DARRICKWOOD
INFANT & NURSERY SCHOOL

Mathematics in Year 2 & SATS Meeting

Our learning community respects, nurtures and inspires.

What are SATs?

What you might know as SATs or Standard Attainment Tests, are national curriculum tests that are usually taken by children at the end of key stage one. These are just part of the picture.

- All children are assessed during the last term of year 2 to judge what they have learned over the course of key stage one (years 1 and 2).
- Teachers judge whether each child in their class has achieved the expected standards for the end of key stage one.
- Teachers will use a range of evidence to support their judgements, including the children's results in their national curriculum tests, as well as independent work in class.
- Teachers will judge what a child is able to do independently and align this with the national expectations for a child at the end of key stage one.

When and how do the tests happen?

- We will not tell the children they are being tested or call them tests. We call them ‘quizzes’.
- The children will work on the assessments in their own classroom in smaller groups to allow them to space out.
- The assessments will be timetabled across the weeks to prevent the children feeling overwhelmed. To them, it will be like a usual Maths lesson.

What happens with the results?

- Unlike year 6 test results, year 2 results are not a definitive judgement. Teacher assessment can include all the work a child has done in key stage one and the test result merely supports this judgement.
- The school will report all the teacher assessments to the local authority by the end of June 2022; we do not need to report individual test scores.
- Teacher assessments of pupil attainment will be shared with parents in the school report at the end of the year
- This is also shared with the Junior School as part of our transition

Scaled Score

- Tests are marked in school.
- We are then given conversion charts to find out your child's scaled score.

  - It is planned that 100 will always represent the 'national standard'.
  - Each pupil's raw test score will therefore be converted into a score on the scale, either at, above or below 100.
  - The scale will have a lower end point somewhere below 100 and an upper end point above 100.
  - A child who achieves the 'national standard' (a score of 100) will be judged to have demonstrated sufficient knowledge in the areas assessed by the tests.

Mathematics SATS

Paper 1: Arithmetic - lasts approximately 20 minutes (but this is not strictly timed). It covers calculation methods for all operations.
Total out of 25 marks.

Paper 2: Reasoning - lasts for approximately 35 minutes, which includes time for **five aural questions**.
Pupils will still require calculation skills and questions will be varied including multiple choice, matching, true/false, completing a chart or table or drawing a shape.
Total out of 35 marks.

Year 2 Curriculum Coverage

- Number: Place Value
- Number: Addition and Subtraction
- Measurement: Money
- Number: Multiplication and Division
- Statistics
- Geometry: Properties of Shape
- Number: Fractions
- Measurement: Length and Height
- Geometry: Position and Direction
- Measurement: Time
- Measurement: Mass, Capacity and Temperature

Paper 1 - Arithmetic

Questions on:

- Addition and Subtraction within and across 100
- Multiplication and Division (2, 3, 5 and 10 times tables)
- Fractions (Finding ½, ¼, 1/3, 2/4, ¾)
- Missing number problems
- Using their knowledge of fluent recall facts and the inverse

Arithmetic Strategies

- Knowledge of Key Instant Recall Facts
- Making connections – If I know 1 + 2 = 3 then I know 10 + 20 = 30
- Pattern spotting
- Place value chart
- Pictorial representations
- Partitioning (24 + 31 = 20+30 and 4+1)
- Number line
- Tens and ones
- Arrays
- Use of the inverse operation

Arithmetic

11 $87 - 40 = \square$

12 $50 - \square = 20$

13 $8 \times 10 = \square$

14 $2 \times 0 = \square$

17 $35 \div 5 = \square$

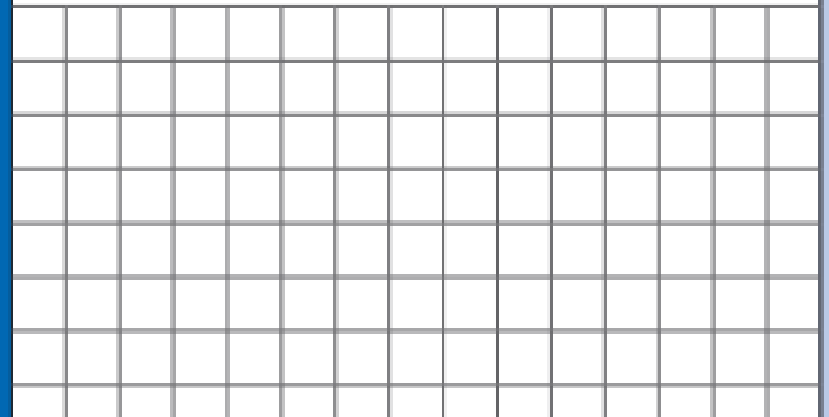
18 $\frac{1}{4}$ of $20 = \square$

24 $\frac{1}{3}$ of $21 = \square$

23 $65 + \square = 93$

25 $\frac{3}{4}$ of $40 = \square$

11 $68 + 20 =$ ☐



1 mark

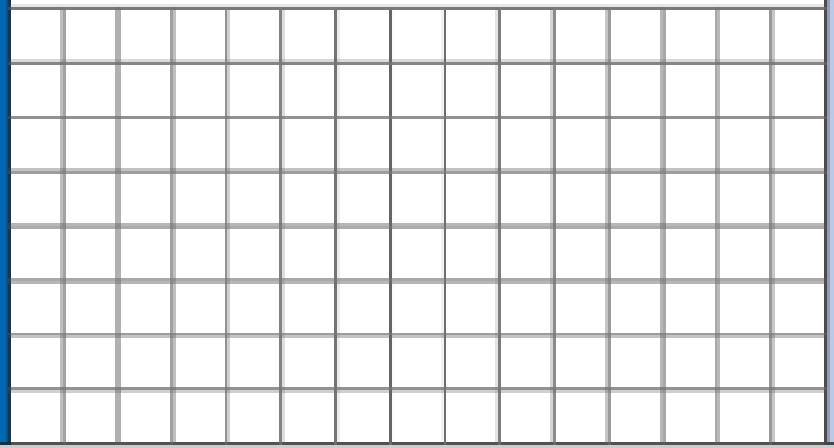
13 $14 \div 2 =$ ☐

1 mark

12 $7 + 84 =$ ☐

1 mark

14 $64 - 11 =$ ☐



1 mark

Place Value Charts

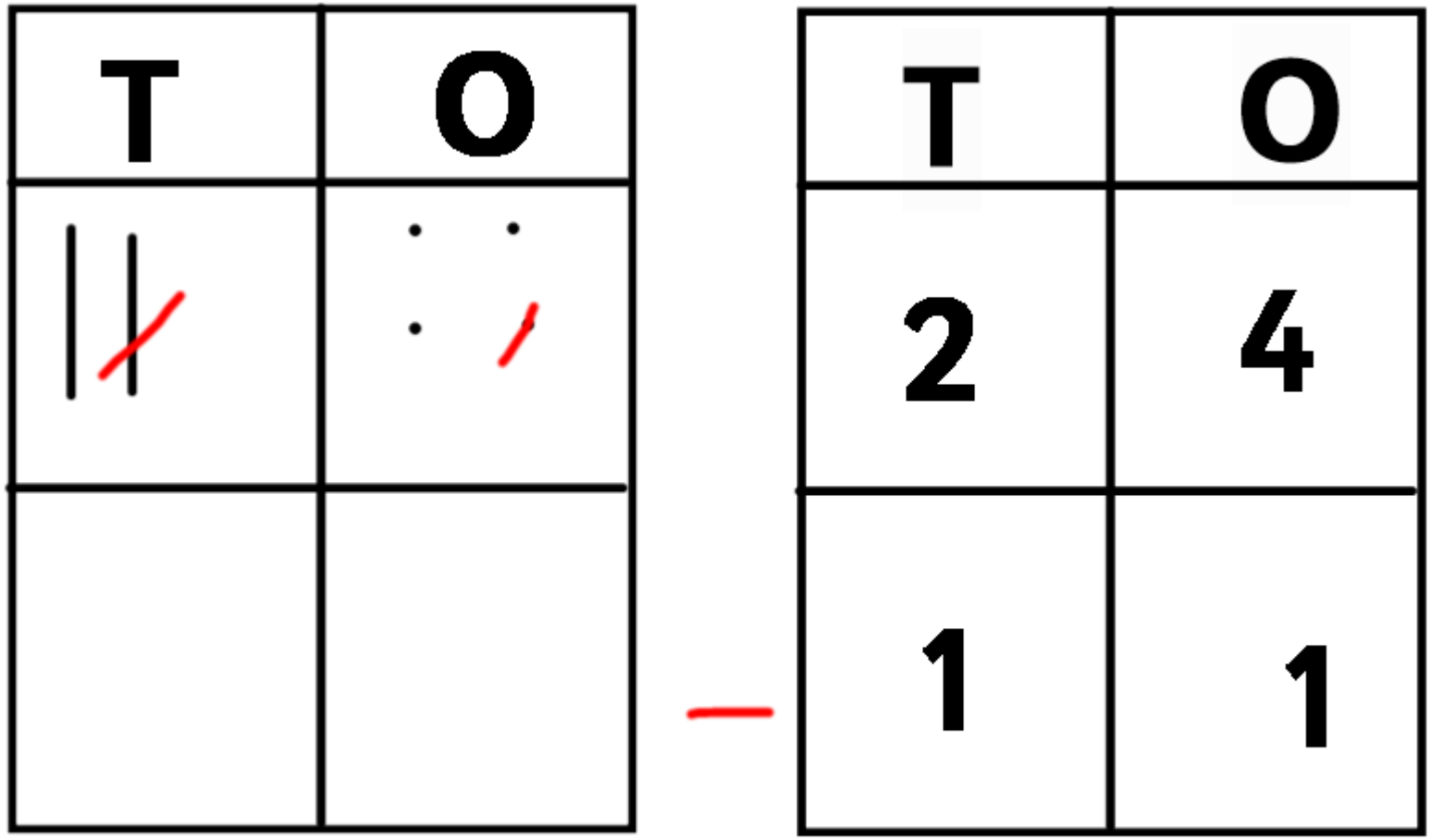
Addition

T	O

T	O
2	4
1	1

24 + 11 =

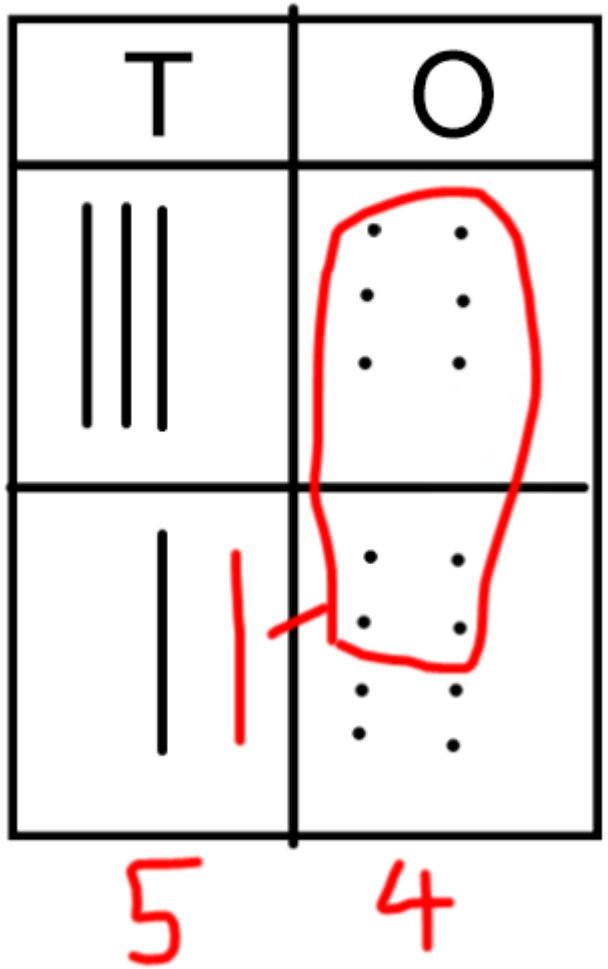
Subtraction



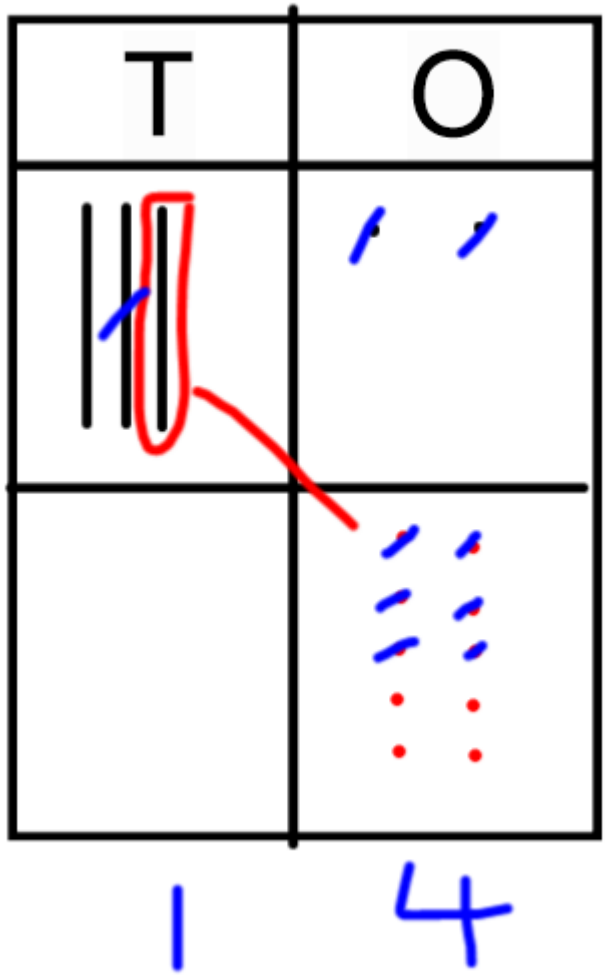
24 - 11 =

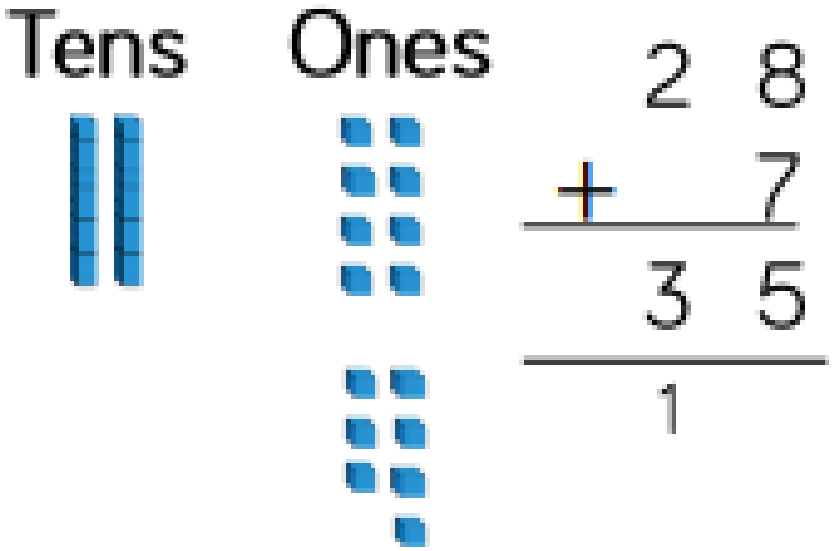
Exchanging

36 + 18 =



32 - 18 =





Partitioning

$24 + 11 =$

$4 + 1 =$

$20 + 10 =$

$5 + 30 = 35$

$24 - 11 =$

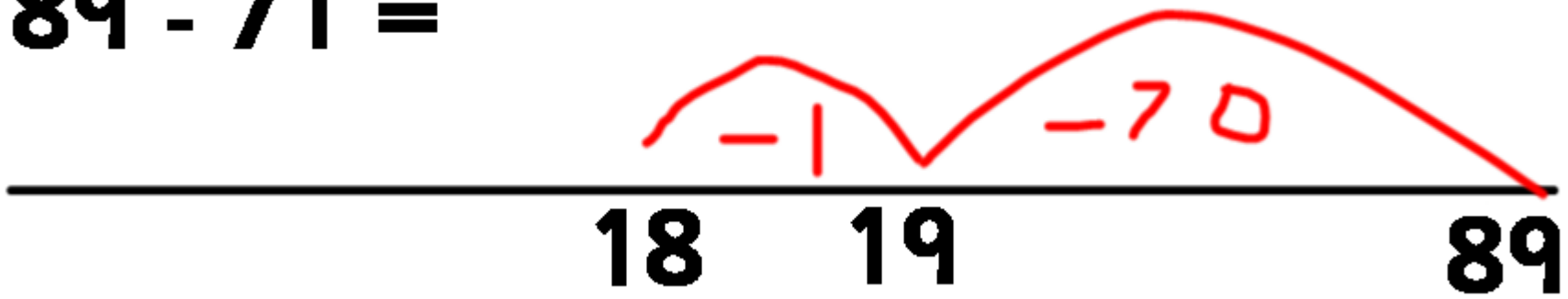
$24 - 10 = 14$

$14 - 1 = 23$

Number lines

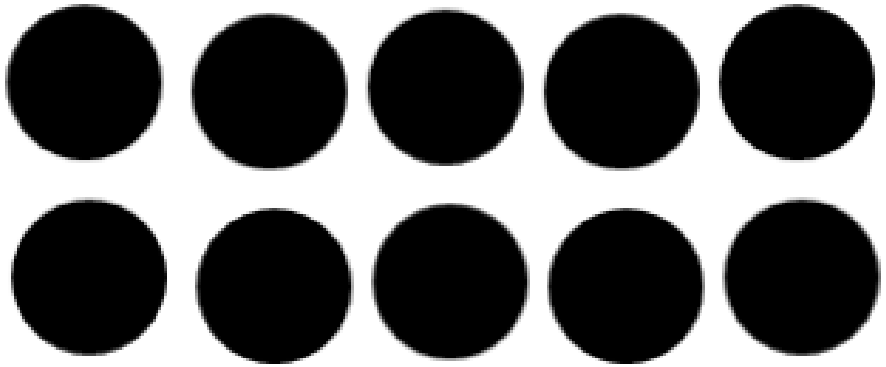
52 + 35 =

89 - 71 =

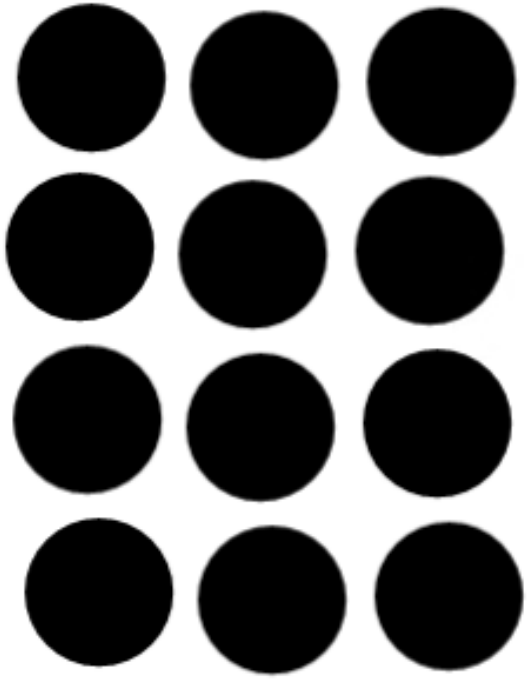


Arrays

2 x 5 =

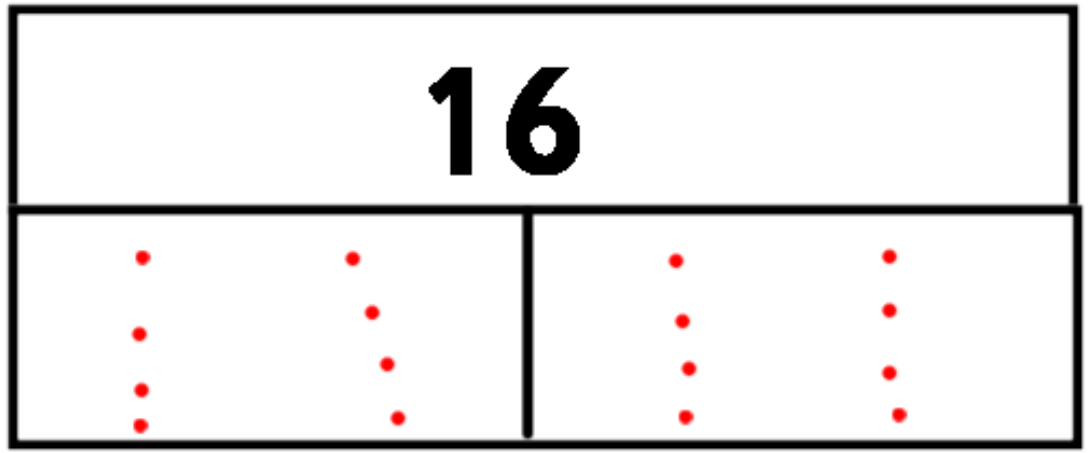


4 x 3 =



Dividing and fractions using bar models

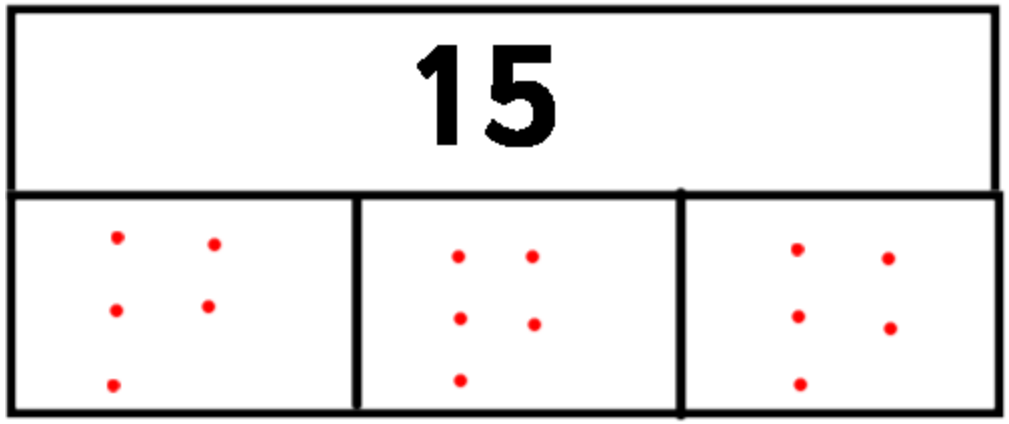
$16 \div 2 =$



$\frac{1}{2}$ of 16

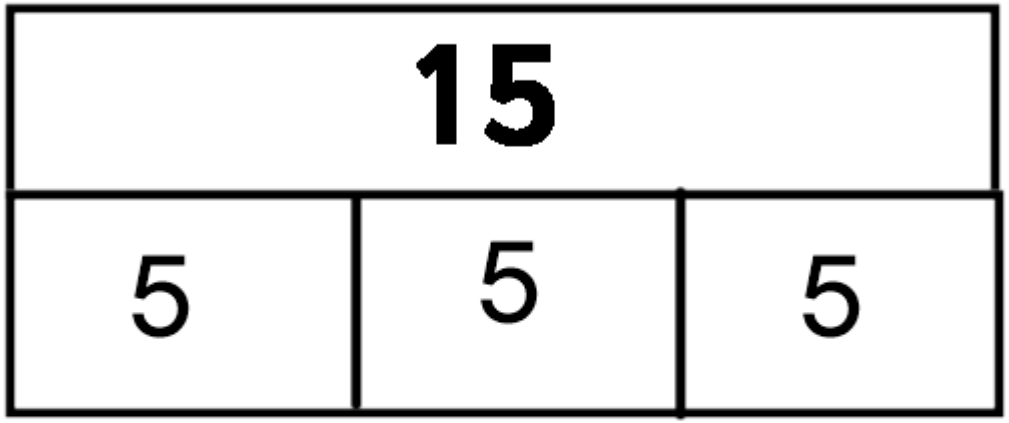
Bar Models

$15 \div 3 =$



$\frac{1}{3}$ of 15

$15 \div 3 =$



$\frac{1}{3}$ of 15

Paper 2 - Reasoning

Aural Questions

- **Five questions will be read out by the class teacher.**

Examples:
Look at each box of counters. Tick the box that has the most counters.

Look at the cards. I will read them for you.
Monday…Friday…Wednesday…Saturday…
Tick the card that shows the name of the day before Thursday.

Write an even number that comes between fifty-two and fifty-seven.

Look at the five shapes. Tick all of the shapes that have half shaded.

What is ninety-six minus ten? Write your answer in the box.

Aural Questions

3

4

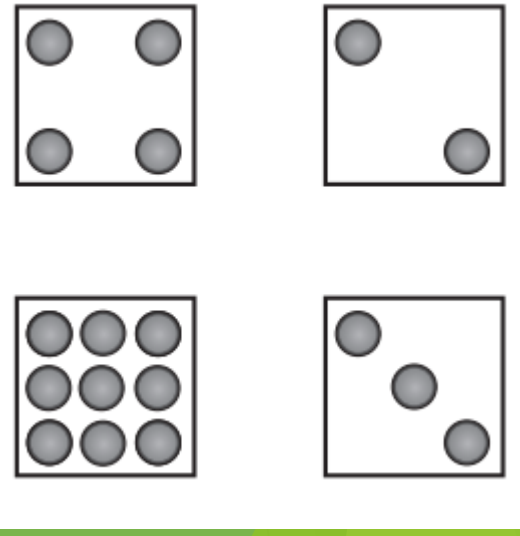
$12 = \square \times 6$

5

96

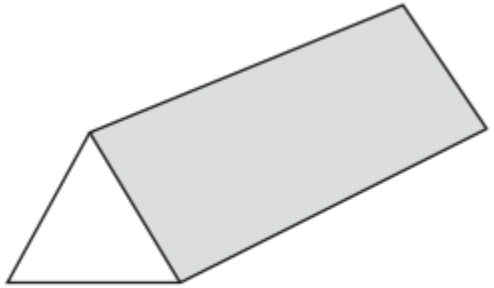
2

52 57

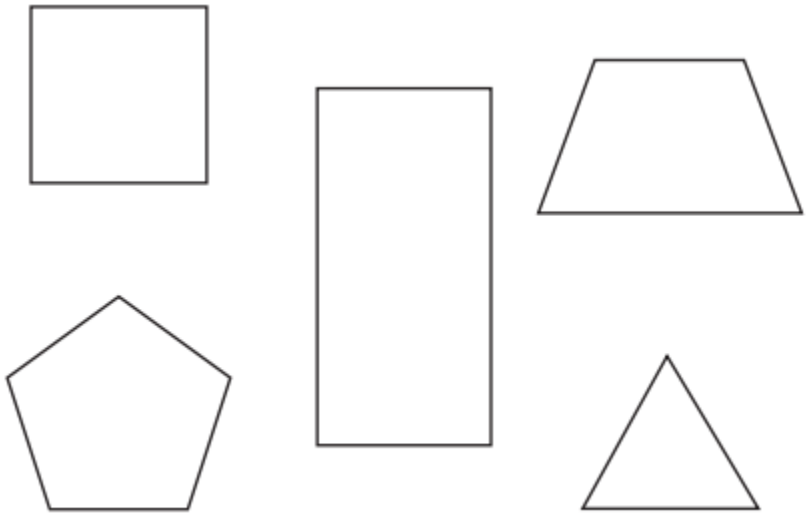


Example reasoning questions

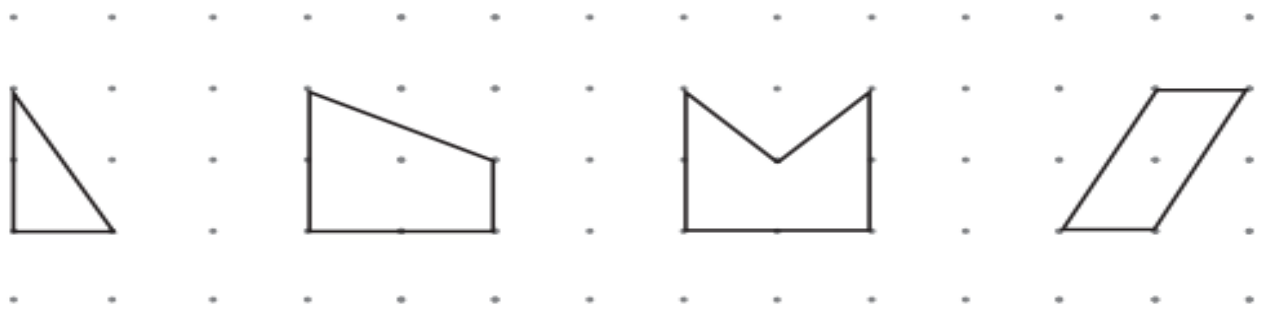
Here is a prism.



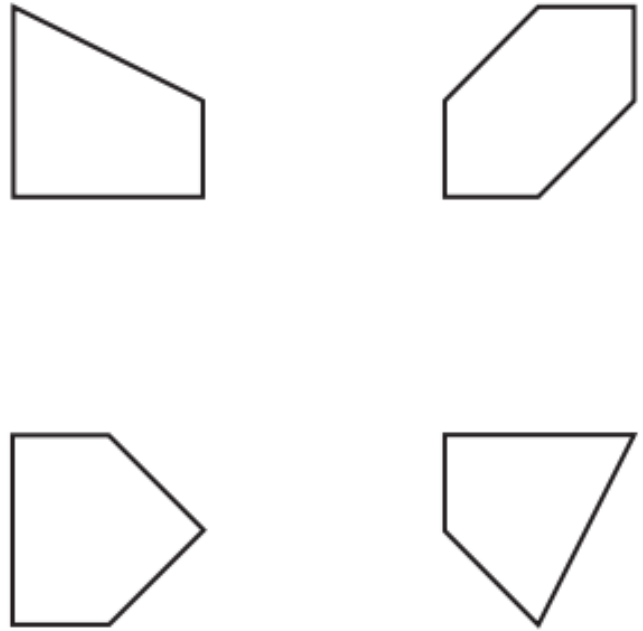
Tick **all** the shapes that are faces on this prism.



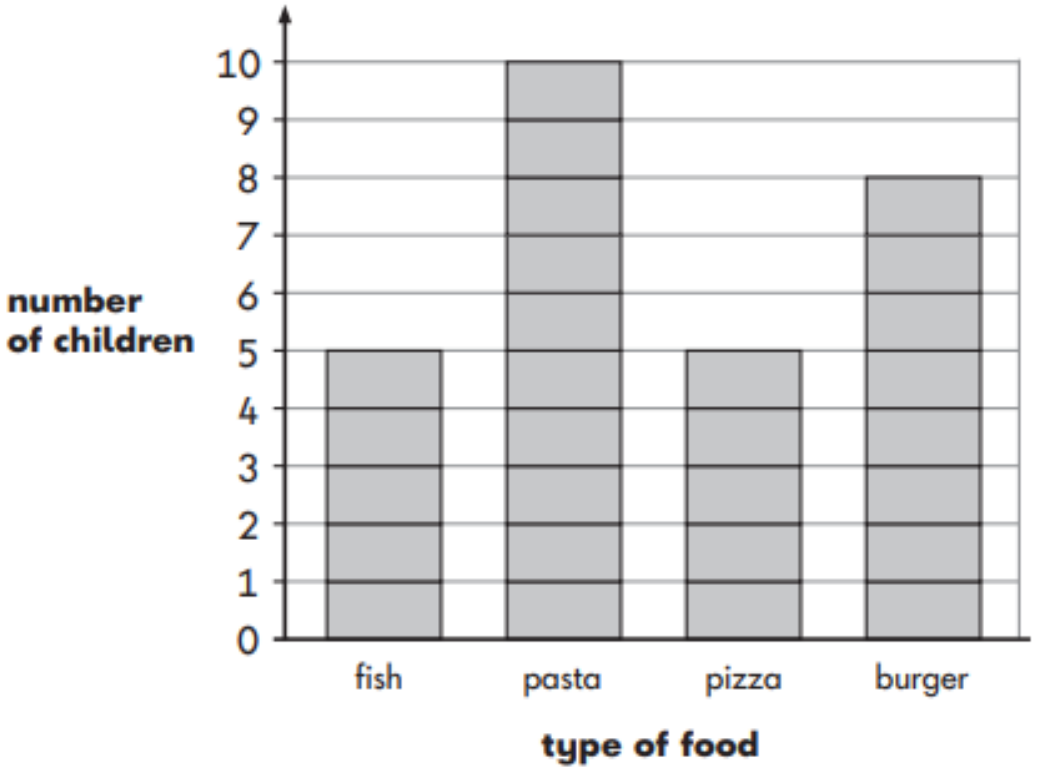
Tick the shape that has a line of symmetry.



Tick the **pentagon**.



This chart shows what class 2 ate for lunch today.



Fewer children ate pizza than burger.

How many fewer?

children

Write six **different** numbers to make these sums correct.

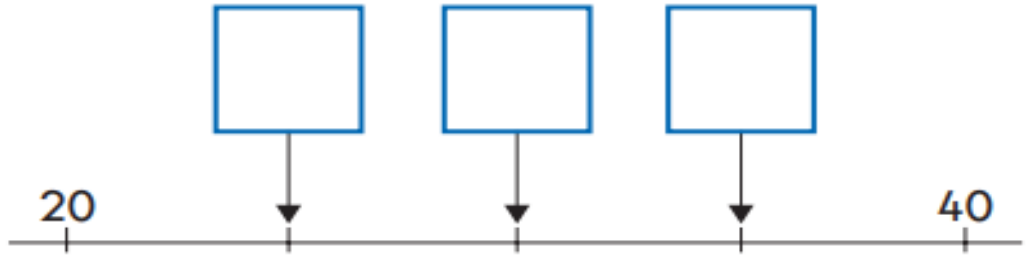
□ + □ = 27

□ + □ = 27

□ + □ = 27

The numbers on this number line go up by the **same amount** each time.

Write the missing numbers in the boxes.

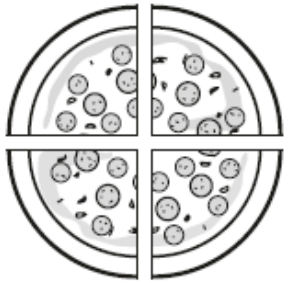


19 Amy buys an ice-cream for 90p.

(a) Tick (✓) **three** coins to show how Amy can make **90p**.

(b) Tick (✓) **four** coins to show another way to make **90p**.

16



Sita cuts a pizza into four equal slices.

She eats one slice.

What fraction of the pizza does she eat?

17 Sam is collecting cards.

He wants to collect **100** cards altogether.

Last week he collected **50** cards.

This week he collects **30** cards.

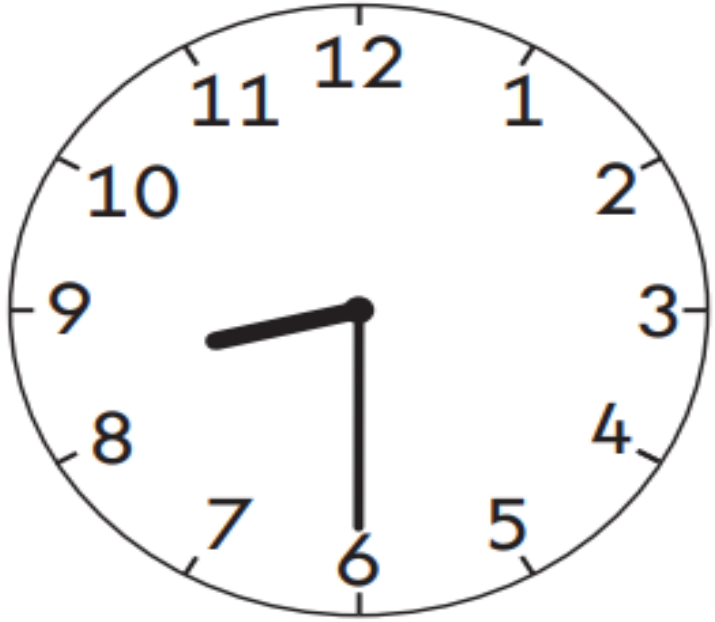
How many **more** cards does he need?

cards

Amy has 50p.

She buys a pencil for **30p**.

Tick the purse that shows how much money Amy has **left**.



What time does the clock show?

Tick the correct box.

twenty to 6	half past 9
half past 8	quarter to 6

26 Amy makes **20** cakes.

She shares the cakes between **5** plates.

Tick the calculation that shows how many cakes are on each plate.

Tick **one**.

$20 + 5 = 25$ ☐

$20 - 5 = 15$ ☐

$20 \div 5 = 4$ ☐

$20 \times 5 = 100$ ☐

30 Look at these fractions.

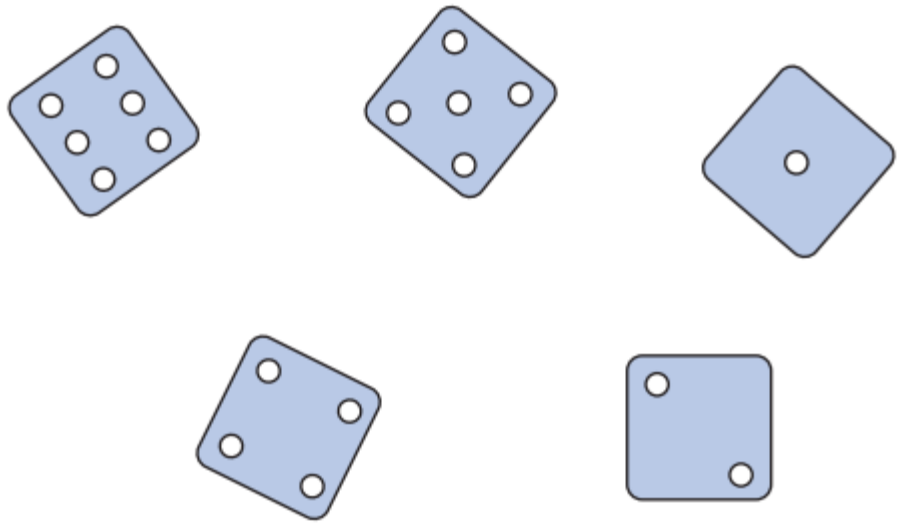
$\frac{1}{2}$ $\frac{1}{3}$ $\frac{2}{4}$ $\frac{3}{4}$

Circle the **two** fractions that are **equal**.

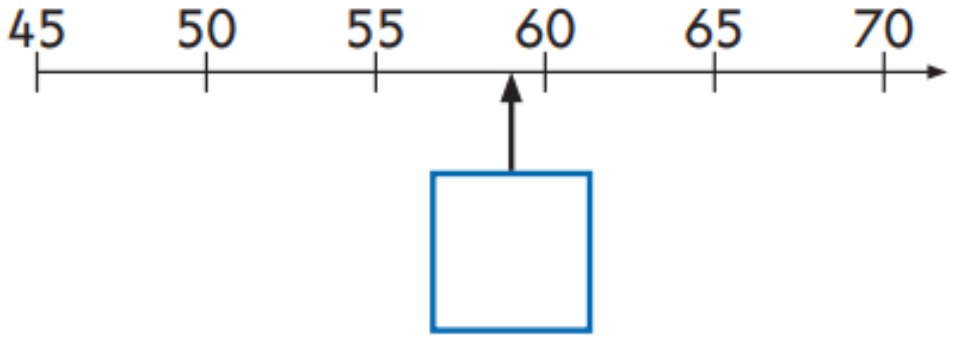
31 Complete the number sentence below.

$3 \times 8 = 2 \times$ ☐

Circle the **three** dice that add up to **13**

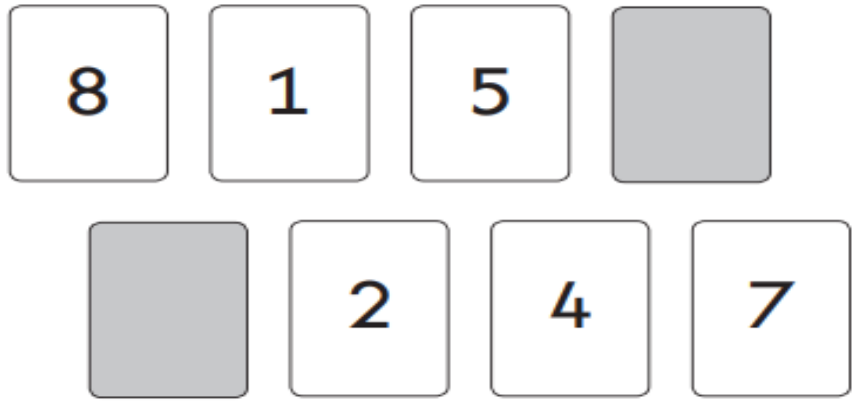


Write the correct number in the box.



Sam has cards that are numbered 1 to 8

Sam turns over two of the cards.



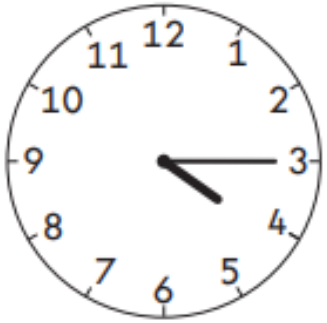
Which two cards has Sam turned over?

Write the numbers on the cards below.

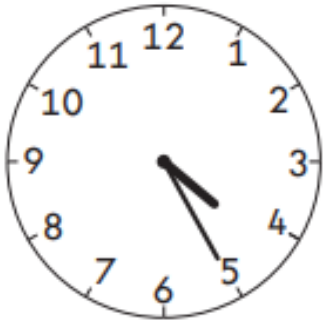
Write the missing numbers in the sequence.

Match each clock to the time it shows.

twenty-five past four



quarter to four



quarter past four

29 There are **100g** of chocolate chips in the bag.

Sita uses **25g**.

Ben uses **35g**.

How many grams of chocolate chips are **left** in the bag?

Show your working

g

Fluency

- Key Instant Recall Facts set each week
- Support your child to be flexible with numbers
- Support your child to use their knowledge of number to solve problems quickly and efficiently

Key Instant Recall Facts

- Addition 1 more and 1 less to a number.
- Add 10 more and 10 less to a number.
- Writing number words to 100.
- Addition number bonds to 10.
- Addition number bonds within 10.
- Addition number bonds to 20.
- Addition bonds that cross 10.
- Subtraction number bonds from 10.
- Subtraction number bonds within 10.
- Subtraction number bonds from 20.
- Subtraction number bond within 20.
- Multiplication facts x 2. (Doubles)
- Division facts ÷ 2. (Halves)
- Multiplication facts x 5.
- Division facts ÷ 5.
- Multiplication facts x 10.
- Division facts ÷ 10.
- Multiplication facts x 3.
- Division facts ÷ 3.

Fluency

- Find ½ of a number.
- Find ¼ of a number
- Find 1/3 of a number.
- Days of Week.
- Months of Year.
- Number of seconds, minutes, hours and days.

- Time to o'clock.
- Time to half past.
- Time to quarter past.
- Time to quarter to.
- Time past the hour.
- Time to the hour.
- Mixed 5-minute interval.

Adding 1 | Bonds to 10 | Adding 10 | Bridging/ compensating

Adding 2 | Adding 0 | Doubles | Near doubles

Y1 facts

Y2 facts

+	0	1	2	3	4	5	6	7	8	9	10
0	0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9	0 + 10
1	1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	1 + 10
2	2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9	2 + 10
3	3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9	3 + 10
4	4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6	4 + 7	4 + 8	4 + 9	4 + 10
5	5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5	5 + 6	5 + 7	5 + 8	5 + 9	5 + 10
6	6 + 0	6 + 1	6 + 2	6 + 3	6 + 4	6 + 5	6 + 6	6 + 7	6 + 8	6 + 9	6 + 10
7	7 + 0	7 + 1	7 + 2	7 + 3	7 + 4	7 + 5	7 + 6	7 + 7	7 + 8	7 + 9	7 + 10
8	8 + 0	8 + 1	8 + 2	8 + 3	8 + 4	8 + 5	8 + 6	8 + 7	8 + 8	8 + 9	8 + 10
9	9 + 0	9 + 1	9 + 2	9 + 3	9 + 4	9 + 5	9 + 6	9 + 7	9 + 8	9 + 9	9 + 10
10	10 + 0	10 + 1	10 + 2	10 + 3	10 + 4	10 + 5	10 + 6	10 + 7	10 + 8	10 + 9	10 + 10

Teacher Assessment Framework

- The SATS provide evidence of where a child may be either WTS, EXS, GDS **but** the teacher Assessment Framework sets out a list of standards
- Children must meet **ALL** standards to be that level.
- It is a **secure fit** and not a best fit.
- We moderate every child's work and use the SATS to inform our judgement.
- This information is given to the Juniors as part of our transition and hand over.

Teacher Assessment Framework

End of year expectations for Mathematics:

Working Towards the expected standard

The pupil can:

- read and write numbers in numerals up to 100
- partition a two-digit number into tens and ones to demonstrate an understanding of place value, though they may use structured resources1 to support them
- add and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required, explaining their method verbally, in pictures or using apparatus (e.g. 23 + 5; 46 + 20; 16 – 5; 88 – 30)
- recall at least four of the six number bonds for 10 and reason about associated facts (e.g. 6 + 4 = 10, therefore 4 + 6 = 10 and 10 – 6 = 4)
- count in twos, fives and tens from 0 and use this to solve problems
- know the value of different coins
- name some common 2-D and 3-D shapes from a group of shapes or from pictures of the shapes and describe some of their properties (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres).

WTS

97 > 80 ✓

17 < 47 ✓

80 > 72 ✓

31 > 17 ✓

94 > 56 ✓

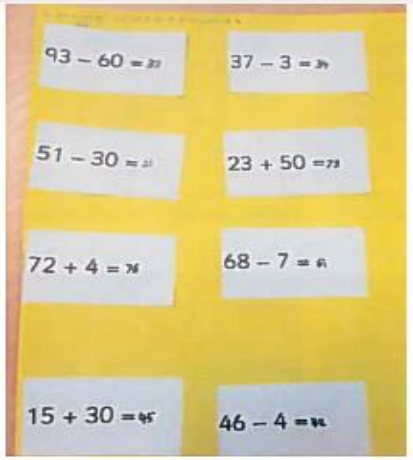
51 > 41 ✓

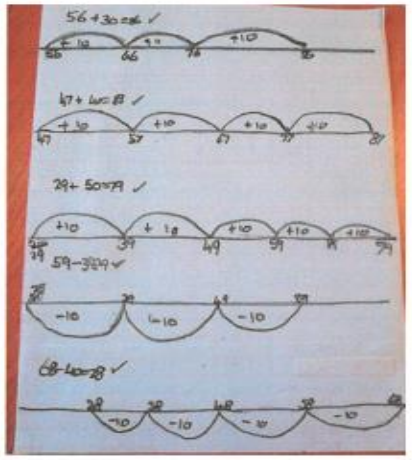
56 < 63 ✓

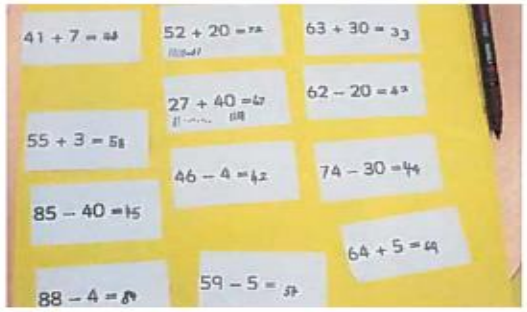
41 < 4 ✓

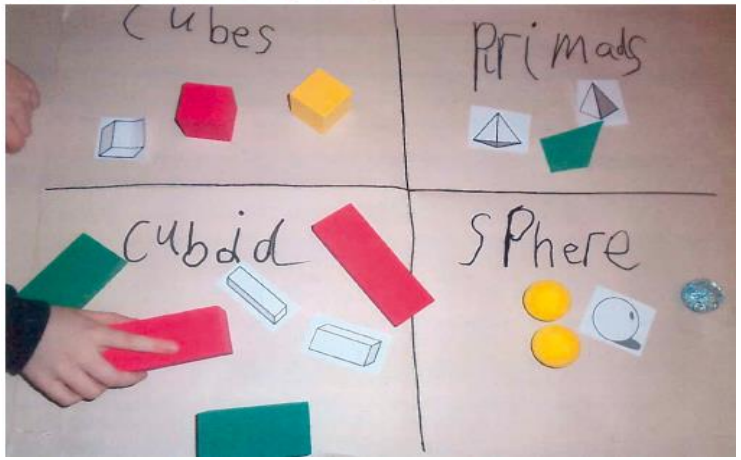
3a < 88 ✓

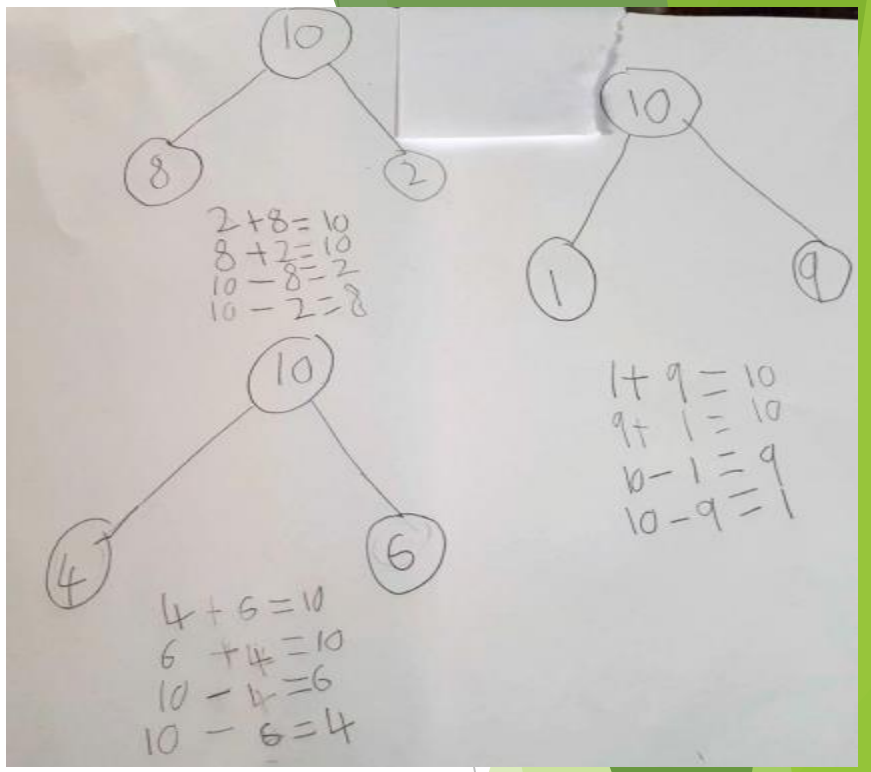
51 < 56 ✓

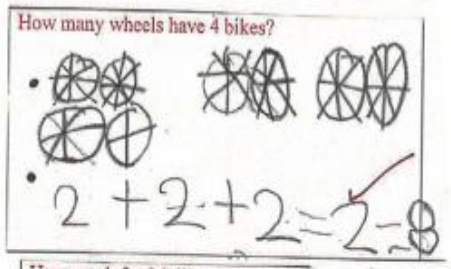


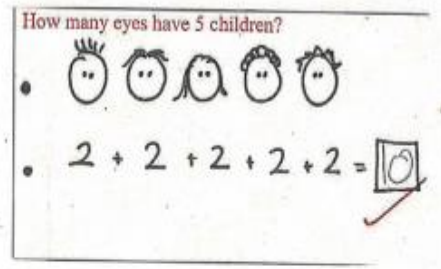


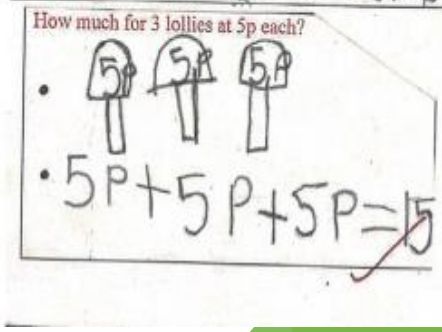












Teacher Assessment Framework

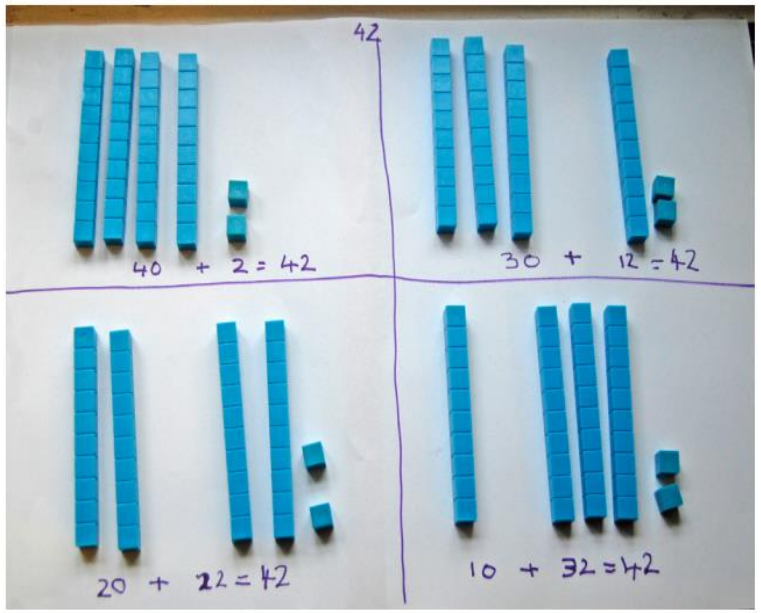
End of year expectations for Mathematics:

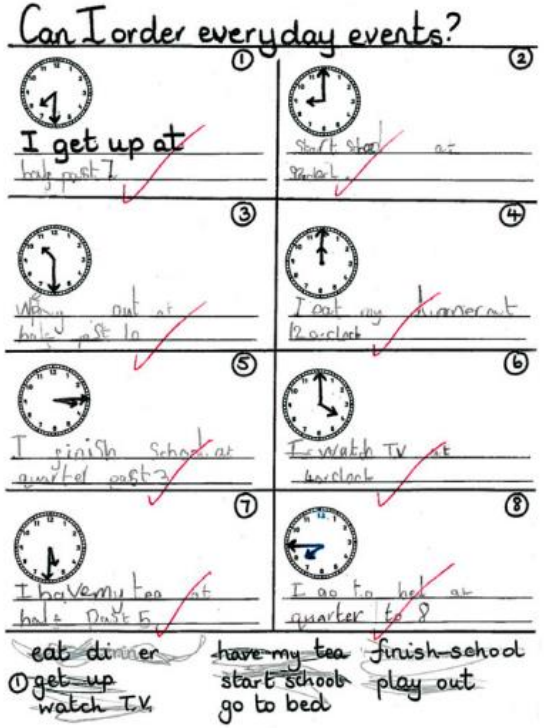
Working at the Expected Standard

The pupil can:

- read scales* in divisions of ones, twos, fives and tens
- partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus
- add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17)
- recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)
- recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary
- identify 1 4 , 1 3 , 1 2 , 2 4 , 3 4 , of a number or shape, and know that all parts must be equal parts of the whole
- use different coins to make the same amount
- read the time on a clock to the nearest 15 minutes
- name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.

EXS





How many different ways can you find to pay for the sweets, using **only** silver coins?

10p + 10p + 10p + 10p + 5p 45p
20p + 20p + 5p = 45p
5p + 5p + 5p + 5p + 5p + 5p + 5p + 5p + 5p = 45p
10p + 10p + 20p + 5p = 45p
10p + 10p + 5p + 5p + 5p + 5p + 5p = 45p
10p + 10p + 10p + 5p + 5p + 5p = 45p
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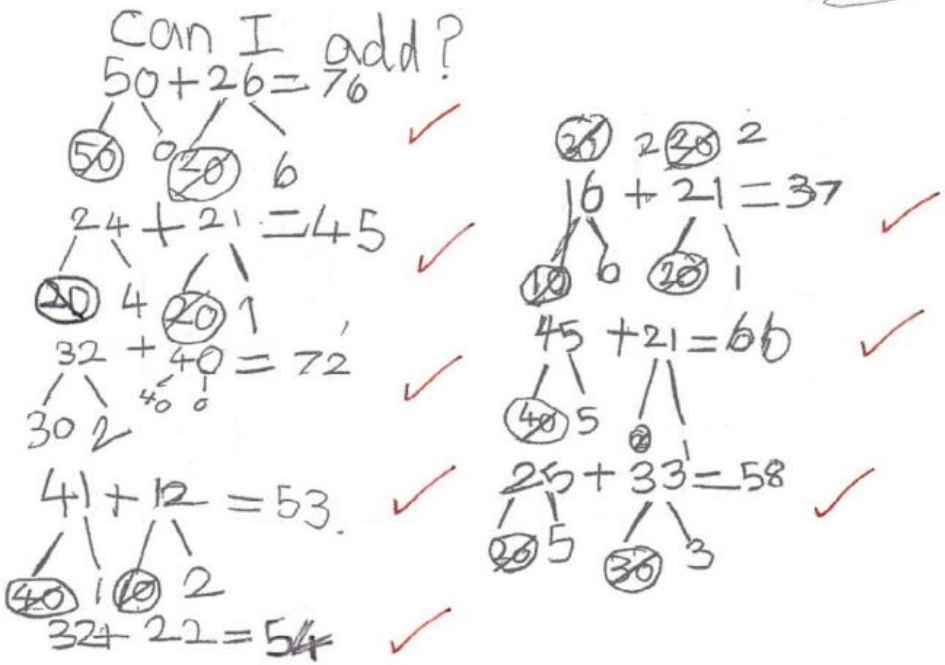
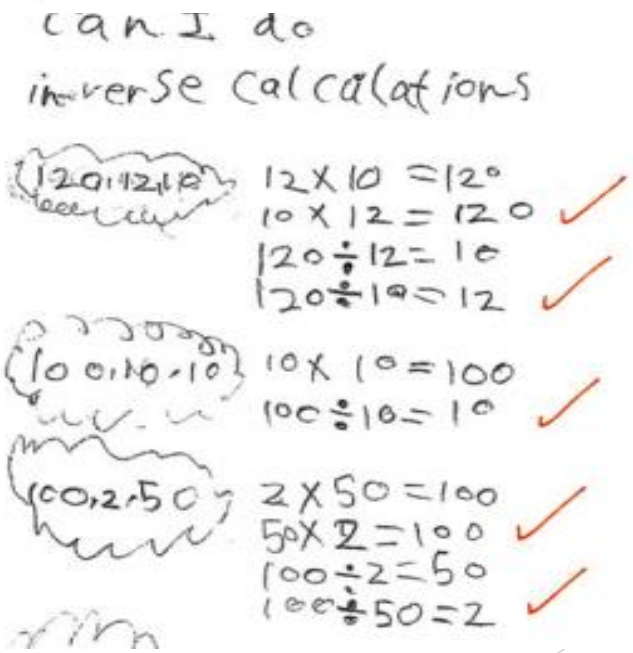




2D Shapes

Write the name of the shape in the box next to it and then write some of its properties, using the Star Words.

Shape	Name of shape	Properties
	Rectangle	• It has 4 sides. • It has 4 corners • It has 2 short sides + 2 long sides • It is not equal • It is symmetrical
	Triangle	• It is equal • It is symmetrical • It has 3 corners • It has 3 sides
	Square	• It has 4 corners • It is equal • It is symmetrical • It has 4 sides
	Circle	• It has 1 curved side • It is symmetrical • It is equal

Shape	Name of shape	Properties
	Pentagon	• It has 5 sides • It is symmetrical • It has 5 corners
	Hexagon	• The hexagon is equal • The hexagon is symmetrical • The hexagon has 6 sides • The hexagon has 6 corners
	Heptagon	• The heptagon has 7 sides • The heptagon has 7 corners • The heptagon is symmetrical
	Oct	

Teacher Assessment Framework

Working at Greater Depth within the expected standard

- read scales* where not all numbers on the scale are given and estimate points in between
- recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts
- use reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. 29 + 17 = 15 + 4 + □; 'together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?' etc.)
- solve unfamiliar word problems that involve more than one step (e.g. 'which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?')
- read the time on a clock to the nearest 5 minutes
- describe similarities and differences of 2-D and 3-D shapes, using their properties (e.g. that two different 2-D shapes both have only one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices, but different dimensions).

GDS

What do you notice about this graph?

Reasoning about numbers

In each case choose a number that could reasonably be correct.

Then explain why you chose that number.

19 x 5 =	84	(95)	93
Its 95 because it ends in a five or 0 when you count in fives.			
19 x 2 =	35	33	(38)
Its 38 because if counting in 2s it should be even.			
19 x 10 =	(190)	185	192
I think its 190 because when you count in tens its all ways ends in a 0.			

19 x 5 =

Its 95 because it ends in a five or 0 when you count in fives.

19 x 2 =

Its 38 because if counting in 2s it should be even.

19 x 10 =

I think its 190 because when you count in tens its all ways ends in a 0.

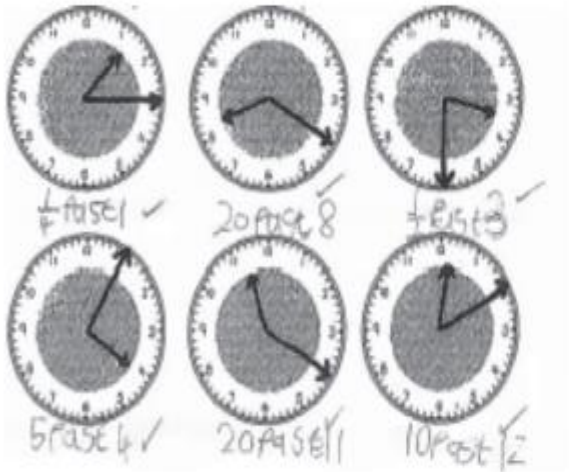
LI. To solve missing number problems

$\boxed{28} + 11 = 25 + 14$ ✓

28	11	= 39
25	14	= 39

$17 + 15 = \boxed{20} + 12$ ✓

17	15	= 32
20	12	= 32



¼ past 1

20 past 8

½ past 3

5 past 4

20 past 11

10 past 12

Resources – web links

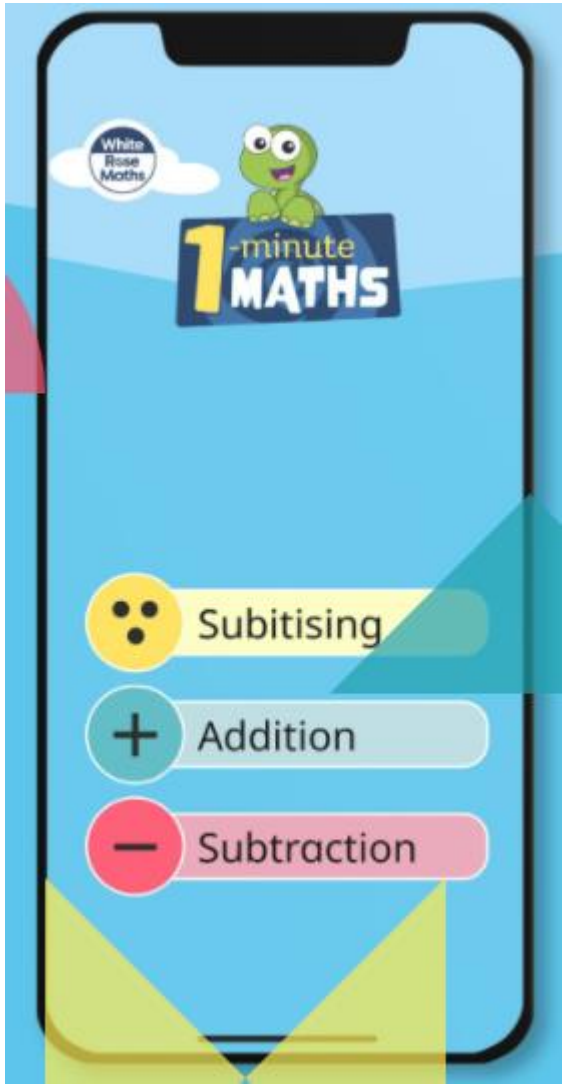
- Year 2 National Curriculum
- https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study/national-curriculum-in-england-mathematics-programmes-of-study#year-2-programme-of-study
- White Rose Parent Maths booklets
- https://whiterosemaths.com/parent-resources#download
- NCETM Ready to Progress Documents
- https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/
- Interactive Maths Games
- https://www.topmarks.co.uk/
- Ready to Progress documents https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/954796/Maths_guidance_year_2.pdf

Helping at home with Maths

- Play times tables games.
- Play mental maths games including counting in different amounts, forwards and backwards.
- Encourage opportunities for telling the time.
- Encourage opportunities for counting coins and money e.g. finding amounts or calculating change when shopping.
- Look for numbers on street signs, car registrations and anywhere else.
- Look for examples of 2D and 3D shapes around the home.
- Identify, weigh or measure quantities and amounts in the kitchen or in recipes.
- Play games involving numbers or logic, such as dominoes, card games, draughts or chess.

White Rose Maths App

Designed for use both in class and at home, the new 1-Minute Maths app helps children build greater number confidence and fluency. It's all about targeted practice in engaging, one-minute chunks!



How else you can help

- Ensure your child has the best possible **attendance** at school.
- Ensure your child has a **good routine** before and after school.
- Promote our **characters of learning** at home.
- Support your child with any **homework** tasks.
- Complete any practice papers and return with any notes on how your child found the paper.
- Read the **weekly newsletters and ask your children** about what they are learning.
- **Communicate with us** and send any questions or queries through to office admin email or catch us at the end of the day.

DARRICK WOOD
INFANT & NURSERY SCHOOL

Any questions?