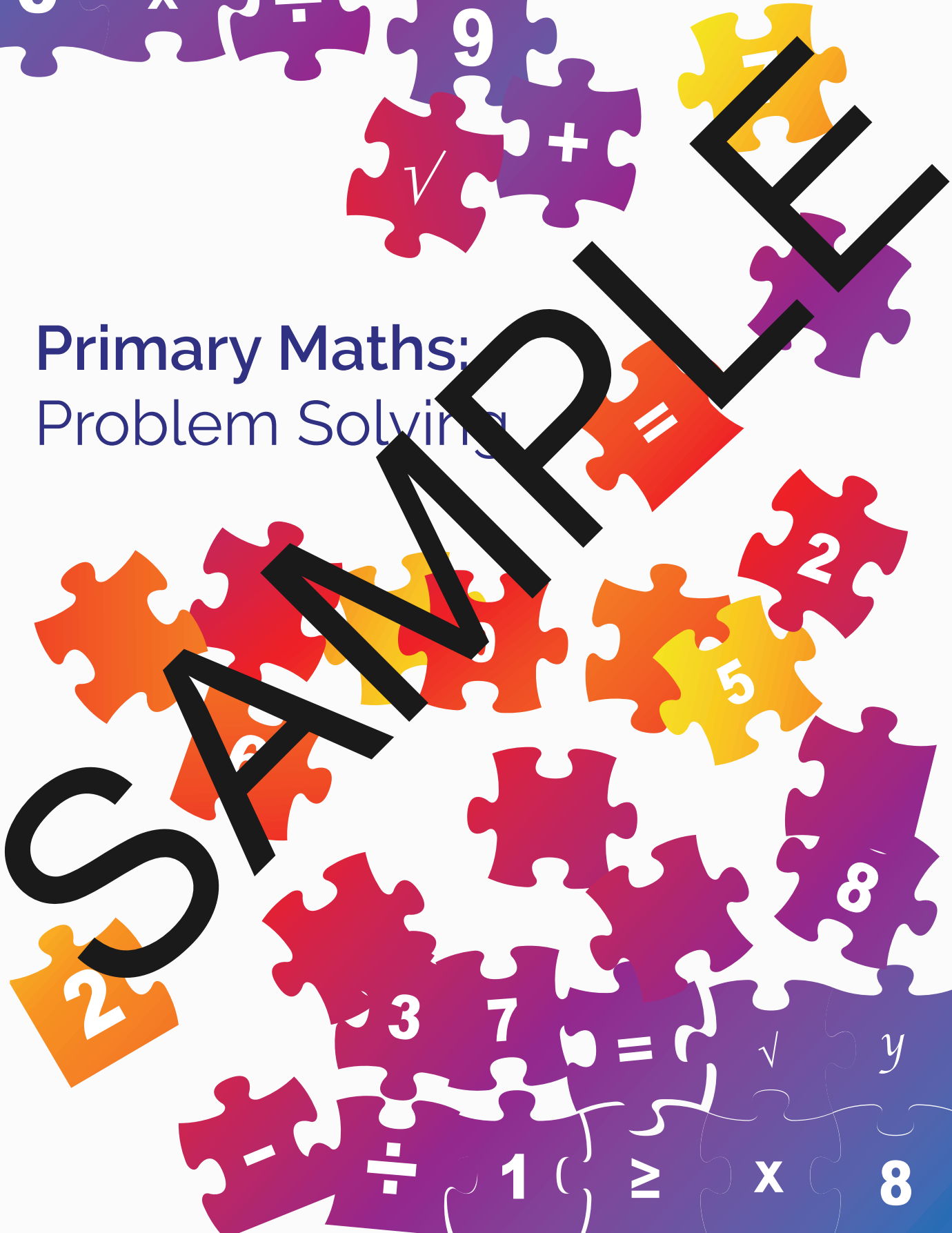




Support  
Inspire  
Learn

# Primary Maths: Problem Solving



# Contents

Introduction	3		
Year One		Year Four	
Autumn 1	5	Autumn 1	137
Autumn 2	12	Autumn 2	141
Spring 1	18	Spring 1	151
Spring 2	24	Spring 2	157
Summer 1	33	Summer 1	167
Summer 2	41	Summer 2	173
Year Two		Year Five	
Autumn 1	50	Autumn 1	183
Autumn 2	57	Autumn 2	188
Spring 1	65	Spring 1	196
Spring 2	72	Spring 2	201
Summer 1	82	Summer 1	211
Summer 2	88	Summer 2	218
Year Three		Year Six	
Autumn 1	95	Autumn 1	227
Autumn 2	102	Autumn 2	233
Spring 1	108	Spring 1	244
Spring 2	114	Spring 2	251
Summer 1	122	Summer 1	259
Summer 2	128	Summer 2	267

## Introduction

The following resources have been compiled in response to the aims of the national curriculum ensuring that problem solving and reasoning is at the heart of the teaching of mathematics.

Once children have developed arithmetic fluency it is important to provide opportunities for them to deepen their knowledge, make connections and apply their skills across a range of meaningful contexts. These resources will support teachers to embrace the mastery approach which underpins the national curriculum.

Our materials are fully editable and can be personalised to meet the needs and interests of individual cohorts. Each resource begins with an information page which sets the scene and should be referred to when solving each question. They are structured in line with the Liverpool Maths Plans but can also be used as a stand-alone problem solving resource.

These questions can be used as a formative assessment tool as they may provide opportunities for children to show application of skills independently, at a distance from direct teaching. You may choose to use them during guided sessions and to encourage collaborative group work.

“I chose one of the problem solving questions for my Maths intervention and it went really well, all the children loved it! So much so it was really challenging. Can't wait to try another!”

– Year 5 Teacher, St Edmund's and St Thomas' Catholic Primary School.

“A high-quality mathematics education provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics and a sense of enjoyment and curiosity about the subject.”

– The National Curriculum, 2013.

# Year One

**Autumn 1**  
Class

**Autumn 2**  
Maths Party

**Spring 1**  
Smoothies

**Spring 2**  
School Trip

**Summer 1**  
Maths Trial

**Summer 2**  
Summer Fayre

SAMPLE

# Year One, Autumn 1

## Class Shop

### New Objectives

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

Counting in multiples of twos, fives and tens (appropriate)

Count, read and write numbers to 100 in numerals

Read and write numbers from 1 to 100 in numerals and words

Given a number, identify one more and one less

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

### Continuous Objectives

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

Given a number, identify one more and one less

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

# Class Shop



	<b>12</b> flowers		<b>100</b> bags of sweets
	<b>50</b> pencils		<b>99</b> chocolate bars
	<b>65</b> apples		<b>32</b> books
	<b>80</b> newspapers		<b>45</b> bags of crisps
	<b>20</b> rubbers		<b>70</b> pears

# Year One, Spring 1

## Smoothies

### New Objectives

Count in multiples of twos, fives and tens

Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher

Recognise, find and name a half as one of two equal parts of an object, shape or quantity

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

### Continuous Objectives

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

Given a number, identify one more and one less

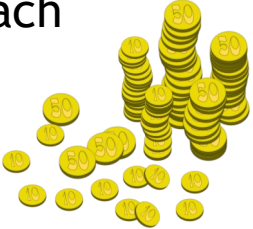


Identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least

Solve one-step problems that involve addition and subtraction, using concrete objects or pictorial representations, and missing number problems such as  $7 = \square - 9$

Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher

# Smoothies



<p><b><u>Ingredients for 1 smoothie</u></b></p> <p><math>\frac{1}{2}</math> Cup of water</p> <p>5 Strawberries</p> <p>10 Blueberries</p> <p>1 Banana</p> <p>2 Ice Cubes</p>	<p><b><u>Prices</u></b></p> <p>Strawberries - 5p each</p> <p>Blueberries - 2p each</p> <p>Banana - 10p each</p> <p>Raspberries - 3p each</p> 
<p><b><u>Time</u></b></p> <p>smoothie takes <math>\frac{1}{4}</math> of hour to make.</p>  <p>How many smoothies could we make in an hour?</p>	 <p>How much water is needed for 2 smoothies?</p>

# Farm Visit



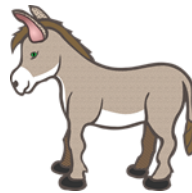
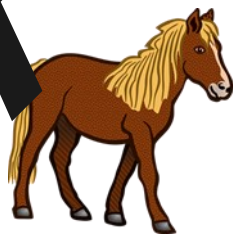
Year 1 are going to the farm!  
There are chickens at the farm.



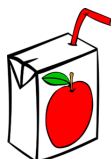
There are sheep on the farm.



There is a horse and a donkey on the farm.



The children have a ham sandwich, a drink and  
a biscuit for lunch.



# Year One, Summer 1

## A New Garden

### New Objectives

Recognise and name common 2-D shapes, including for example, rectangles, squares, circles and triangles

Recognise and name common 3-D shapes, including for example, cuboids, cubes, pyramids and spheres

Describe position, direction and movement, including for example, half, quarter and three-quarter turns

### Continuous Objectives

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

Recognise and know the value of different denominations of coins and notes

Given a number, identify one more and one less

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least

Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as  $7 = \square - 9$

Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher

Recognise and name a half as one of two equal parts of an object, shape or quantity

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.



# Year Two

## Autumn 1

Classroom

## Autumn 2

Christmas Dayre

## Spring 1

Making Sakes

## Spring 2

Farm Visit

## Summer 1

Paths Trail

## Summer 2

Sports Day

SAMPLE

# Year Two, Autumn 1

## Class Shop

### New Objectives

Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward.

Recognise the place value of each digit in a two-digit number (tens, ones)

Read and write numbers to at least 100 in numeral and words

Compare and order numbers from 0 up to 100; use  $<$ ,  $>$  and  $=$  signs

Identify, represent and estimate numbers using different representations, including the number line

Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

Add and subtract numbers mentally including;

- A two-digit number and ones
- A two-digit number and tens
- Two two-digit numbers
- Adding three one-digit numbers

Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot

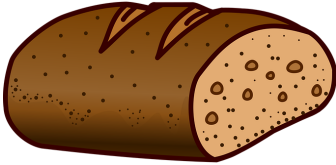


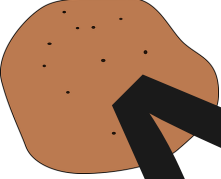



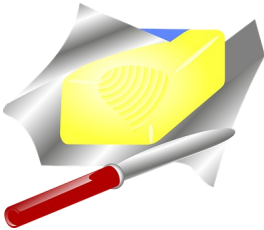


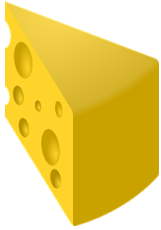

Add and subtract numbers using concrete objects pictorial representations including;

- A two-digit number and ones
- A two-digit number and tens
- Two two-digit numbers
- Adding three one-digit numbers

# Class Shop



SAMPLE

<p>Bread 35p</p> 	<p>Milk 30p</p> 	<p>Eggs 42p</p> 
<p>Potatoes 50p</p> 	<p>Carrots 20p</p> 	<p>Apples 32p</p> 
<p>Comic 85p</p> 	<p>Butter 40p</p> 	<p>Cereal 70p</p> 
<p>orange juice 15p</p> 	<p>Cheese 25p</p> 	<p>Ham 50p</p> 

# Year Two, Autumn 2

## Christmas Fayre

### New Objectives

Recall and use multiplication and division facts for 2, 5 and 10 multiplication tables including recognising odd and even numbers

Calculate mathematical statements for multiplication and division within 100 using multiplication tables and write them using the multiplication (x), division ( $\div$ ) and equals (=) signs

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

Recognise, find, name and write fractions  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$  of a length, shape or set of objects or quantity

Write simple fraction for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

### Continuous Objectives

Count in steps of 2, 3, and 5 from any number and in tens from any number, forward and backward (solve problems involving counting)

Use place value and number facts to solve problems (place value)

Solve problems with addition and subtraction;

- Using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- Applying their increasing knowledge of mental and written methods

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

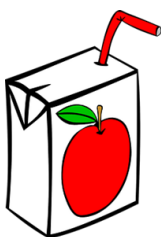
Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape or set of objects or quantity

Write simple fraction for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

# Christmas Fayre

Ola has 50p. She wants to spend it on drinks for her and her friends. She is trying to work out if she has enough money. She can't decide which one is right.



$$10 \times 6 = 60\text{p}$$

$$6 \times 10 = 60\text{p}$$

Can you explain which is correct.

Freya wants to buy 6 candy canes and has 30p. She can't decide if she has enough as she is working it out as follows.

$$30\text{p} \div 6 = 5\text{p}$$

$$5\text{p} \div 6 = 30\text{p}$$



Which one is correct? Explain your answer.



# Year Two, Spring 1

## Making Cakes

### New Objectives

Choose and use appropriate standard units to estimate and measure length, height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

Compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$

Recognise and use symbols for pounds (£) and pence (p), combine amounts to make a particular value

Find different combinations of coins that equal the same amount of money

Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Compare and sequence intervals of time  
Know the number of minutes in an hour and the number of hours in a day.

Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times

### Continuous Objectives

Count in steps of 2 and 5 from any number and in tens from any number, forward and backward

Use place value and number facts to solve problems

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape set of objects or quantity

Write simple fraction for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods.

# Making Cakes



## Éclairs

Ingredients:

65g Flour

50g Butter

2 Eggs

300ml Cream

Cooking time  
- 30 mins

## Chairy Cakes

Ingredients:

275g Flour

125g Butter

225g Sugar

3 Eggs

Cooking time  
- 20 mins

## Muffins

Ingredients:

275g Flour

100g Butter

75g Sugar

2 Eggs

Cooking time  
- 25 mins

## Cookies

Ingredients:

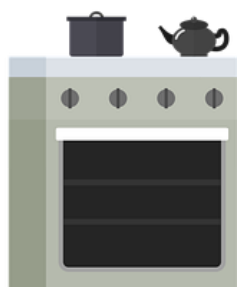
150g Flour

100g Butter

75g Sugar

1 Egg

Cooking time  
- 40 mins



The oven is set to 160°C

# Year Two, Spring 2

## School Trip

### New Objectives

Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line

Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]

Compare and sort common 2-D and 3-D shapes and everyday objects.

Order and arrange combinations of mathematical objects in patterns and sequences

Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).

### Continuous Objectives

Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward

Use place value and number facts to solve problems

Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems, including problems in contexts.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts,

Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape set of objects or quantity

Write simple fraction for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

# School Trip



<p>Travel</p>	<p>It takes 40 minutes to get from school to the pier. Head on the train</p>	<p>the Ferry cruise takes 50 minutes. The ferries leave every hour starting at 8am.</p>
<p>Cost</p>	<p>The Train journey costs: 50p away for child and £1 and 2 for an adult.</p>	<p>The Ferry costs £2 and 50p for a child and £3 for an adult.</p>
<p>Weather</p>	<p style="text-align: center;">6 Day Forecast</p>	
<p>Food</p>	<p>The children shared family bags of crisps. 4 children shared a bag.</p>	<p>The cans of coke came in packs of 6. Every child had a can. They cost 20p each.</p>

# Year Two, Summer 1

## Maths Trail

### New Objectives

Interpret and construct simple pictograms, tally charts, block diagrams and simple tables

Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

### Continuous Objectives

Count in steps of 2, 3 and 5 from 0 and tens from any number, forward and backward

Use place value and number facts to solve problems

Solve problems with addition and subtraction, using concrete objects and pictorial representation, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.

Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape set of objects or quantity.

Write simple fraction for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

# Maths Trail

## Clue E

In Spring, the children plant seeds in the tubs. They grow 2cm a week. If they start to show on Monday 4th April, how tall will they be on 25th April?

## Clue F

The children planted one seed in each section of the tray.



If they had 24 seeds, how many trays did they fill?

## Clue G



Butterflies fly past the flowers every 20 minutes, how many fly past in 1 hour?

## Clue H



25 children went on the maths trail. The teacher organised them into groups of 5, how many groups were there?

## Year Two, Summer 2

### Sports Day

#### Continuous Objectives

Use place value and number facts to solve problems

Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward

Recognise, find, name and write fractions  $\frac{1}{2}$ ,  $\frac{2}{4}$  and  $\frac{4}{4}$  on a length, shape set of objects or quantity

Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods.

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Write simple fractions for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

# Sports Day



## Class sizes

Class	Number of
RS	28
R1	30
R2B	2
Y1R	25
Y2D	25
R3G	30

## Events

Egg and spoon	
Sack Race	
Long Jump	
Bean Bag Throw	
Relay	

# Year Three

**Autumn 1**  
Surprise Day

**Autumn 2**  
Party Planning

**Spring 1**  
Pizza Time

**Spring 2**  
Zoo Trip

**Summer 1**  
A New Classroom

**Summer 2**  
Summer Fayre

SAMPLE

# Year Three, Autumn 1

## Enterprise Day

### New Objectives

Count in multiples of 4, 8, 50 and 100; finding 10 or 100 more or less than a given number.

Recognise the place value of each digit in a three-digit number (hundreds, tens and ones)

Compare and order numbers to 1000

Identify, represent and estimate numbers using different representations.

Read and write numbers up to 1000 in numerals and words

Add and subtract numbers mentally, including

- A three-digit number plus/minus
- A three digit number and tens
- A three digit number and hundreds

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

### Continuous Objectives

Solve number problems and practical problems involving the ideas from number and place value

Estimate the answer to a calculation and use inverse operations to check answers.

Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction

# Enterprise Day



<p>Entry cost: 55p</p> 	<p>The maximum spending money the children are allowed is £5</p> 
<p>Activities</p>	
<p>Puppet show: 75p</p> 	<p>Four in a row: 25p</p> 
<p>Face painting</p> 	<p>Picture frame making: £2 and 25p</p> 
<p>Bean bag toss: 50p</p> 	<p>Raffle tickets: 25p each or 5 for a £1</p> 

## Year Three, Autumn 2

### Party Planning

#### New Objectives

Recall and use multiplication and division facts for 3, 4 and 8 multiplication tables

Write and calculate mathematical statement for multiplication and division using multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing into formal written methods

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and dividing one-digit numbers by quantities  $\leq 10$

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

Recognise and use fractions as numbers. Add unit fractions and non-unit fractions with small denominators

Recognise and show, using diagrams, equivalent fractions with small denominators

Compare and order unit fractions, and fractions with the same denominators

#### Continuous Objectives

Solve number problems and practical problems involving the ideas from number and place value





Estimate and check answers to a calculation and use inverse operations to check answers

Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction

Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which  $n$  objects are connected to  $m$  objects

# Party Planning



<p>Will is having a superhero themed party. He has invited all the children from his class.</p> 	<p>Including Will, there are 32 children in his class.</p> 
<p>One whole cake £3</p> 	<p>15 sausage rolls £1 and 50p</p> 
<p>20 sandwiches £8</p> 	<p>4 lollipops 50p</p> 
<p>Crisps 20p a bag</p> 	<p>1 juice box 30p</p> 

# Year Three, Spring 1

## Pizza Time

### New Objectives

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

Measure the perimeter of simple 2-D shapes

Add and subtract amounts of money to give change, using both £ and p in practical contexts

Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks

Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as am/pm, morning, afternoon, noon and midnight

Know the number of seconds in a minute and the number of days in each month, year and leap year

Compare duration of events for example, calculate the time taken by particular events or tasks

### Continuing Objectives

Solve number problems and practical problems involving the ideas from number and place value

Estimate and answer a calculation and use inverse operations to check answers

Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction

Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which  $n$  objects are connected to  $m$  objects

Solve problems involving fractions

# Pizza Time

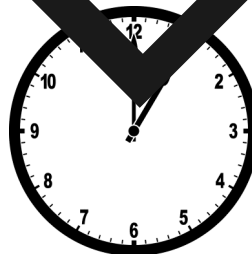


## Ingredients for 1 Pepperoni Pizza

- 355g Bread flour
- 2  $\frac{1}{2}$  teaspoons salt
- 3 tablespoon oil
- 240ml water
- 7g yeast
- 25 slices of pepperoni
- 170g mozzarella cheese
- 250ml tomato sauce



## Time



It takes 40 minutes to prepare the pizza and 15 minutes to bake it.



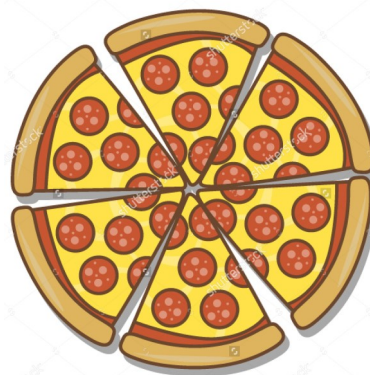
## Prices at Pizza Palace

- Margherita - £7 and 50p
- Pepperoni - £6 and 75p
- Vegetarian - £7 and 75p
- Hawaiian - £6 and 25p
- Garlic Bread - £5 and 45p
- Coca cola - £1 and 60p
- Milkshake - £1 and 85p



## Pizza Pieces

Pizzas are cut into 6 pieces



## Year Three, Spring 2

### Zoo Trip

#### New Objectives

Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

Recognise that angles are a property of shape and describe them

Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn

Identify whether angles are greater than or less than a right angle

Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

#### Continuous Objectives

Solve number problems and practical problems involving the ideas from number and place value

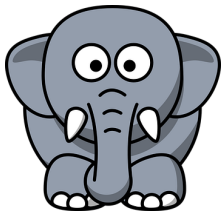
Estimate the answer to a calculation and use inverse operations to check answers

Solve problems involving missing number problems, using number facts, place value and more complex addition and subtraction

Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which  $n$  objects are connected to  $m$  objects

Solve problems involving fractions

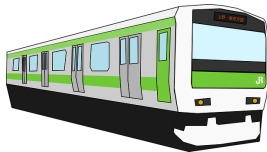
# Zoo Trip



An elephant's height is 6 times the length of its footprint!



The shape of the penguin enclosure is a pentagon.



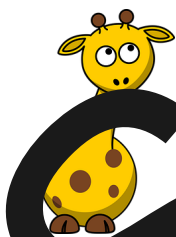
Monorail prices

Adult: £2

Child: £1 and 50p



Polly the Python is 4m long and weighs 12 kg.



A baby giraffe is 2m tall when she is born.

She weighs 70 kg.



There are 4 types of monkeys in the Zoo.

An adult fruit bat has a wingspan of 75cm.  
There are over 300 bats at the zoo.  
They like to eat apples, Bananas, oranges and pears.



Gift Shop Prices  
Lion: £3 and 25p  
Snake: £1 and 75p  
Cup : £2  
Pencil: 50p  
Pen: £1

## Year Three, Summer 1

### A New Classroom

#### New Objectives

Interpret and present data using bar charts, pictograms and tables.

Solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts, pictograms and tables.

#### Continuous Objectives

Solve number problems involving practical problems involving the ideas from number and place value

Estimate the answer to a calculation and use inverse operations to check answers

Solve problems involving missing number problems, using number facts, place value and more complex addition and subtraction

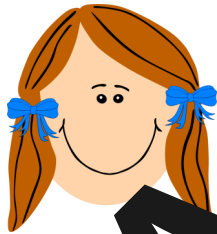
Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which  $n$  objects are connected to  $m$  objects

Solve problems involving fractions

# A New Classroom

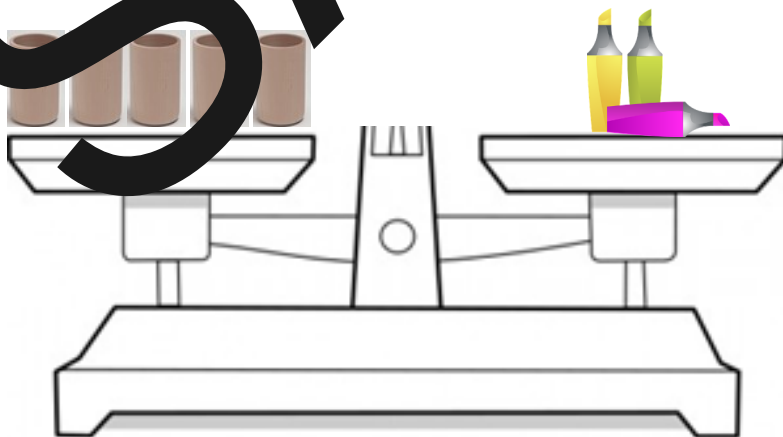
The coloured pencils cost half as much as the felt tips

2 packs of coloured pencils costs the same price as 1 pack of felt



Who is right? Explain your answer

**SAMPLE**



If 5 pencil pots cost the same as a pack of felt tips, how much does 1 pencil pot cost?

## Year Three, Summer 2

### Summer Fayre

#### Continuous Objectives

Solve number problems and practical problems involving the ideas from number and place value

Estimate the answer to a calculation and use inverse operations to check answers

Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction

Solve problems including missing number problems, involving multiplication and division, including factor scaling problems and correspondence problems in which n objects are connected to m objects

Solve problems involving fractions

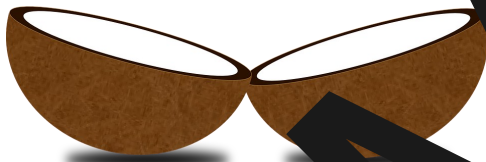
# Summer Fayre



It will cost 45p to get into the fayre

## Activities

Coconut Shy 50p



Soak the Teacher £1



Ball in a Bucket 60p for three throws or 50p a go



Coloured Hairspray £1 and 50p



Guess how many sweets in the jar 40p



Bouncy Castle 80p per session



Balloon Pop 50p for three darts  
75p for six darts



Tin Can Alley 10p a throw



# Year Four

**SAMPLE**

## Autumn 1

Cinema Trip

## Autumn 2

Christmas Fayre

## Spring 1

Making Scones

## Spring 2

Science Museum

## Summer 1

New Bedroom

## Summer 2

Sports Day

## Year 4, Autumn 1

### Cinema Trip

#### New Objectives

Count in multiples of 6, 7, 9, 25 and 1000

Find 1000 more or less than a given number

Count backwards through zero to include negative numbers

Order and compare numbers beyond 1000

Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)

Identify, represent and estimate numbers using different representations

Round any number to the nearest 10, 100 or 1000

Read Roman numerals (up to 100 and M) and know that over time, the numeral system changed to include the concept zero and place value

Add and subtract numbers with up to four digits using formal written methods of columnar addition and subtraction, where appropriate

#### Continuous Objectives

Solve number and practical problems that involve all of the above with increasingly large numbers, number and place value

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

# Cinema Trip



## Information Costs and Show Times

### Ice Age

2:30pm, 5:00pm, 7:15pm  
Duration of film - 90mins



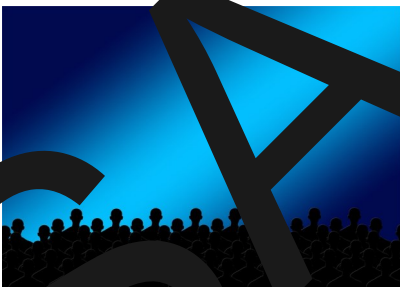
### Finding Dory

1:20pm, 3:45pm, 6:30pm  
Duration of film - 100mins



### X-Men

12:45pm, 3:10pm, 5:30pm  
Duration of film - 140mins



### Tickets

Adult - £8.50  
Child - £6.25

Offer - 2 for 1 on Tuesdays  
Groups bookings of 30 or more:  
Child – £5.



### Refreshments

Coke - £0.85  
Haribos - £0.85  
Hot Dogs - £3.25



Tango - £1.60  
Popcorn - £3.50



## Year 4, Autumn 2

### Christmas Fayre

#### New Objectives

Recall multiplication and division facts of multiplication tables up to  $12 \times 12$

Use place value, known derived facts to multiply and divide mentally, including; multiplying by  $-$  and  $1$ ; dividing by  $10$ , multiplying together three numbers

Recognise and use factor pairs and commutativity in mental calculations.

Multiply two-digit and three-digit by one-digit number using formal written layout

Recognise and show, using diagrams, families of common equivalent fractions

Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten

Add and subtract fractions with the same denominator

Recognise and write decimal equivalents of any number of tenths or hundredths

Recognise and write decimal equivalents to  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$ .

Find the effect of dividing a one or two digit number by  $10$  and  $100$ , identifying the value of the digits in the answer as units, tenths and hundredths.

Round decimals with one decimal place to the nearest whole number

Compare numbers with the same number of decimal places up to two decimal places

# Christmas Fayre



Santa's grotto £1.00



Reindeer food 20p



Personalise a bauble

Plain 20p  
30p with glitter



Lucky dip 45p



Tombo 25p



Make a stocking 80p



Pin the scarf on the snowman 20p



Decorate a biscuit 65p



# Year 4, Spring 1

## Making Scones

### New Objectives

Convert between different units of measure

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.

Find the area of rectilinear shapes by counting squares.

Estimate, compare and calculate different measures, including money in pounds and pence.

Read, write and convert time between analogue and digital, 12 and 24- hour clocks

### Continuous Objectives

Solve number and practical problems that involve all of the above and with increasingly large positive numbers number and place value

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as  $n$  objects are connected to  $m$  objects

Solve problems involving increasingly harder fractions to calculate quantities, and multiplication to divide quantities, including non-unit fractions where the answer is a whole number

Solve measure and money problems involving fractions and decimal problems to two decimal places.

Solve problems, involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

# Making Scones

The scones went in the oven at 6:00pm. What time did they come out? Can you write this using 24hr clock?



Grandma started making scones at 1.25pm, what time were they ready to go into the oven? Can you write the time they were ready to eat using 24 hour clock?



Sue took her Mum for afternoon tea. They both had lunch, a drink and a cake. What is the least Sue could have spent?



What is the most?

Ethan took his friend to the coffee shop. They chose the same lunch, drink and cake and spent £11.50 altogether, what did they choose?



## Year 4, Spring 2

### Science Museum

#### New Objectives

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

Identify acute and obtuse angles and compare and order angles up to two right angles

Identify lines of symmetry in 2-D shapes presented in different orientations

Complete a simple symmetric figure with respect to a specified line of symmetry

Describe positions on a 2-D grid as coordinates in the first quadrant

Describe movement between positions as translations of a given unit to the left/right and up/down

Plot specified points and draw sides to complete a given polygon

#### Continuous Objectives

Solve number and practical problems involving all of the above and with increasingly large positive numbers, numbers and place value

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder comparison problems such as  $n$

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

Solve simple measure and money problems involving fractions and decimal problems to two decimal places.

Solve problems, involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

# Science Museum

Year 4 are going on a school trip to the Science Museum.  
There are 54 children and 7 adults.

## Opening Times

Weekdays (Tuesday-Friday)  
10.00am to 4.00pm.



## Location

The Museum is eight kilometres  
from school and it takes  
approximately 35 minutes  
to get there.

## Entrance Fees

£6 per adult

£4 per child

For every 25 children,  
1 child goes free.



## Coach Costs

65 seats: £320

January-March:  
winter discount of £25



## Lunch Arrangements

Children are asked to  
bring a packed lunch.



The school will pay £145  
towards the total cost of the trip.



Every child may bring £5 to spend in the gift shop.



## Year 4, Summer 1

### A New Bedroom

#### New Objectives

Interpret data using appropriate graphical methods, including bar charts and other graphs

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

#### Continuous Objectives

Solve number and practical problems that involve two of the above and with increasingly large positive numbers number and place value

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why



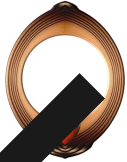

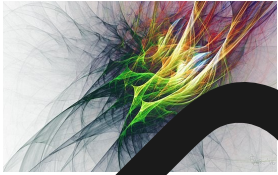





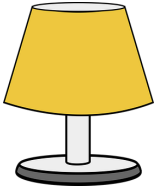




Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

Solve simple measure and money problems involving fractions and decimal problems to two decimal places.

Solve problems, involving converting from hours to minutes; minutes to seconds; years to months, weeks to days.

# A New Bedroom

<p>Mirror A</p>  <p>£15</p>	<p>Mirror B</p>  <p>£27.90</p>	<p>Mirror C</p>  <p>£48.50</p>
<p>Wall Art A</p>  <p>£75</p>	<p>Wall Art B</p>  <p>£4.99</p>	<p>Wall Art C</p>  <p>£2.50</p>
<p>Chair A</p>  <p>£52.50</p>	<p>Chair B</p>  <p>£20</p>	<p>Chair C</p>  <p>£29.99</p>
<p>Lamp A</p>  <p>£26.99</p>	<p>Lamp B</p>  <p>£14</p>	<p>Lamp C</p>  <p>£38.50</p>
<p>Storage A</p>  <p>£5</p>	<p>Storage B</p>  <p>£149.99</p>	<p>Storage C</p>  <p>£68.00</p>

## Year 4, Summer 2

### Sports Day

#### Continuous Objectives

Solve number and practical problems with increasingly large positive integers number and place value

Estimate and use inverse operations to check answers to a calculation

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit; integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

Solve simple measurement and money problems involving fractions and decimal problems to 2 decimal places

Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

# Sports Day



<p>Relay</p>  <p>400m in total 4 children per team</p>	<p>Sprint</p>  <p>100 m</p>								
<p>High Jump</p>  <p>Only Year 3 and 4</p>	<p>Long jump</p>  <p>All children take part</p>								
<p>Skipping</p>  <p>Each child skips for as long as they can</p>	<p>Class Size</p> <table border="1"> <tr> <td>Year 3</td> <td>28</td> </tr> <tr> <td>Year 4</td> <td>32</td> </tr> <tr> <td>Year 5</td> <td>30</td> </tr> <tr> <td>Year 6</td> <td>27</td> </tr> </table>	Year 3	28	Year 4	32	Year 5	30	Year 6	27
Year 3	28								
Year 4	32								
Year 5	30								
Year 6	27								
<p>Tuck shop</p>  <p>15p</p>  <p>28p</p>  <p>10p</p>									

# Year Five

**Autumn 1**  
Sales & Ground

**Autumn 2**  
Party Planning

**Spring 1**  
The Snake Place

**Spring 2**  
World Museum

**Summer 1**  
School Residential

**Summer 2**  
Summer Fayre

SAMPLE

## Year Five, Autumn 1

### Sales and Discounts

#### New Objectives

Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit

Count forwards or backwards in steps of powers of ten for any given number up to 1,000,000

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000, 100,000

Read Roman numerals to 100 (M) and recognise years written in Roman numerals

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

Add and subtract numbers mentally with increasingly large numbers

#### Continuous Objectives

Solve number problems and practical problems that relate to number above (and place value)

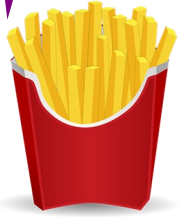
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why



# Sales and Discounts

## Charlie's Cheap as Chips



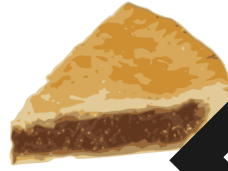
**Chips** £1.20  
now  
50% discount



**Chicken pieces**  
£1.60  
now  
25% discount



**Fish** £2.25  
now  
35% discount

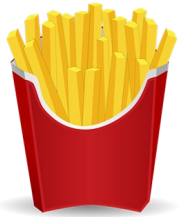


**Pie** £1.10  
now  
20% discount



**Mushy peas**  
35p  
now  
40% discount

## Sandy Shaw's Snack Bar



**Chips**  
£1.50  
buy one portion  
get one half  
price



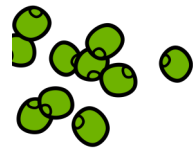
**Chicken pieces**  
£2.40  
buy one get  
one free



**Fish**  
£3.75  
three for the  
price of two



**Pie**  
£1.50  
1/3 off



**Mushy peas**  
£1.10  
30% off when  
you buy two  
or more  
portions

Meg and Joe are arguing. Meg's favourite chip shop is **Charlie's Cheap as Chips** so she asked mum if they could buy lunch from there, but Joe prefers **Sandy Shaw's**. Mum gave them the order and said they should go to the cheapest. Work out where they go for lunch.

Me and mum  
want chicken,  
chips and  
mushy peas



Dad wants  
fish, chips and  
mushy peas



I want pie  
and chips

# Year Five, Autumn 2

## Party Planning

### New Objectives

Identify multiples and factors, including finding all factor pairs of a number and a common factor of two numbers

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers

Establish whether a number up to 100 is a prime and recall prime numbers up to 19

Multiply numbers up to 4 digits by a one- or two- digit number using a formal written method, including long multiplication for two-digit numbers

Multiply and divide numbers mentally drawing upon known facts

Divide numbers up to a 4 digits by a one-digit number using formal written method of short division and interpret remainders appropriately for the context

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Recognise and use square numbers and cube numbers, and the notation for squared ( $^2$ ) and cubed ( $^3$ )

Compare and order fractions whose denominators are all multiples of the same number

Add and subtract fractions with the same denominator and denominators that are multiples of the same number

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

Recognise mixed numbers and improper fractions and convert from one form to the other and represent mathematical statements  $> 1$  as a mixed number [for example,  $3\frac{4}{5} = \frac{19}{5} = 1\frac{4}{5}$ ]

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

Read and write decimal numbers as fractions [for example,  $0.71 = \frac{71}{100}$ ]

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

Round decimals with two decimal places to the nearest whole number and to one decimal place

# Party Planning



## What is needed...

<p>Bouncy castle hire £30 an hour</p> 	<p>Prizes for pass the parcel £3.50 each</p> 	<p>Hire of the hall for an hour</p> 
<p>3 cupcakes 60p</p> 	<p>Can of pop 20p each</p> 	<p>50 paper plates £1</p> 
<p>10 party bags £1</p> 	<p>Party hat for 30</p> 	<p>Crisps 25 bags for £2</p> 
<p>Medals £1 for 10</p> 	<p>Tablecloths 75p each</p> 	<p>Birthday cake £4.99</p> 
<p>£25 an hour</p> 	<p>50p for four sausage rolls</p> 	<p>Sandwiches 75p each</p> 

# Year Five, Spring 1

## The Shake Place

### New Objectives

Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.

Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes.

Estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]

### Continuous Objectives

Solve number problems and practical problems that relate to all of the above (number and place value)

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use appropriately

Solve problems involving addition and subtraction up to three decimal places

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

Solve problems which require knowing percentage and decimal equivalents of  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{2}{5}$ ,  $\frac{4}{5}$  and those fractions with a denominator or a multiple of 10 or 25

Solve problems involving converting between units of time.

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

# The Shake Place



The Basic Shake Recipe:

- 1 pint of Ice Cream
- 1 teaspoon of vanilla flavouring
- $\frac{3}{4}$  pint of milk



Basic Shake  
£2.85



Choco Shake  
£3.10



Raspberry Blast  
£2.95



Lemon Lush  
£3.05



Waffles  
£4.75



Crepes  
£4.95



Each shake is made up  
using the basic  
recipe.



The Shake Place is open  
7 days a week.



## Year Five, Spring 2

### World Museum

#### New Objectives

Identify 3-D shapes, including cubes and other cuboids, from 2-D representations

Know angles are measured in degrees, estimate and compare acute, obtuse and reflex angles

Draw given angles, and measure them in degrees ( $^{\circ}$ )

Identify: -angles at a point, one whole turn (total  $360^{\circ}$ ) angles at a point on a straight line and a  $\frac{1}{2}$  turn (total  $180^{\circ}$ ) -other multiples of  $90^{\circ}$

Use the properties of rectangles to deduce related facts and find missing lengths and angles

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles

Describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

# World Museum



<p>The World Museum in Liverpool has 330,831 visitors per year</p> 	<p>The exhibits are mostly housed in glass cubes or cuboids.</p> 
<p>The Show at the Planetarium lasts for 10 minutes</p> 	<p>There are approximately 80,000 objects from across the ancient world in the collection.</p> 
<p>Scientists believe that an average T-Rex is 12 m long and 5 m tall.</p> 	<p>The Planetarium Show costs:</p> <ul style="list-style-type: none"> <li>£2.50 for an adult</li> <li>£1.50 for a child (age 5–13)</li> <li>£7.00 for a family.</li> </ul> <p>Members are half price.</p>

# Year Five, Summer 1

## School Residential

### New Objectives

Solve comparison, sum and difference problems using information presented in a line graph

Complete, read and interpret information in tables, including timetables.

### Continuous Objectives

Solve number problems and practical problems that relate to all of the above (number and place value)

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods and why

Solve problems involving numbers up to three decimal places

Solve problems involving multiplication and division including using their knowledge of factors, multiples, squares and cubes

Solve problems involving addition, subtraction, multiplication and division and a combination of them including understanding the meaning of the equals sign

Solve problems involving multiplication and division, including scaling by simple fractions, problems involving simple rates

Solve problems which require knowing percentage and decimal equivalents of  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{2}{5}$ ,  $\frac{4}{5}$  and those fractions with a denominator or a multiple of 10 or 25

Solve problems involving converting between units of time.

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

# School Residential

## The Holiday Centre

35 pupils and 4 staff will be going on the residential

The Centre charges:  
 £225 per child for 3 nights  
 £280 per child for 4 nights  
 £345 per child for 5 nights  
 £100 per adult per night  
 For every 10 children, an adult goes free  
 There is a 10% discount during the winter

A 40-seater coach hire costs £365

The return train journey costs:  
 £23 per adult £12 per child

Activity	Day Activities				Night Activities	
	Abseiling	Kayaking	Adventure Course	Raft Building	Night Walk	Bingo
Duration (mins)	45	70	65	90	90	45

Minimum height on the Adventure Course is 1.05m

The maximum weight on the Adventure Course is 120kg

## Year Five, Summer 2

### Summer Fayre

#### Continuous Objectives

Solve number problems and practical problems that relate to all of the above (number and place value)

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and

Solve problems involving numbers up to three decimal places

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes

Solve problems involving addition, subtraction, multiplication and division and a combination of the four including understanding the meaning of the equals sign

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

Solve problems which require knowing percentage and decimal equivalents of  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{2}{5}$ ,  $\frac{4}{5}$  and those fractions with a denominator or a multiple of 10 or 25

Solve problems involving converting between units of time.

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

# Summer Fayre



There are 130 children in the school.



The fayre begins at 11am and ends at 4pm.



Entry Price.

£1.20 for a child.

£1.50 for an adult.

Under 5 go free.



Popcorn cost 55p per box



# Year Six

## Autumn 1

Price Comparisons

## Autumn 2

Christmas Fayre

## Spring 1

Afternoon Tea

## Spring 2

The Beavers

## Summer 1

Stage Production

## Summer 2

Booking A Holiday

SAMPLE

# Year Six, Autumn 1

## Price Comparisons

### New Objectives

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

Round any whole number to a required degree of accuracy

Use negative numbers in context, and calculate intervals across zero

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Use their knowledge of the order of operations to carry out calculations involving the four operations

Divide number up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate interpreting remainders according to the context

Perform mental calculations, including with mixed operations and large numbers  
Use their knowledge of the order of operations to carry out calculations involving the four operations

Identify common factors, common multiples and prime numbers

### Continuous Objectives

Solve problems and practical problems that involve all of the above (number and place value)

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Solve problems involving addition, subtraction, multiplication and division

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy



# Price Comparisons



## Transfer Fees

Player	Transfer fee
Gareth Bale	£85.3m
Edinson Cavani	£83.7m
Kevin De Bruyne	£69.7m
Angel Di Maria	£59.7m
Zlatan Ibrahimovic	£60m
Gonzalo Higuain	£75.3m
Neymar	£71m
Paul Pogba	£89.3m
Christiano Ronaldo	£83.7m
James Rodriguez	£63m
Luis Suarez	£75m

Agents charge 5% commission.

Can you write these transfer fees in figures?

The BBC reported that Suarez' agent earned £1,000,000 from his transfer from Liverpool to Barcelona, is this correct?

Jorge Mendes is the agent of Ronaldo, Rodriguez and Di Maria, how much commission did he earn through their transfers?

What is the difference in fees for Higuain and Neymar?

Pogba was a record transfer for Manchester United in 2016. Their previous record fee was for Di Maria in 2014, how much

# Year Six, Autumn 2

## Christmas Fayre

### New Objectives

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

Compare and order fractions, including fractions  $> 1$

Add and subtract fractions with a different denominators and mixed numbers using the concept of equivalent fractions

Multiply simple pairs of proper fractions, writing the answer in its simplest form for example  $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

Divide proper fractions by whole numbers for example  $\frac{3}{4} \div 2 = \frac{1}{6}$

Associate a fraction with division and calculate the decimal fraction equivalents for example, 0.375 for a simple fraction, for example  $\frac{3}{8}$

Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places

Multiply one- digit numbers with up to two decimal places by whole numbers

Use written division methods in cases where the answer has up to two decimal places

Recall and use equivalence between simple fraction, decimals and percentages, including in real life contexts

Solve problems involving the calculation of percentages (for example, of measures and such as 15% of 200) and the use of percentages for comparison

Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts

Solve problems involving the calculation involving similar shapes where the scale factor is known or can be found

Use simple formulae

Generate and describe linear number sequences

Express missing number problems algebraically

Find pairs of numbers that satisfy an equation with two unknowns

Enumerate possibilities of combinations of two variables

# Christmas Fayre



## Games and activities

<p>Hook a Christmas cracker 30p</p> 	<p>Pin the nose on Rudolph 25p</p> 
<p>Knock Santa down the chimney 50p</p> 	<p>Santa's grotto £1.50</p> 
<p>Rudolph hoopla 20p a throw or 3 throws for 50p</p> 	<p>Decorate a plate competition £1 entry</p> 
<p>Paint pairing £1.25</p> 	<p>Keyring £2.50</p> 
<p>Decorate a gingerbread Christmas tree 50p</p> 	<p>Lucky dip 30p a dip or two dips 55p</p> 

SAMPLE

# Year Six, Spring 1

## Afternoon Tea

### New Objectives

Use, read, write and convert between standard units, Converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Convert between miles and kilometres

Recognise that shapes with the same areas can have different perimeters and vice versa

Recognise when it is possible to use formulae for the area and volume of shapes

Calculate the area of parallelograms and triangles

Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ( $\text{cm}^3$ ) and cubic metres ( $\text{m}^3$ ), and extending to other units [for example,  $\text{mm}^3$  and  $\text{km}^3$ ].

### Continuous Objectives

Solve number and practical problems that involve all of the above (number and place value)

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why

Solve problems involving addition, subtraction, multiplication and division

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Solve problems which require answers to be rounded to specified degrees of accuracy

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

Solve problems involving the calculation of percentages (for example, of measures and such as 15% of 360) and the use of percentages for comparison

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

# Afternoon Tea

If they raised £1000 by selling afternoon tea platters,  
how many of each could they have sold?

Is there more than 1 answer?

If a number of each platter was bought, what combinations could there be?

How many of each platter were sold?

For each combination, find out how many people bought  
would attend to Afternoon Tea

E.g. If 100 platters for 3 were sold; 100 people would attend.



The school sold the following platters:

Type of platter	Number sold
Platters for 2	29
Platters for 3	14
Platters for 4	15
Platters for 5	16

How many people  
attended altogether?



# Year Six, Spring 2

## The Beatles

### New Objectives

Draw 2- D shapes using given dimensions and angles

Recognise, describe and build simple 3-D shapes, including making nets

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

Recognise angles where they meet at a point, are a straight line or are vertically opposite, and find missing angles.

Describe positions on the full coordinate grid (all four quadrants)

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

### Continuous Objectives

Solve number and practical problems that involve all of the above (number & place value)

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why

Solve problems involving addition, subtraction, multiplication and division

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Solve problems which require answers to be rounded to specified degrees of accuracy

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

Solve problems involving the calculation of percentages (for example, of measures and such as 15% of 360) and the use of percentages for comparison

Solve problems involving similar shapes where the scale factor is known or can be found










Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

# The Beatles

## MONEY MONEY MONEY!

Use the clues below to work out how much money each Beatle has in the bank! The numbers are millions.

 John	 John	 Paul	<input type="text"/>
 Ringo	 Ringo	 Ringo	<input type="text" value="21"/>
 Paul	 George	 Paul	<input type="text" value="22"/>
<input type="text" value="20"/>	<input type="text"/>	<input type="text" value="23"/>	

# Year Six, Summer 1

## School Production

### New Objectives

Interpret and construct pie charts and line graphs and use these to solve problems

Calculate and interpret the mean as an average

### Continuous Objectives

Solve number and practical problems that involve all of the above (number and place value)

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why

Solve problems involving addition, subtraction, multiplication and division

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Solve problems which require answers to be rounded to specified degrees of accuracy

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

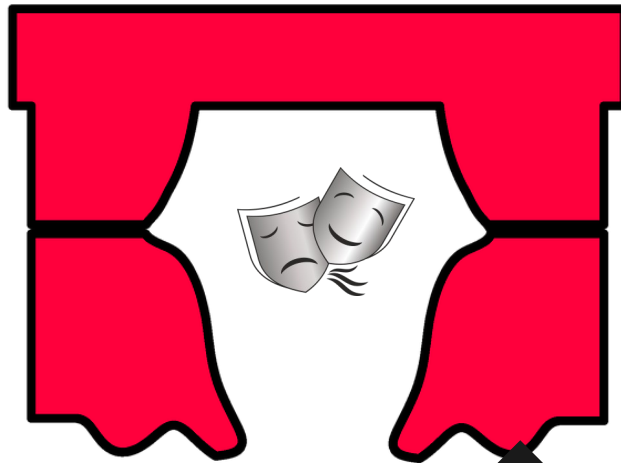
Solve problems involving the calculation of percentages (for example, of measures and such as 15% of 60) and the use of percentages for comparison (for example, of measures and such as 15% of 360) and the use of percentages for comparison




















Solve problems involving similar shapes where the scale factor is known or can be found

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

# School Production



<p>Entrance Fee</p> <p>Adult: £3</p> <p>Child: £1.50</p> 	<p>Raffle tickets</p> <p>Strip for £1 or 25p each</p> 										
<p>Size of the hall</p> 	<p>Pre order a DVD £5</p> 										
<p>Refreshments</p> <table><tr><td data-bbox="180 1809 354 1960"></td><td data-bbox="451 1809 597 1937"></td><td data-bbox="732 1809 899 1947"></td><td data-bbox="1008 1740 1159 1960"></td><td data-bbox="1230 1763 1463 1947"></td></tr><tr><td data-bbox="240 1983 305 2098"><p>Tea 50p</p></td><td data-bbox="467 1983 586 2098"><p>Coffee 50p</p></td><td data-bbox="704 1983 922 2098"><p>Slice of cake 75p</p></td><td data-bbox="1036 1983 1127 2098"><p>Juice 30p</p></td><td data-bbox="1300 1983 1403 2098"><p>Crisps 25p</p></td></tr></table>							<p>Tea 50p</p>	<p>Coffee 50p</p>	<p>Slice of cake 75p</p>	<p>Juice 30p</p>	<p>Crisps 25p</p>
											
<p>Tea 50p</p>	<p>Coffee 50p</p>	<p>Slice of cake 75p</p>	<p>Juice 30p</p>	<p>Crisps 25p</p>							

## Year Six, Summer 2

### Booking a Holiday

#### Continuous Objectives

Solve number and practical problems that involve all of the four operations (number and place value)

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why

Solve problems involving addition, subtraction, multiplication and division

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Solve problems which require answers to be rounded to specified degrees of accuracy

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

Solve problems involving the calculation of percentages (for example, of measures and such as 15% of 50) and comparison of percentages for comparison

Solve problems involving similar shapes where the scale factor is known or can be found

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

# Booking a Holiday

The family want to book their annual holiday but can't decide whether to relax in the sunshine or to go skiing. They love winter and summer holidays, so we need you to help them find the cheapest option.

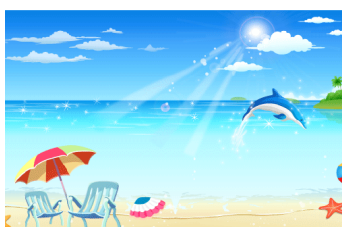
Here is some information to consider when choosing the perfect holiday.

If they choose a ski holiday, they will need a ski pass for each member of the family



There are 2 adults and 3 children in the family, the children are aged 15, 8 and 1.

If they choose a summer holiday, they want to go on at least 2 excursions on their summer holiday



The family have a budget of **£4000** to book a holiday and need to book:

- accommodation for 14 nights
- return flights



Support  
Inspire  
Learn

SAMPLE

Toxteth Annexe, Aigburth Road  
Liverpool, L17 7BN  
Phone: 0151 233 3901  
Email: [sil@si.liverpool.gov.uk](mailto:sil@si.liverpool.gov.uk)  
Web: [www.ednet.co](http://www.ednet.co)