Maths at Aston Lodge

Mrs Morton

Counting

- Every day the children are exposed to counting in a variety of multiples – both forward and backwards.

- Counting numbers are very important to know so that we can understand that numbers have an order and also be able to count numbers easily. In our real life we can relate numbers to quantities.

Arithmetic

- Learn its

Arithmetic

▶ Fluent in 5

Fluent in Five - Year 5
Week 18 - Day 1

Name..
Date.................................School..............
Class............................Score...................

1 $\dfrac{2}{5} \times 3 =$

2 $64{,}227 - 12{,}859 =$

4

$$\begin{array}{r} 5\ 8\ 3 \\ \times \quad\quad 3 \\ \hline \end{array}$$

1 ma

5 $6 + 7 + 6 =$

X table practise/TTRockstars

Name: _____

Date: _____

MISSING NUMBER 1

Practise 3s, 4s, 8s

1. _____ × 4 = 12
2. 4 × _____ = 28
3. 3 × _____ = 33
4. 3 × _____ = 24
5. 8 × _____ = 88
6. 10 × _____ = 40
7. 8 × _____ = 16
8. _____ × 3 = 9
9. _____ × 3 = 21
10. _____ × 8 = 88
11. 7 × _____ = 56
12. _____ × 12 = 36
13. _____ × 3 = 24
14. 10 × _____ = 80

21. 4 × _____ = 12
22. 8 × _____ = 32
23. 4 × _____ = 12
24. 4 × _____ = 28
25. 4 × _____ = 36
26. 3 × _____ = 12
27. _____ × 12 = 36
28. 11 × _____ = 44
29. 3 × _____ = 15
30. 8 × _____ = 88
31. _____ × 9 = 27
32. 3 × _____ = 9
33. 8 × _____ = 80
34. 8 × _____ = 88

41. 4 × _____ = 16
42. _____ × 4 = 4
43. _____ × 10 = 40
44. _____ × 3 = 21
45. _____ × 3 = 9
46. 11 × _____ = 88
47. 8 × _____ = 64
48. 8 × _____ = 64
49. 5 × _____ = 40
50. _____ × 8 = 72
51. _____ × 3 = 27
52. _____ × 4 = 36
53. 10 × _____ = 80
54. _____ × 8 = 88

X table practise

- Expectations:
- Year 1 **Count in multiples of 2, 5 and 10**
- Year 2 focuses on the **2, 5, and 10** times tables, and they will learn multiplication and division facts for these tables.
- In Year 3, children are expected to learn the **3, 4 and 8 times table**.
- By the end of Year 3 children should be fluent in the 2, 3, 4, 5, 8, 10 times tables
- By the end of Year 4 children should know all their times tables up to 12 i.e. the **1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 times tables**.

Main Learning – introduce the objective

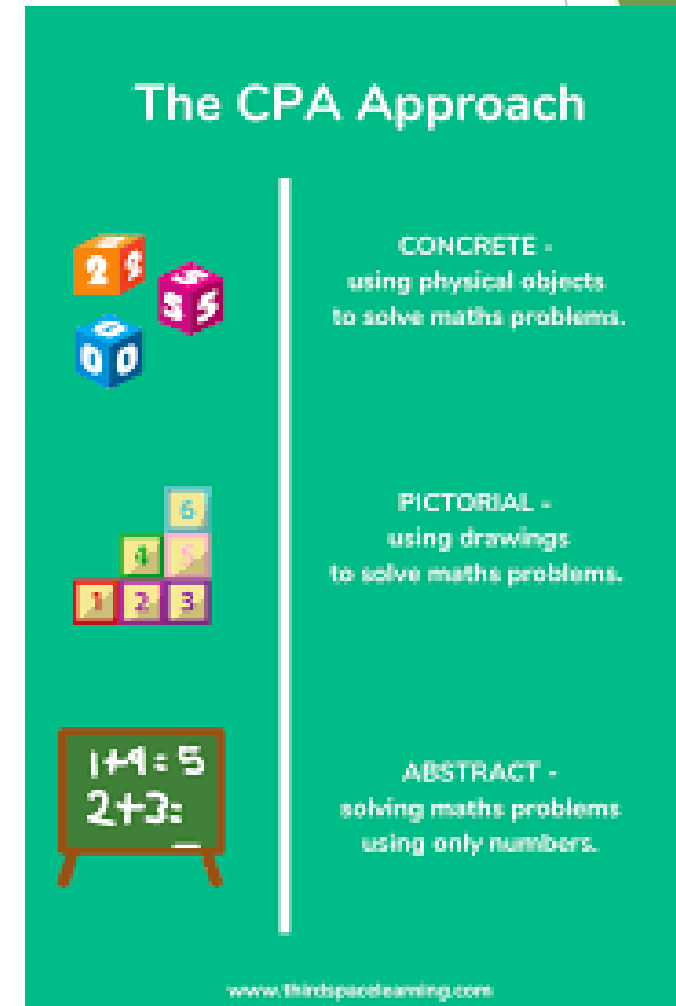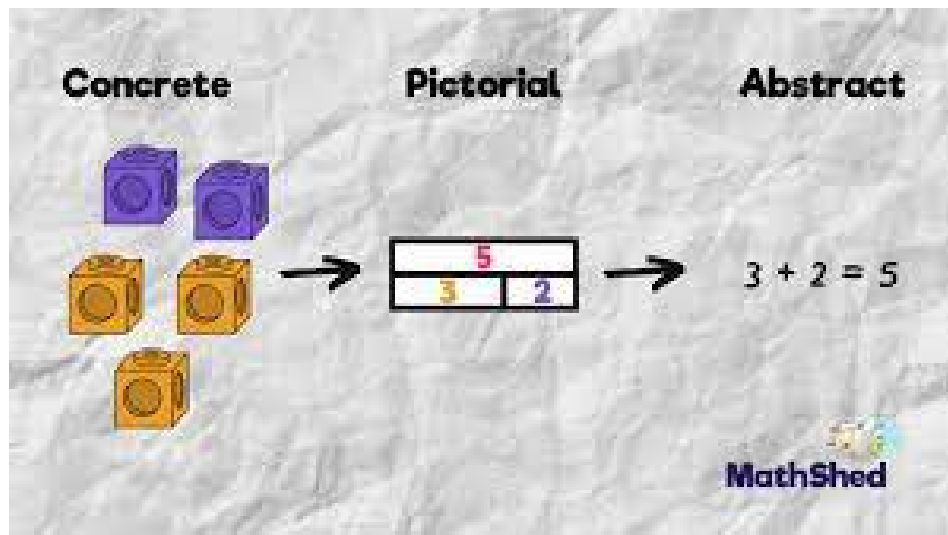| ⭐ Star Learners: can multiply a mixed number by an integer	9.3.23 Objective achieved:
Independently, I can multiply a mixed number by an integer in a range of reasoning and problem-solving contexts	
I can multiply a mixed number by an integer with some reasoning and problem-solving contexts	
I am beginning to multiply a mixed number by an integer	

Main Learning - modelling

Why is mathematical Modelling important in math? Mathematical modelling is valuable in various applications; **it gives precision and strategy for problem solution and enables a systematic understanding of the system modelled**. It also allows better design, control of a system, and the efficient use of modern computing capabilities.

Main Learning – CPA – Concrete, pictorial and abstract

▶ Concrete, Pictorial and Abstract (CPA) teaching in Maths. The CPA method involves using actual objects for children to add, subtract, multiply or divide. They then progress to using pictorial representations of the object, and ultimately, abstract symbols. Children often find maths difficult because it is abstract.
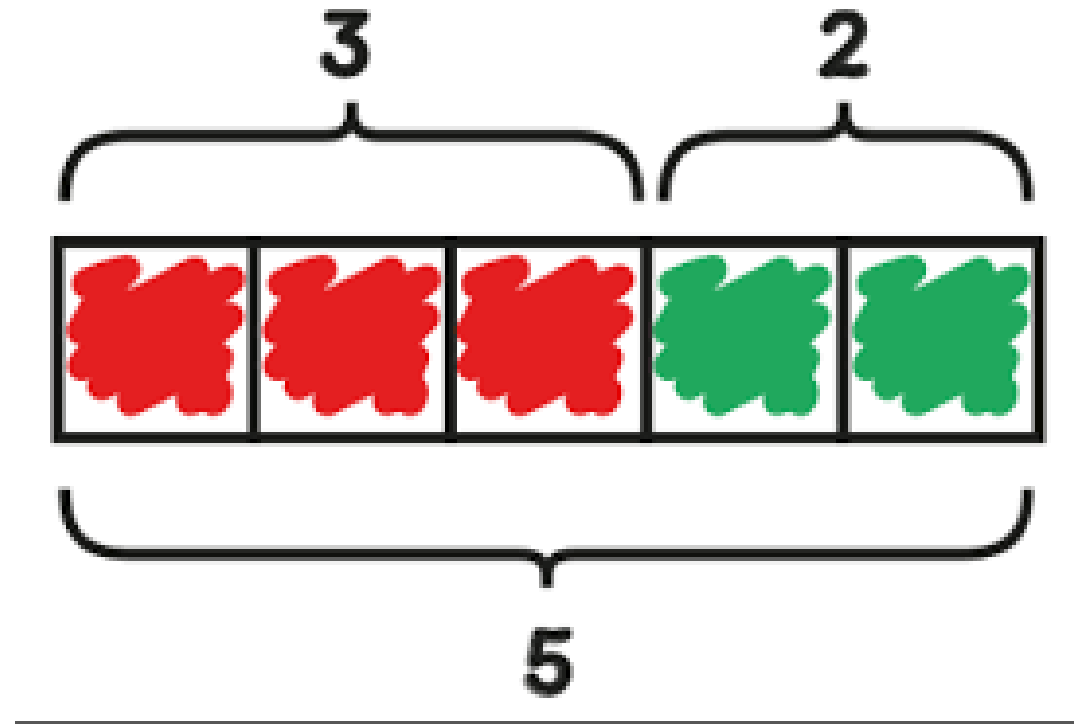
Main Learning – CPA – Concrete

Main Learning – CPA – pictorial

Main Learning – CPA – abstract

Long multiplication

24 × 16 becomes

```
        2
    2   4
×   1   6
─────────
2   4   0
1   4   4
─────────
3   8   4
```

Answer: 384

124 × 26 becomes

```
    1   2
1   2   4
×       2   6
─────────────
2   4   8   0
    7   4   4
─────────────
3   2   2   4
1   1
```

Answer: 3224

124 × 26 becomes

```
    1   2
1   2   4
×       2   6
─────────────
    7   4   4
2   4   8   0
─────────────
3   2   2   4
1   1
```

Answer: 3224

Main Learning – Guided practice

Alex has 4 pieces of wood.

Each piece of wood is $\frac{1}{7}$ m long.

How long is all of Alex's wood?

$\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$

Main Learning – Fluency

Calculate 34 × 6
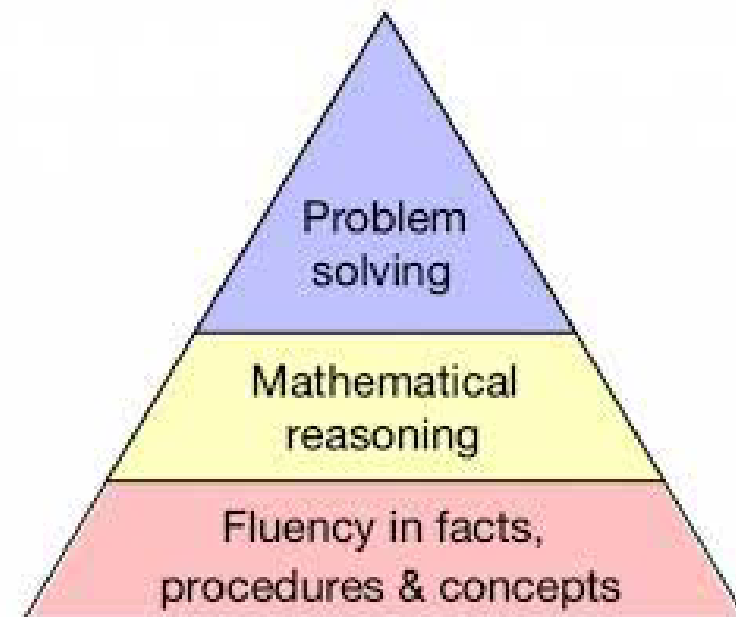
- multiply
- regroup
- tens
- ones
- base facts
- product
- sum of

___ is ___ tens.
___ groups of ___ tens is ___ tens
___ tens is equal to ___0

__ × __ is ten times greater than __ × __

Problem solving

Mathematical reasoning

Fluency in facts, procedures & concepts

What is fluency in Mathematics?

Fluency means that children can:

Be Efficient

Choose the most efficient strategy rather than getting bogged down with too many steps.

Be Accurate

That they know some things about number facts such as: two numbers that make 5; two numbers that make 8; two numbers that make 10.

Be Flexible

They know how to solve a problem and gradually realise that there are lots of ways to solve the same problem.

So fluency in mathematics demands more of pupils than memorising a single procedure – they need to understand why they are doing what they are doing and know when it is appropriate to use different methods. (Russell 2000)

Main learning – reasoning

A book is $\frac{1}{10}$ m long. How long would 12 books be if they were put next to each other?

I know! The books would be $\frac{12}{120}$ m long.
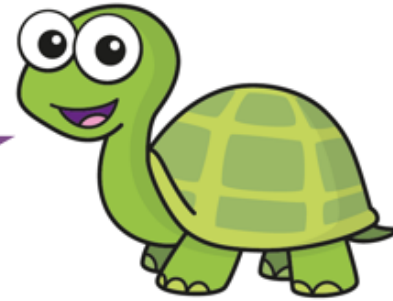
Do you agree with Tiny? Explain why.

Main Learning – problem-solving

7 Here are the ingredients for making a large cake.

Butter $1\frac{3}{8}$ kg

Sugar $1\frac{5}{16}$ kg

Self-raising flour $2\frac{1}{4}$ kg

6 eggs

a) How much flour is needed for three cakes?

b) Dora makes four cakes.

How much more butter does she use than sugar?

Main Learning – Independent learning

2 Work out the multiplications.

a) $3 \times 8\frac{2}{7}$

c) $6\frac{2}{11} \times 4$

e) $2\frac{2}{25} \times 12$

b) $2 \times 12\frac{2}{11}$

d) $4 \times 6\frac{3}{19}$

f) $3\frac{1}{15} \times 8$

What is the same and what is different about your answers?

3 The mass of one bag of potatoes is $1\frac{3}{4}$ kg.

What is the mass of five bags of potatoes?

4 Complete the calculations.

a) $5 \times 2\frac{2}{3} = 10 + \frac{10}{3} = \boxed{}$

b) $4\frac{3}{7} \times 5 = 20 + \boxed{} = \boxed{}$

c) $8 \times 2\frac{5}{12} = \boxed{} + \boxed{} = \boxed{}$

d) $7 \times 3\frac{1}{5} = \boxed{} + \boxed{} = \boxed{}$

e) $4\frac{2}{9} \times 8 = \boxed{} + \boxed{} = \boxed{}$

f) $11 \times 4\frac{3}{10} = \boxed{} + \boxed{} = \boxed{}$

5

$5 \times 3\frac{2}{11}$ is equal to $3 \times 5\frac{2}{11}$

Do you agree with Ron?

Explain your answer.

6 Eva drinks $3\frac{1}{3}$ litres of water every day.

How many litres of water does she drink in a week?

7 Here are the ingredients for making a large cake.

Flour

Butter $1\frac{3}{8}$ kg

Sugar $1\frac{5}{16}$ kg

Self-raising flour $2\frac{1}{4}$ kg

6 eggs

a) How much flour is needed for three cakes?

b) Dora makes four cakes.

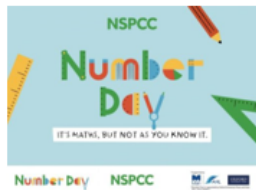How much more butter does she use than sugar?

Plenary

▶ Address issues and misconceptions

Themed weeks – Money Matters, NSPCC Numbers Day and TTRockstars competitions