Maths Parent Forum- Upper Phase

Maths Lead: Mrs Atkins (Assistant Headteacher)

Maths Lead support for Upper Phase : Mrs Prendiville (Year 5 Teacher)

Maths Lead support for EYFS & Lower Phase: Mrs Way (Foundation Stage Teacher)

Outline for today's forum

- Our school aims for teaching maths
- Our approach for teaching maths
- Maths in Upper Phase
- Ideas for how to support your child and resources
- Opportunities for questions

Our aims for the teaching and learning of mathematics

We feel strongly that it is our children's right to understand the language of maths and we believe that confidence in maths leads to competence.

Maths is an integral part of our lives and is a tool that enables us to describe and make sense of the ever-changing world in which we live.

Children are taught that maths is not all about getting the right answer; in fact, they are encouraged to embrace challenge and to regard the making of mistakes as the first step to success; they are shown explicitly how errors provide learning opportunities.

We aim to foster in our children the following:

- a curiosity that leads them to pose questions;
- creativity and logic in their approach to solving problems;
- a willingness to take risks.

We believe that it is our responsibility to promote maths as a subject that is challenging, rewarding and fun.

How do we teach Maths?

White Rose

This a recommended scheme by the DfE and NCETM (National Centre of Excellence in the Teaching of Mathematics)

Features of White Rose

- number at the heart of the scheme; a large proportion of time is spent on developing competency in number
- ensures teachers support the ideal of depth before breadth (mastery approach)
- promotes plenty of opportunities to develop reasoning and problem-solving skills

White Rose Maths

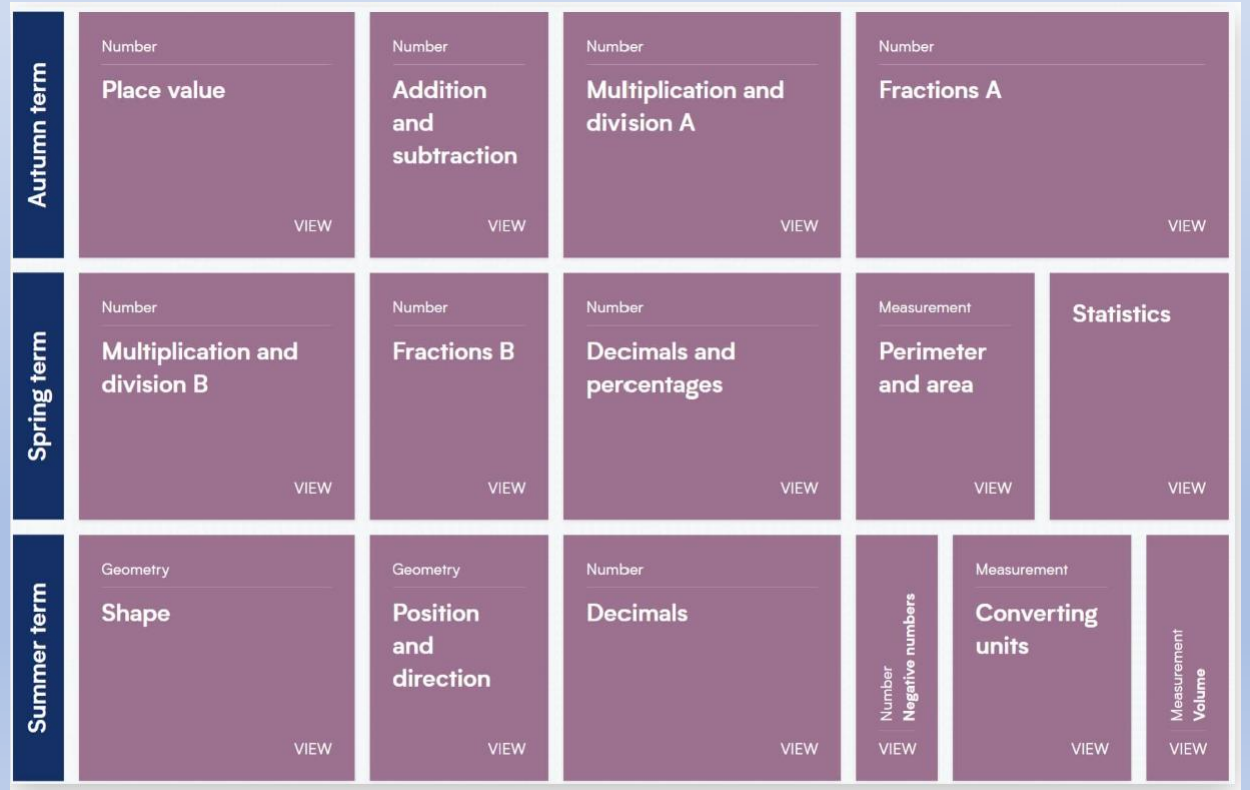
NCETM NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS AXIS

WINNERSH PRIMARY SCHOOL WHERE LEARNING IS AN ADVENTURE

How do we teach Maths?

- There are 'blocks' of learning for each year group throughout the year. These are available on our school website .

- These blocks are carefully adapted to suit the needs of individual classes.



Version 3 of the White Rose Year 5 Scheme of Learning

How do we teach Maths?

We aim to combine an optimal mix of mastery and spiral approaches.

Features of a mastery curriculum:

•devoting more time to the introduction of key concepts
•as much as possible, teaching the whole class together (the same lesson content at the same time)
•CPA approach – Concrete, Pictorial and Abstract approach
•anticipating and planning for any misconceptions
•developing metacognitive skills in children
•planning questions carefully
•specific provision of scaffolding when necessary
•challenge provided for those children who have grasped the concept (they are given stretch activities to deepen their understanding of the concept being taught)

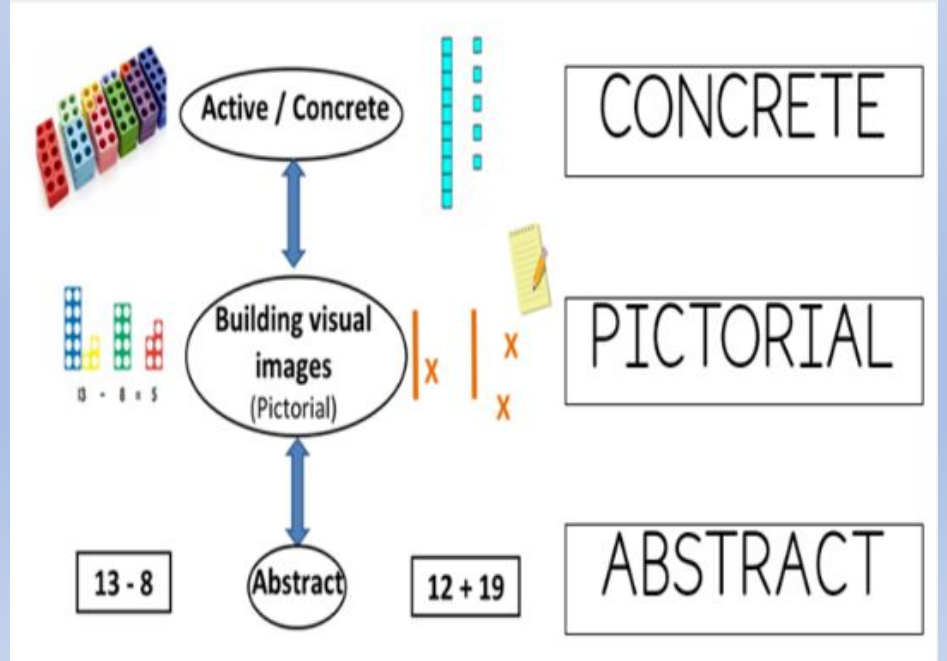
Features of a spiral curriculum:

•topics are revisited
•levels of difficulty increase
•new learning is related to previous learning

CPA Approach- Concrete, Pictorial, Abstract

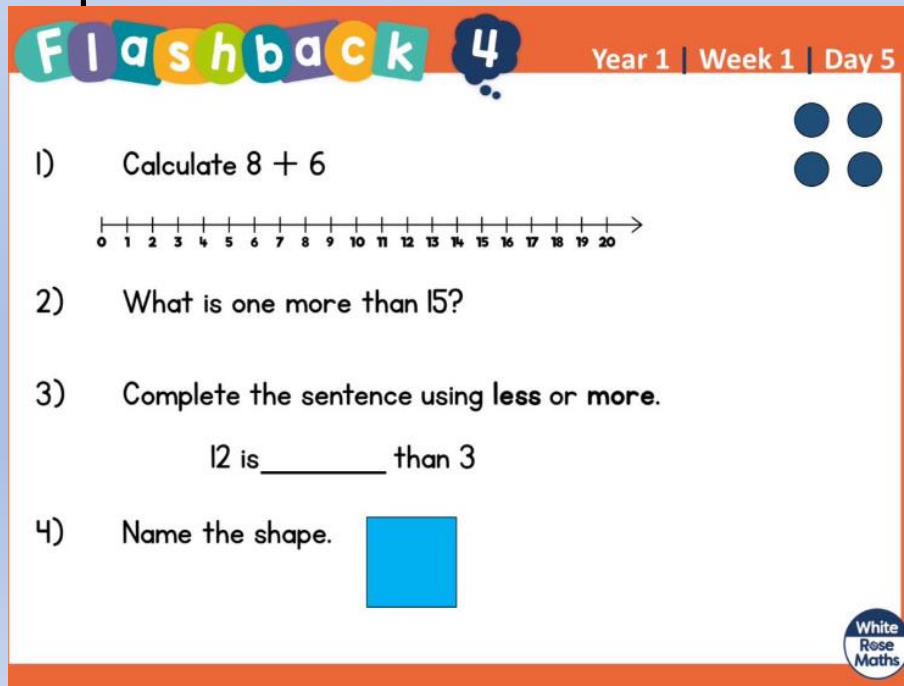
At the heart of White Rose's mastery approach is the Concrete Pictorial Abstract (CPA) approach.

Research shows that when children are introduced to a new concept, working with concrete physical resources and pictorial representations leads to a better understanding of abstract concepts.



Maths in Lower Phase

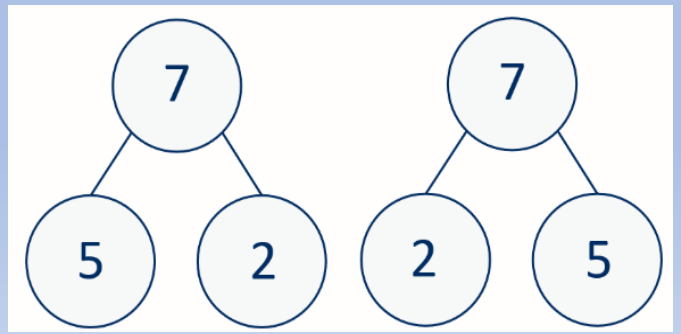
- In FS children have 2 maths lessons a week and they also access maths though Continuous Provision every day
- At the start of Year 1, they follow a similar approach to FS, doing a short teacher input and the working with small groups of children, building up to daily 1 hour maths lesson as a class
- At the start of each maths lesson, we focus on developing fluency, which Mrs Prendiville will talk about in a minute
- Every lesson starts with a FlashBack 4. This is 4 retrieval style questions

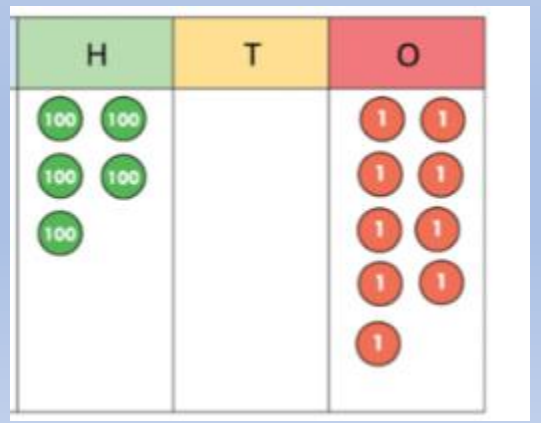


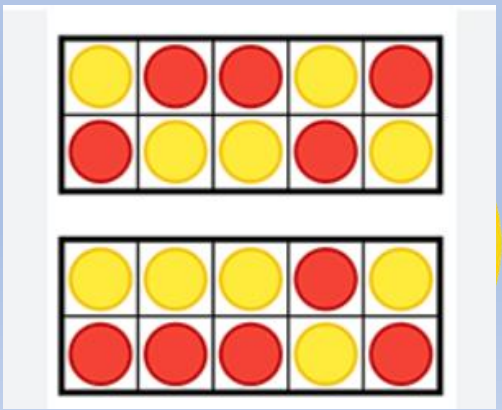
Mathematics programmes of study: key stages 1 and 2

Maths in Lower Phase

- There will be a clear learning focus for each lesson, explained by the teacher
- Lots of teacher modelling of 'how to do the maths'
- Lots of oral and written rehearsal for the children to develop rich mathematical vocabulary and practise the key skills and methods taught
- Independent work and adults doing targeted support
- Instant live marking and feedback from adults in the classroom
- Misconceptions addressed
- Encouraging the use of manipulatives

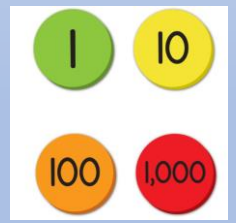






Maths in Upper Phase

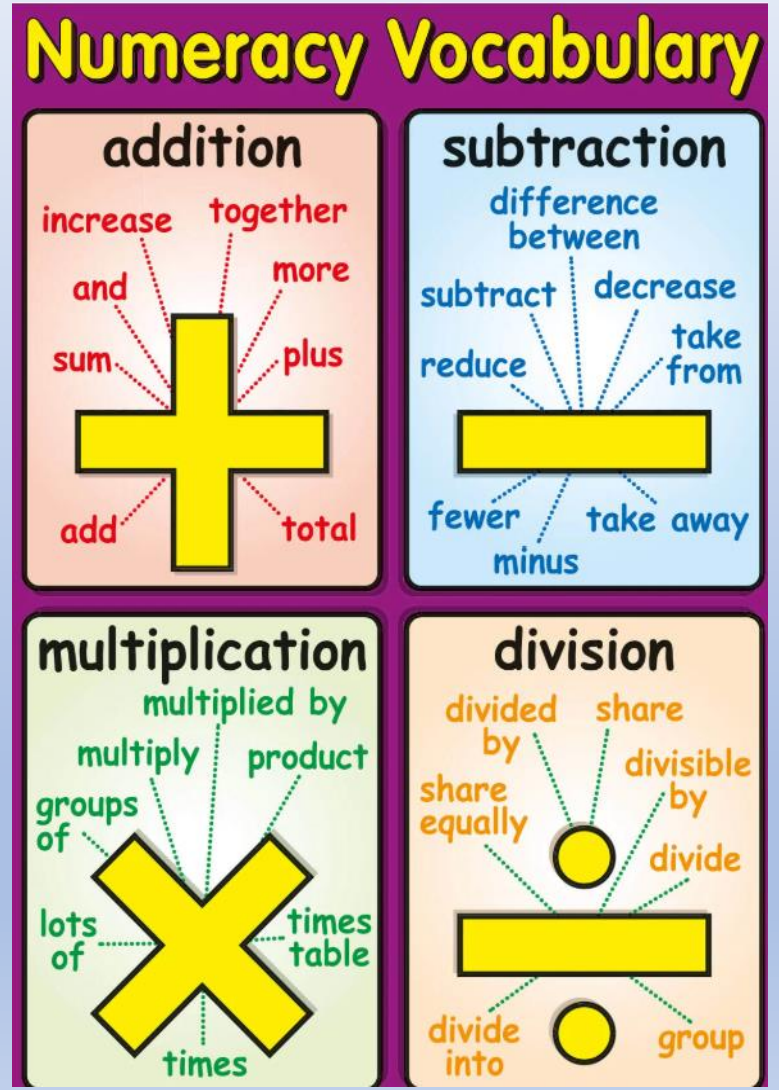
- Follows White Rose, which is adapted for the needs of the class
- Lesson start with times table booklets, FlashBack 4, an additional starter to recall the previous day's learning and then main lesson input
- Encouraging the use of manipulatives
- There will be a clear learning focus for each lesson, explained by the teacher
- Lots of teacher modelling of 'how to do the maths' with thinking aloud
- Lots of oral and written rehearsal for the children to develop rich mathematical vocabulary and practise the key skills and methods taught
- Independent work and adults doing targeted support
- Peer support using mathematical vocabulary
- Instant live marking and feedback from adults in the classroom
- Misconceptions addressed

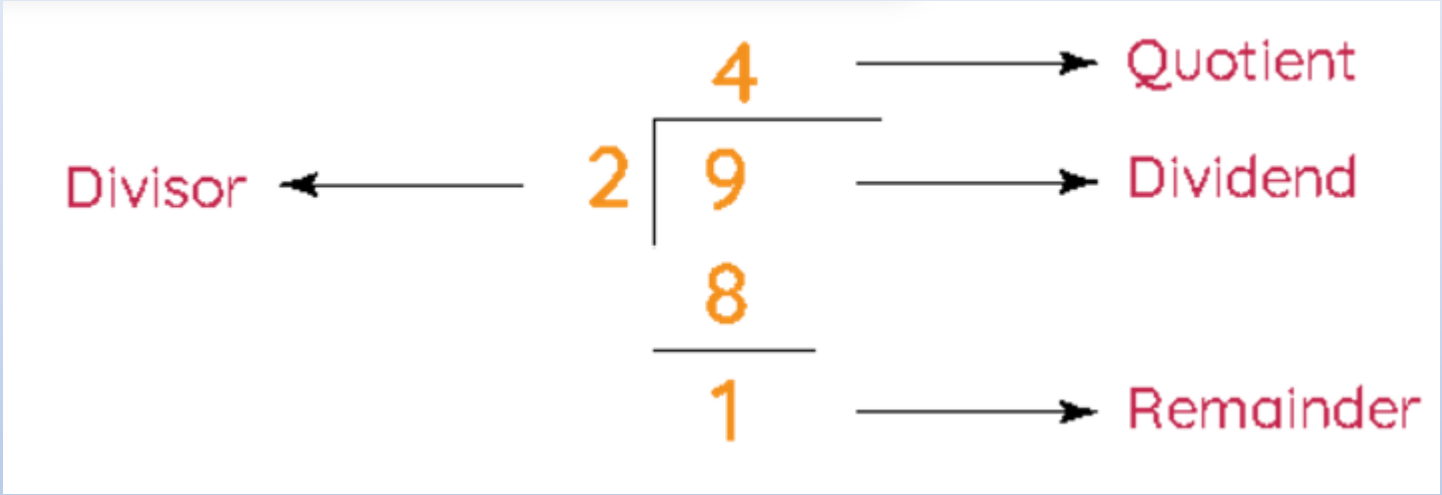


WINNERSH PRIMARY SCHOOL
WHERE LEARNING IS AN ADVENTURE

Maths in Upper Phase

- Mathematical Language you would expect to hear from your child in Upper Phase





Maths vocabulary for year 4	
Number and place value	Tenths, hundredths, decimal (places), round (to nearest), thousand more/less than, negative integers, count through zero, Roman numerals I to C
Multiplication and division	Multiplication facts (up to 12x12), division facts, inverse, derive
Measure	Convert
Geometry (position and direction)	Co-ordinate, translate, quadrant, X-axis, Y-axis, perimeter, area
Geometry (properties of shape)	Quadrilaterals, triangles, right, acute and obtuse angles
Fractions and decimals	Equivalent decimals and fractions
Data/statistics	Continuous data, line graph

Maths vocabulary for year 5	
Number and place value	Powers of 10
Addition and subtraction	Efficient written method
Multiplication and division	Factor pairs, composite numbers, prime number, prime factors, square number, cubed number, formal written method
Measure	Volume, imperial units, metric units
Geometry (position and direction)	Reflex angle, dimensions
Geometry (properties of shape)	Regular and irregular polygons
Fractions and decimals	Proper fractions, improper fractions, mixed numbers, percentage, half, quarter, fifth, two fifths, four fifths, ratio, proportion

Maths vocabulary for year 6	
Number and place value	Numbers to ten million
Addition and subtraction	Order of operations
Multiplication and division	Common factors and common multiples
Geometry (position and direction)	Four quadrants (for co-ordinates)
Geometry (properties of shape)	Vertically opposite (angles), circumference, radius, diameter
Fractions, decimals and percentages	Degree of accuracy, simplify
Algebra	Linear number sequence, substitute, variables, symbol, known values
Data/statistics	Mean, pie chart, construct

Developing Fluency

Developing Fluency

Although maths is so much more than being good with numbers, it is imperative that children acquire sound number sense if they are to experience success in developing reasoning and problem-solving skills.

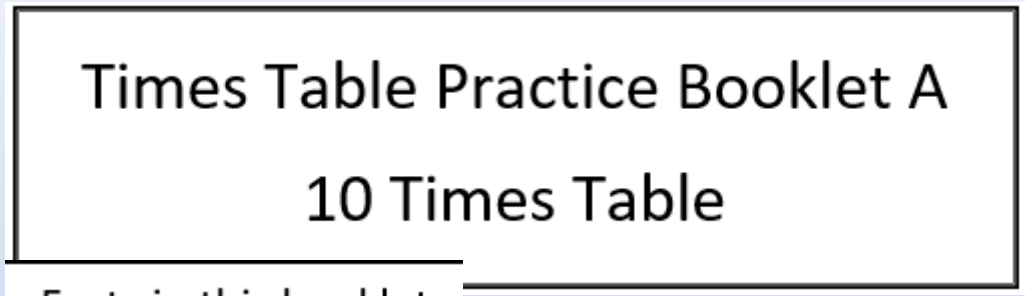
Our adoption of a new number fact and times tables scheme is intended to equip children with a rapid recall of multiplication facts while gaining a solid understanding of the commutative property of multiplication and the relationship between multiplication and division.

In EYFS, children practise number recognition and counting daily.

From mid-way through Year 1 and throughout the rest of the school, children practise number facts and then move on to times table facts, practising these daily.

Children spend roughly 3-4 weeks on each times table and complete one test per day in their school booklet.

Maths number facts and times tables practise



Facts in this booklet:

2 x 10 = 20

3 x 10 = 30

4 x 10 = 40

5 x 10 = 50

6 x 10 = 60

7 x 10 = 70

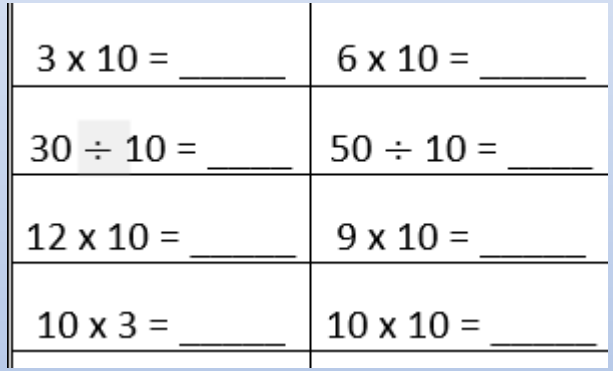
8 x 10 = 80

9 x 10 = 90

10 x 10 = 100

11 x 10 = 110

12 x 10 = 120



3 x 10 = _____	6 x 10 = _____
30 ÷ 10 = _____	50 ÷ 10 = _____
12 x 10 = _____	9 x 10 = _____
10 x 3 = _____	10 x 10 = _____

For their Maths starter, children in Year 1 and Year 2 will focus on addition and subtraction facts which include number bonds, doubles and near doubles.

For their Maths Starter activity, children in Years 3 – 5, children focus on a times table over a period of 3-4 weeks, learning one fact each lesson and completing one test in their times tables booklet.

This will enable them to gain a solid understanding of the commutative property of multiplication and the relationship between multiplication and division.

Number facts will be displayed in the classroom to support them when completing the booklet with the children becoming less reliant upon them with practice.

Multiplication Tables Check (MTC) - a statutory requirement for all Year 4 pupils

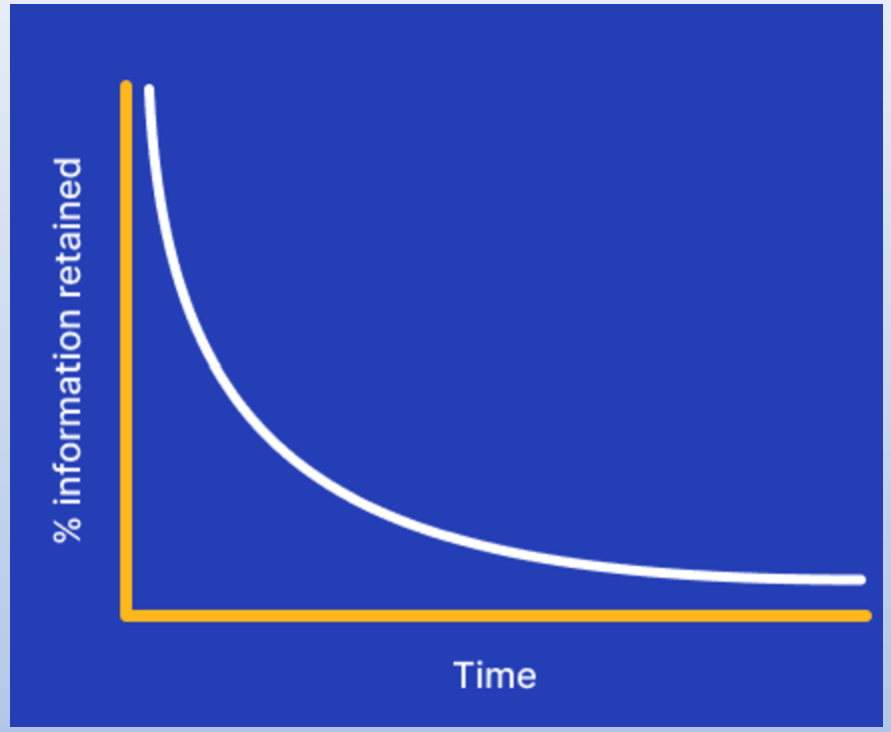
It is an on-screen check consisting of 25 times table questions. Children have 6 seconds to answer each question. On average, the check should take no longer than 5 minutes to complete. It takes place in June each year.

The purpose of the check is to determine whether your child can fluently recall their times tables up to 12, which is essential for future success in mathematics. It also helps the school to identify if your child may need additional support.

Year 4 children only face multiplication statements in the check. This means that related division facts, whilst a key part of children's mathematical learning, are not to be tested as part of the check. Some maths experts are already saying that this removes much of the potential benefits of the check.

At Winnersh Primary, we use a times tables scheme that ensures our children understand the relationship between multiplication and division whilst developing rapid recall of times tables facts.

How do we forget?



Psychologist Hermann Ebbinghaus' Forgetting Curve

Without reviewing what they've learned, children can forget **up to 50%** of it by the end of the day! By the end of the week, they're likely to have forgotten up to 90%.

The Forgetting Curve happens to us all. But the good news is, there are plenty of things you can do at home to support your child's long-term memory.

Asking them questions about what they have learned is one of them. Encouraging them to do their homework is another.

Flatten the Forgetting Curve with Flashback 4

Flashback 4

Year 4 | Week 10 | Day 2

White Rose MATHS

8×5

1) $3 \times 8 = 6 \times \square$

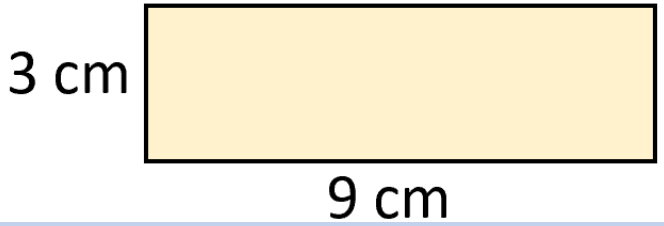
2) Which of these numbers are multiples of 3?

18 23 30 16

3) Which is an incorrect estimate for 1,894 + 232?

1,000 + 200 2,000 + 0 1,900 + 200

4) Calculate the perimeter of the rectangle.



Flashback 4

Year 5 | Week 8 | Day 4

White Rose MATHS

CDLX

XXII

1) To divide by 1,000 the digits move ☐ places to the ☐.

2) Which of these numbers are cube numbers?

1, 2, 4, 8, 16, 27, 32, 64, 92

3) Use $<$, $>$ or $=$ to compare.

$5{,}468 + 4{,}328$ ◯ $1{,}468 + 8{,}328$

4) $7 - \frac{2}{7} =$ ☐

Flashback 4

Year 6 | Week 11 | Day 2

LX

1) Ron eats $\frac{2}{9}$ of his chocolate bar.
He then eats half of what is left.
What fraction of his chocolate bar is left?

2) What is $\frac{1}{2}$ of $\frac{1}{4}$?

3) $3\frac{4}{5} - 2\frac{2}{15} =$ ☐

4) 1 inch is approximately equal to 2.5 cm.
Approximately, how many centimetres are there in 3 inches?

How can you support your child at home?

Year 4

1. Find the negative!

Look for negative numbers to discuss with your child. For example, thermometers, weather reports, storage temperatures on frozen food packets, elevation of places below sea level, goal differences in sports league tables, below-ground floors in lifts, losing points in video games.

2. Play times tables games

Make two sets of number cards 1–12. Shuffle and place them face down in two piles. Take a number from each pile and multiply them together. Score a point for each correct answer. The first to 10 points wins.

3. Round at the shops

Practise rounding decimals with one decimal place to the nearest whole number when shopping. Challenge your child to round prices to the nearest pound. For example, an item costing £4·70 would be £5 to the nearest pound.

How can you support your child at home?

Year 5

1. Dice with decimals

Make '×' '÷' and '10', '100', '1000' cards to place face down in two piles. Roll a dice four times to create a number (e.g. 4258), then insert a decimal point somewhere (e.g. 42.58). Take a card from each pile and do the calculation (e.g. 42.58 ÷ 100 = 0.4258).

2. Play Battleship games

Play Battleships by drawing ships on coordinate grids. Try to sink each other's ships by guessing their positions using coordinates, such as (1,2). Remember that the first number in the coordinate bracket is on the horizontal *x*-axis. The second number is on the vertical *y*-axis.

3. Hit the sales

Sales in shops, catalogues or online are great for working with percentages. For example, in a 20% off sale, if the full price (that is 100%) of an item is £10, how much is the item discounted by (£2) and what will the sale price be (£8)?

How can you support your child at home?

Year 6

1. Look for large numbers

Talk about large numbers in the real world, such as house prices, electricity meter readings or football transfer values. When you see big numbers, ask your child to read them aloud. Can they write large numbers accurately if you say them?

2. Rewrite the recipe book

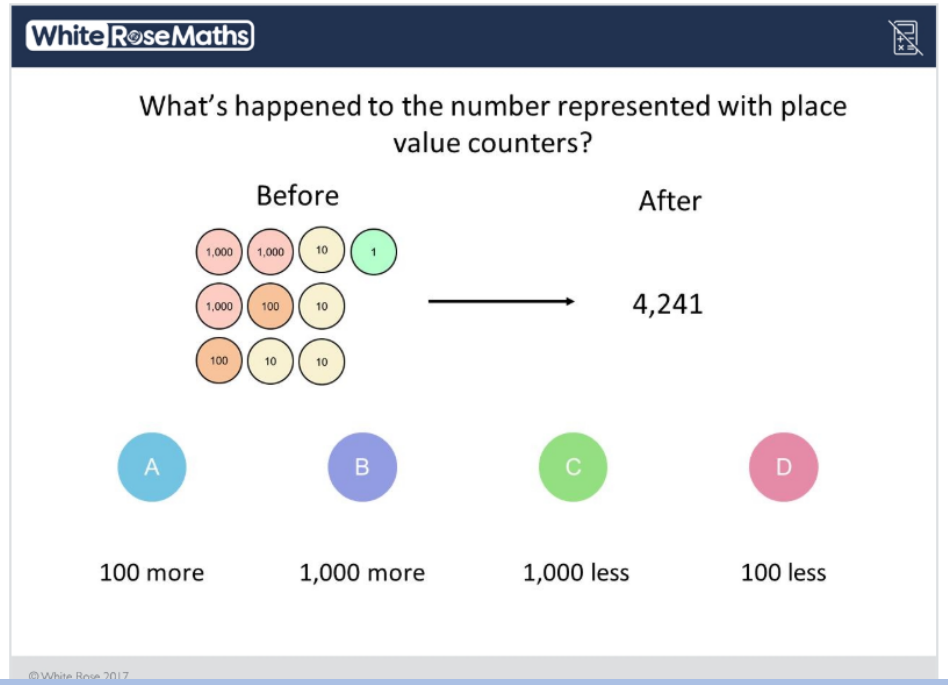
Cooking is a great way to explore ratio and proportion. Try adjusting recipes to make different quantities. For example, ask your child: 'A recipe uses 240 g of oats to make 18 flapjacks. What quantity of oats is needed for 24 flapjacks?'.

3. Find an average

Explore the 'mean' average in real life. Find a football team's mean number of goals per match by adding all the goals scored and dividing the total by the number of matches played. Or find the mean number of minutes the school run takes over a week.

Diagnostic Questions for Y4 children

All | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Question 6 | Question 7 | Question 8 | Question 9 | Question 10



A B C D

Explanation for answer A

The student may have looked at the wrong column.

Homework set is based on what the children have been learning in class.

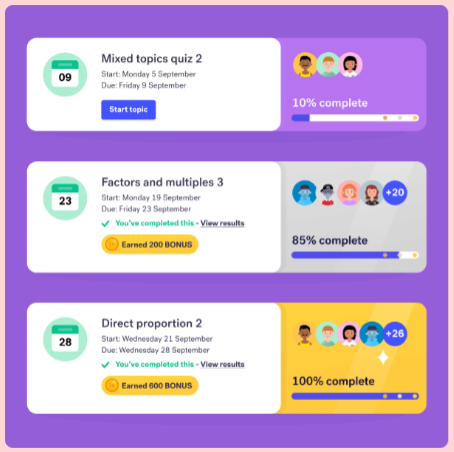
They are asked to explain their reasoning, a skill that they are taught to develop in class.

Eedi – Our homework platform- Years 5 & 6

Eedi has:

- Diagnostic quizzes to identify any areas of weakness
- Videos to help your child understand tricky topics
- Practice questions to secure knowledge
- Problem-solving questions to push their understanding to the limit

Children can also practise independently by logging onto the platform at any time, and Eedi motivates students by giving them virtual rewards for their hard work! Parents can connect with their child's account by creating their own free account; they will receive progress and activity updates.



Class Challenge

We'll award your students with coins based on the whole classes completion rate, encouraging them to work together to complete quizzes. Motivate your students by aiming for 100% on every quiz!

Coins can be collected or used to buy avatar items in our shop

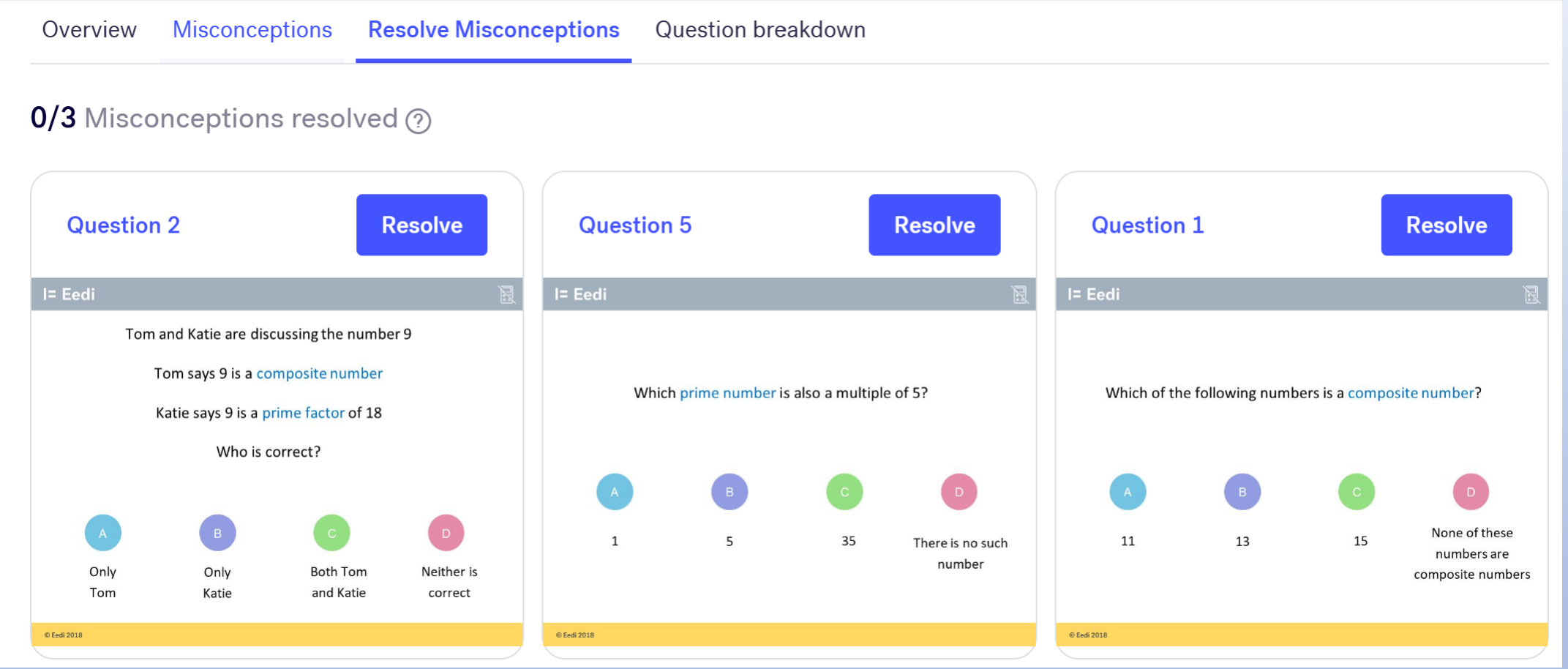
75% 100 coin bonus

85% 200 coin bonus

100% 600 coin bonus

View assignment results

Eedi Homework Platform



Teachers are able to see difficulties encountered by individual children and they can also monitor the most common misconceptions of their class as a whole.

Additional Challenge for the More Able

Open to schools worldwide, The PMC is aimed at pupils in primary schools, aged 9 - 11 years old. It is designed to make children think outside the box.

Past papers can be accessed online.

https://www.primarymathschallenge.org.uk/downloads

Maths SATs – End of Y6

The maths assessments consist of three tests.

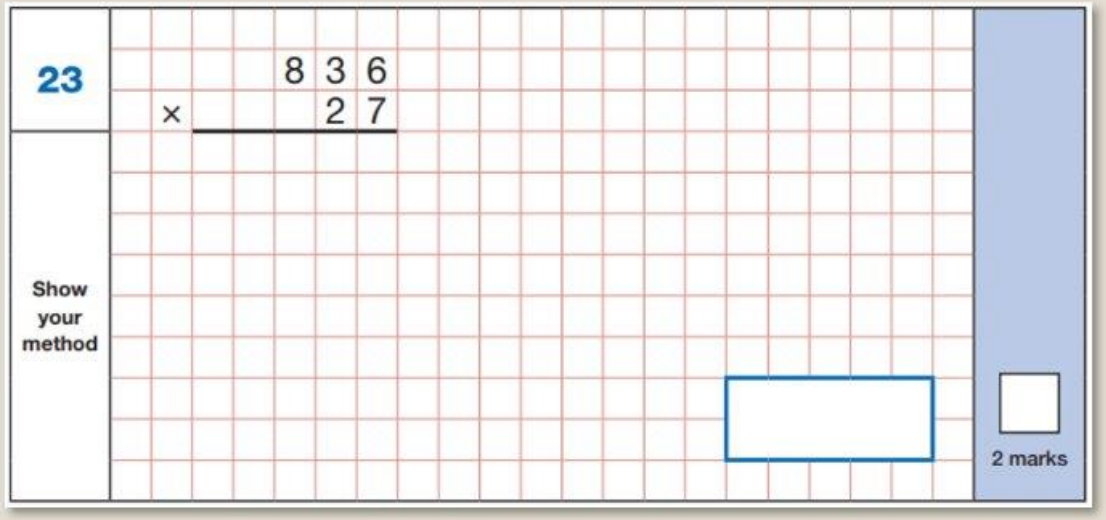
- Paper 1: Arithmetic (30 minutes)
- Paper 2: Reasoning (40 minutes)
- Paper 3: Reasoning (40 minutes)

Maths Paper 1 (Arithmetic)

The maths arithmetic paper has a total of 40 marks.

The test covers the four operations (addition, subtraction, multiplication, division, including order of operations requiring BODMAS), percentages of amounts and calculating with decimals and fractions.

Example question:



Two Reasoning Papers

These papers require children to demonstrate their mathematical knowledge and skills, as well as their ability to solve problems and their mathematical reasoning. They cover a wide range of mathematical topics from key stage 2 including,

- Number and place value (including Roman numerals);
- The four operations;
- Geometry (properties of shape, position and direction);
- Statistics;
- Measurement (length, perimeter, mass, volume, time, money);
- Algebra;
- Ratio and proportion;
- Fractions, decimals and percentages.

Further support for Parents

- WR Calculation Document
- Our School Website
- White Rose Website
- Google Classroom
- Ask Class Teachers

Resources you might find useful at home

- Tens frames (easily printed at home- Google)
- Place value counters Inspirational Classrooms 3108403 Place Value Counters H T U Educational Toy (Pack of 300), Red, Yellow, Black, Green : Amazon.co.uk: Toys & Games
- Number lines (easily printed at home)
- Part-whole models (easily printed at home)

Maths Anxiety

If your child feels anxious about Maths, these are links to excellent webinars that can help:

Student course:
https://eedi.com/blog/maths-anxiety-short-course#:~:text=In%20this%20short%20course%20for,stop%20it%20affecting%20your%20performance.

For parents

https://eedi.com/blog/overcoming-maths-anxiety

Thank you for your time

Are there any questions?