

Supporting Maths at Home

7th November 2018

For children to be solid mathematicians they need...

- ▶ Confidence
- ▶ Understanding of how things fit together (addition & subtraction / multiplication & division / fractions)
- ▶ See relationships between numbers
- ▶ Mental skills

Reception

- ▶ Involves providing children with opportunities to **count** reliably with numbers from 1 to 20, place them in **order** and say which number is **one more** or **one less** than a given number. Using quantities and objects, **they add and subtract two single-digit numbers and count on or back to find the answer**. They solve problems, including **doubling, halving and sharing**.

Years 1 and 2

- ▶ The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop **confidence** and **mental fluency** with **whole numbers, counting and place value**.
- ▶ By the end of year 2, pupils should know the **number bonds to 20** and be precise in using and understanding place value.

Years 3 and 4

- ▶ The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

Years 5 and 6

- ▶ At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient **written** and **mental methods** of **calculation**.
- ▶ pupils should be fluent in written methods for all **four operations**.

By the end of year 6

Addition and subtraction

789 + 642 becomes

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \\ \hline 1 \end{array}$$

Answer: 1431

874 - 523 becomes

$$\begin{array}{r} 874 \\ - 523 \\ \hline 351 \end{array}$$

Answer: 351

By the end of year 6

Short division

432 ÷ 5 becomes

$$\begin{array}{r} 86 \text{ r}2 \\ 5 \overline{) 432} \\ \underline{40} \\ 32 \\ \underline{30} \\ 2 \end{array}$$

Answer: 86 remainder 2

Long division

432 ÷ 15 becomes

$$\begin{array}{r} 28 \\ 15 \overline{) 432} \\ \underline{30} \\ 132 \\ \underline{120} \\ 120 \\ \underline{120} \\ 0 \end{array}$$

$15 \times 20 = 300$
 $15 \times 8 = 120$

$$\frac{\cancel{12}}{\cancel{15}} = \frac{4}{5}$$

Answer: $28 \frac{4}{5}$

Calculating

```
graph TD; A[Calculating] --- B[Counting]; A --- C[Mental skills]; A --- D[Written skills]
```

Counting

Mental skills

Written skills

When learning new skills...

$$1 \times 6 = 6$$

$$2 \times 6 = 12$$

$$3 \times 6 = 18$$

$$4 \times 6 = 24$$

$$5 \times 6 = 30$$

$$6 \times 6 = 36$$

$$7 \times 6 = 42$$

$$8 \times 6 = 48$$

$$9 \times 6 = 54$$

$$10 \times 6 = 60$$

Always use jottings to begin with whilst learning a new skill.

Once confident the children will not need it.

Helping at home to sharpen skills

- ▶ Pack of cards



- ▶ Snap
- ▶ Ordering numbers
- ▶ Number bonds to...
- ▶ Adding cards together
- ▶ Taking away from a given number
- ▶ Multiplying two numbers (and the inverse.)

Helping at home to sharpen skills

▶ Dice

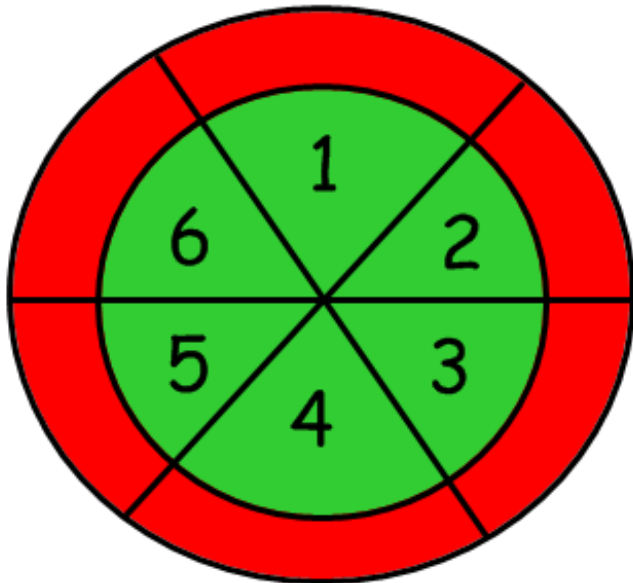


- ▶ What number comes before / after
- ▶ Total
- ▶ Number bonds to ...
- ▶ Up to 50 / 100 game
- ▶ Multiplication facts (and the inverse)

Helping at home to sharpen skills

Have fun together!
Make up some games together
with your own rules.

▶ Darts



- ▶ What could the largest number be that I can make?
- ▶ The smallest number?
- ▶ What about if I use 3 or 4 darts?
- ▶ You are allowed 1 double and 2 singles...
- ▶ Can you make 15?
- ▶ How many ways can you make...

Helping at home to sharpen skills

1 2 3 4 5 6 7

$$52 + 13 + 46 + 7 = 118$$

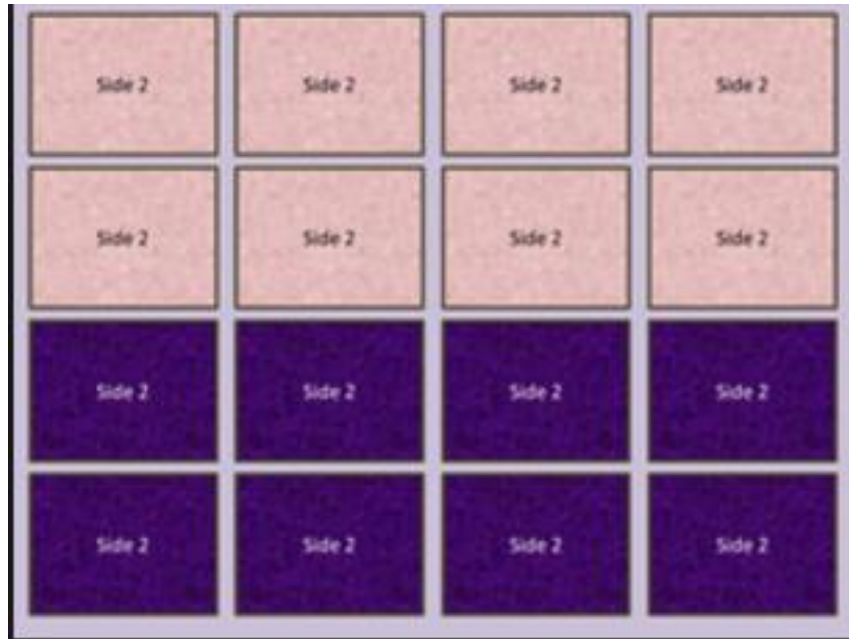
What is the largest / smallest number you can make?

Have fun together!

Use a calculator to check your answers. (You don't need to know everything.)

Helping at home to sharpen skills

Memory Game



- ▶ Number bonds
- ▶ Multiplication facts
- ▶ Division facts
- ▶ Fractions, decimals and percentages

Have fun together!

Make up some games together
with your own rules.

Hit the button

