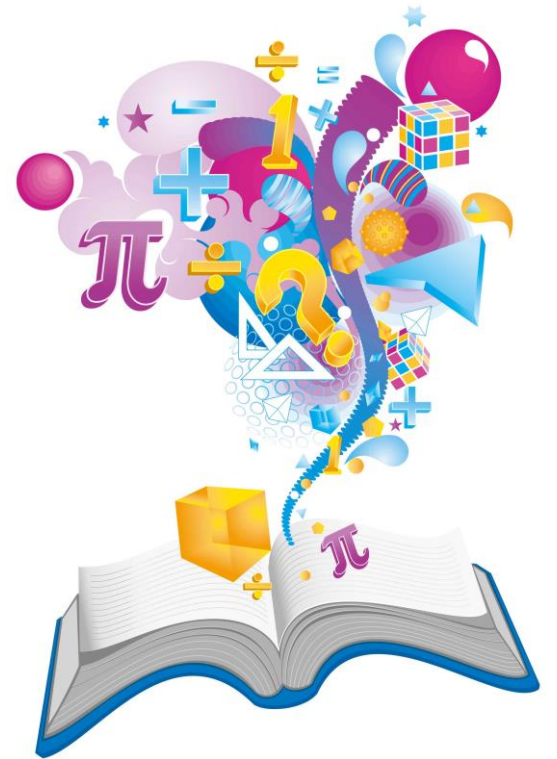# Maths Parent Workshop

Upper Key Stage 2

How is a maths lesson structured?

Starter – The children will be given an engaging activity to do with an area for development.

Present – The children will then explore the day's learning in a range of ways that rely heavily on children's involvement and use of mathematical verbal reasoning. The teacher will model the new learning and the children will have a change to practice it with support.

Apply – the children will then work through a range of tasks independently, moving from fluency tasks to reasoning and problem-solving tasks.

Review – The children will be given opportunity to review the learning, usually applying it to a problem or in a task that requires them to give a detailed

Year 5
Addition and subtraction

Column method

› Involves a very good knowledge of place value and number bonds to twenty

› Language for addition: carry over, sum of, altogether, more, total, plus, increase, together

› Language for subtraction: exchange (used to be known as "borrow"), difference, decrease, fewer, between, reduce, minus, take

› Same for both whole and decimal numbers

› 5/6 digit numbers used.

Types of questions (+ -)

FLUENCY

10,498 – 9,938

1,847.5 + 18,162

559.2 – 18.24

83 + ___ = 498 - 29

REASONING

Explain, using examples, why this statement is **incorrect**:

6 ☐ 5
− 2 ☐ 4

The digit in the red box must be 4

☐☐1

Correct or Incorrect?

1 3.6	8 3 9 5	8 4 6 9
+ 6.7 2	+ 7 2 3 7	+ 8 3 7
8.0 8	1 5 6 3 2	9 2 9 6

PROBLEM SOLVING

Deeper Learning
Captain Conjecture says,
'When working with whole numbers, if you add two 2-digit numbers together the answer cannot be a 4-digit number.'
Do you agree? Explain your reasoning.

Year 6
Addition and Subtraction

› Column method

› Involves a very good knowledge of place value and number bonds to twenty

› Language for addition: carry over, sum of, altogether, more, total, plus, increase, together

› Language for subtraction: exchange (used to be known as "borrow"), difference, decrease, fewer, between, reduce, minus, take

› Same for both whole and decimal numbers

6 − 5.738 =

45.67 + 3.6

At the start of June, there were 1,793 toy cars in the shop.

During June,

- 8,728 more toy cars were delivered

- 9,473 toy cars were sold.

How many toy cars were left in the shop at the end of June?

Year 5 -MULTIPLICATION

Formal column method (long multiplication)

› 4-digit by 2-digit.

› Involves an excellent knowledge of times tables and number bonds to 20 (not using fingers!)

› Multiply by the ones column, then multiply by the tens column.

› Language for multiplication: product, multiply, lots of, times, groups of, multiple, factors, square numbers

Multiplication of decimals:

› Still the same method

› Teach them to "ignore" the decimal place and then include it at the end


```
     3 7 2
  ×    2 4
  1 4 8 8
  7 4 4 0
  8 9 2 8
```

```
    12.5
  x   2
     1.0    (2.0 x 0.5)
     4.0    (2.0 x 2.0)
    20.0    (2.0 x 10.0)
    25.0
```

Types of questions (X)

FLUENCY

857 x 28

28.4 x 34

REASONING

Part-Complete Examples

6a. A TV package costs £1,419 per house.

23 houses on Brook Street buy this package. The TV salesperson says the total cost is £32,607.

Is he correct? Explain your answer.

PROBLEM SOLVING

This represents the multiplication of a 4-figure number by 3.

The whole calculation uses each of the digits $0 - 9$ once and once only.

The 4-figure number contains three consecutive numbers, which are not in order. The third digit is the sum of two of the consecutive numbers.

The first, third and fifth figures of the five-digit product are three consecutive numbers, again not in order. The second and fourth digits are also consecutive numbers.

Can you replace the stars in the calculation with figures?

Year 6
Multiplication

› Short multiplication

› Involves an excellent knowledge of times tables and number bonds to 20 (not using fingers!)

› Language for multiplication: product, multiply, lots of, times, groups of, multiple, factors, square numbers

› Multiplication of decimals:
  – Still the same method
  – Teach them to "ignore" the decimal place and then include it at the end

418

×   46

$$
\begin{array}{ccc}
 & 4 & \square \\
\times & \square & 6 \\
\hline
2 & 4 & 6 \\
8 & 2 & 0 \\
\hline
1 \quad 0 & 6 & 6 \\
\end{array}
$$

Alfie says,

'When you multiply two numbers together, the answer is always greater than either of the numbers you started with.'

Is Alfie correct?
Circle **Yes** or **No**.

Yes / No

Explain how you know.

$102.4 \div 4 =$

$$4\,3\,\overline{)6\,4\,5}$$

3 pineapples cost the same as 2 mangoes.

One mango costs £1.35

How much does **one** pineapple cost?

Year 5 - DIVISION

<u>Two methods: long division (dividing by a 2-digit number) and "bus stop" (dividing by a 1-digit number)</u>

› Involves an excellent knowledge of times tables

› Language for division: share equally, divisible by, divided by, group, prime numbers, factors

› "Remainders" to be presented as remainder, then fractions, then decimals

<u>Division of decimals:</u>

› Still the same method

› Knowledge of place value

256 ÷ 7 lies between 210 ÷ 7 = 30 and 280 ÷ 7 = 40

```
    256 ÷ 7  =
        70   = 10 x 7
     +140    = 20 x 7
      210
    +  42    = 6 x 7
      252
      r4       36 Groups r4
```

Answer: 36 remainder 4

Types of questions (X)

FLUENCY

$3841 \div 5$

$287.3 \div 4$

$3974 \div 14$

REASONING

Which Answer?

Find the correct calculation.
Spot the mistakes.

745 ÷ 4

$1\ 8\ 5\ r\ 5$
$4\overline{)7^3 4^2 5}$

$1\ 8\ 6\ r\ 1$
$4\overline{)7^3 4^2 5}$

$1\ 9\ 6\ r\ 1$
$4\overline{)7^3 4^2 5}$

What is the missing number in Teddy's division?

PROBLEM SOLVING

9b. Arrange the number cards below to create a division with a remainder of 3. Discover the number hidden by the splat and complete the calculation.

3   1   9

r3

3

Year 6
Division

› Two methods: long division and "bus stop"

› Involves an excellent knowledge of times tables

› Language for division: share equally, divisible by, divided by, group, prime numbers, factors

› "Remainders" to be presented as remainder, then fractions, then decimals

› Division of decimals:
  – Still the same method
  – Knowledge of place value

Mathematical Terminology

› Square and cube numbers

› Prime numbers/composite numbers

› Factors and multiples

› Prime factors

› BODMAS/BIDMAS

65 – 32x2 =

How can you help your child?

› Ensure they complete SATS companion homework weekly – this is always related to the work they have done in class that week and helps them consolidate their learning.

› TTRockstars – times table knowledge feeds into a huge amount of the methods we use and so it is key that children know these well.