheet for the children to record their codes and let them know when they are correct.

Why not offer a mystery reward for opening the box for a bit of extra motivation!

Can you solve all the challenges to open the box?

Puzzle Box Challenge: Answer Sheet



Number Stacks

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Y1Sample

Number & Place Value

Add the 2 digits in each missing number for your code.

One fewer than 34

One greater than 49

One less than 11

One more than 69



Y1Sample

Addition & Subtraction:

The four answers will give you your code.

$$7 - 3 =$$

$$4 + 5 =$$

$$10 - 4 =$$

$$3 + 5 =$$



Y1Sample

Multiplication & Division:

Add the digits in each separate answer for your code.

3	3	2×3
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7	7	2×7
---	---	--------------

5	5	2×5
---	---	--------------





9	9	2×9
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Y1Sample

Fractions:

Decide if each fact is true or false to get your code

	True	False
 $\frac{1}{2}$ is shaded	8	4
 $\frac{1}{2}$ is shaded	6	7
 $\frac{1}{4}$ is shaded	9	5
 $\frac{1}{4}$ is shaded	2	3



Y2Sample

Number & Place Value

Add both digits in each separate answer for your code.

Which is bigger: 45 or 54 ?

Which is bigger: 13, 33 or 31 ?

Which is smaller: 48, 18, 28 or 81 ?

Which is smaller: 20, 22, 21 or 12 ?



Y2Sample

Addition & Subtraction:

Add both digits in each separate answer for your code.

$$48 - 25 = ?$$

$$52 - 35 = ?$$

$$63 - 42 = ?$$

$$84 - 69 = ?$$



Y2Sample

Multiplication & Division:

The answers to each question will be your code.

$$35 \div 5 = ?$$

$$12 \div 2 = ?$$

$$50 \div 10 = ?$$


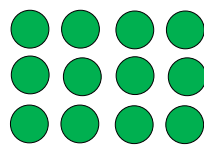
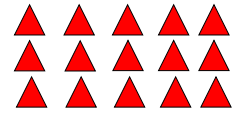
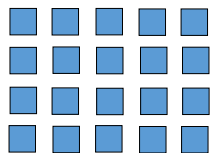
$$3 \div 1 = ?$$



Y2Sample

Fractions:

The four separate answers will make your code

1. Circle $\frac{3}{4}$		2. Circle $\frac{1}{2}$	
3. Circle $\frac{1}{3}$		4. Circle $\frac{1}{4}$	



Y3Sample

Number & Place Value

Add all four missing numbers to find your code.

$$9086 = 6 + 9000 + ?$$

$$200 + 3000 + ? + 50 = 3254$$

$$3605 = 5 + 600 + ?$$

$$4 + 2000 + ? = 2704$$



Y3Sample

Addition & Subtraction:

Add the 2 digits in each missing number for your code.

$$53 - ? = 21$$

$$? + 27 = 62$$

$$42 = 19 + ?$$

$$21 = ? - 23$$



Y3Sample

Multiplication & Division:

The four answers will give you your code.

$$36 \div 4$$

$$40 \div 5$$

$$18 \div 3$$

$$28 \div 4$$



Y3Sample

Fractions, Decimals & Percentages:

Add the digits in each separate answer for your code.

$$\frac{2}{5} \text{ of } 45$$

$$\frac{2}{3} \text{ of } 24$$

$$\frac{3}{4} \text{ of } 16$$

$$\frac{5}{6} \text{ of } 30$$



Y4Sample

Number & Place Value

The answer will be your code.

Start at 5194...

Add 10, subtract 1, add 1000, subtract 100,
add 10, subtract 1, subtract 1000, add 10,
subtract 100, subtract 1, subtract 100



Y4Sample

Addition & Subtraction:

Subtract the smallest answer from the largest.

What is 675 and 762 altogether?

How much greater is 543 than 178?

Find the difference between 1083 and 729

Find the total of 593, 445 and 423



Y4Sample

Multiplication & Division:

The four separate answers will be your code.

$$(7 \times 5) - (11 \times 3)$$

$$(42 \div 6) - (48 \div 12)$$

$$(48 \div 4) - (72 \div 9)$$

$$(6 \times 9) - (7 \times 7)$$



Y4Sample

Fractions, Decimals & Percentages:

Find the missing digits to get your code.

$$\frac{?}{3} = \frac{18}{27}$$

$$\frac{2}{5} = \frac{?}{20}$$

$$\frac{3}{?} = \frac{21}{49}$$

$$\frac{30}{48} = \frac{5}{?}$$



Y5Sample

Number & Place Value

6 2 0 5 7 3 9

Which digit represents the thousands?

Which digit represents millions?

Which digit represents ten thousands?

Which digit represents hundred thousands?



Y5Sample

Addition & Subtraction:

The smallest amount of money left will be your code.

I have £78.48 but spend £29.68

I have £25.10 and earn £23.36

I have £56.04 and give away £6.83

I have 31.75 and find £16.57



Y5Sample

Multiplication & Division:

The four separate answers will be your code.

How many factors does 18 have?

How many prime numbers between 20 & 30?

How many common multiples of 6 & 8 below 50?

How many common factors of 20 & 32?



Y5Sample

Fractions, Decimals & Percentages:

Use the numerator of each answer as your code.

$$\begin{array}{r} \frac{1}{5} \\ \hline \end{array} - \frac{1}{8}$$
$$\begin{array}{r} \frac{3}{5} \\ \hline \end{array} - \frac{1}{2}$$
$$\begin{array}{r} \frac{5}{6} \\ \hline \end{array} - \frac{5}{7}$$
$$\begin{array}{r} \frac{5}{8} \\ \hline \end{array} - \frac{2}{5}$$



Y6Sample

Number & Place Value

I am a four-digit number.

My ones digit is three times as big as my tens digit.

I am an odd number.

My thousands digit is half the value of my hundreds.

Only one of my digits is a prime number.

The total of all my digits is 24.



Y6Sample

Addition & Subtraction:

Find the total of all four answers to get your code.

$$(493 + 862) - 794$$

$$(8091 - 5368) + 2643$$

$$9487 - (2106 + 5817)$$

$$680 + (6004 - 5347)$$



Y6Sample

Multiplication & Division:

The four remainders will be your code.

$$3107 \div 4$$

$$2864 \div 9$$

$$4015 \div 7$$

$$5973 \div 8$$



Y6Sample

Fractions, Decimals & Percentages:

Round each answer to the nearest whole number.

$$10\% \text{ of } 28$$

$$\frac{3}{7} \text{ of } 21$$

$$0.25 \times 25$$

$$15\% \times 48$$



Puzzle Box Solutions

Sample	Number & Place Value	Addition & Subtraction	Multiplication & Division	Fractions, Decimals & Percentages
<i>Y1Sample</i>	6517	4968	6519	4693
<i>Y2Sample</i>	9693	5836	7653	9655
<i>Y3Sample</i>	3784	5858	9867	9737
<i>Y4Sample</i>	4921	1107	2345	2878
<i>Y5Sample</i>	5602	4832	6223	3159
<i>Y6Sample</i>	4839	8828	3245	3967

