

Medium Term Plan for Primary Maths – Stage 3

Autumn 2- Under the sea		Time allocation: 6 weeks
Coverage: <ul style="list-style-type: none"> • Presentation of Data • Investigating angles • Fractions, decimals and Percentages 	Links to topic: N/A	Key Words: <u>Presentation of data</u> Data, Pictogram, Tally, Tally chart, Block diagram, Table, Category, Categorical data, Total, Compare,
		<u>Investigating angles</u> Half, Quarter, Three quarters, Angle, Turn, Right angle, Greater than, less than, degrees
Skills <ul style="list-style-type: none"> • Read and write numbers • Order • Investigate • Explain • Question • Count • Reason • Problem Solve 	Suggested support materials & resources	
	Week 1-2: pictogram frame, tally chart, number lines, cubes, number lines, question cards, post it notes, bar charts, masking tape, example bar charts/ pictograms to interpret, Weeks 3-4: post it notes, positional language cards, objects to turn, arrow cards, angle prompt cards, set square, protractor, 2D square, Weeks 5-6: fraction cards, cubes, counters, objects, shapes, fraction question cards, fraction grid	
Content:	Learning objectives	

**Weeks 1- 2
Presentation of
data**

Pupils will be able to:

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

Pupils need to remember that tallies are blocks of five – make links that the word 'TALLY' has five letters and tallying involves making blocks of five.

Pupils always construct or identify the key for a pictogram before doing anything else

The bar chart was introduced by William Playfair, a Scottish economist, in 1786

Pupils are expected to understand and use simple scales, such as 2, 5, or 10 units per cm for bar charts and 2, 5, or 10 units per symbol for pictograms.

Note: The word 'data' is introduced in stage 3. It the plural of *datum*, from the Latin '*datum*' meaning "(thing) given,".

NCETM: [Glossary](#)

Common approaches

Pupils always construct or identify the key for a pictogram before doing anything else.

KM: Make a 'Human' Bar Chart by asking pupils to stand on a giant set of axes.

KM: [Stick on the Maths HD2: Bar charts and pictograms](#)

NRICH: [Class 5's Names](#)

NRICH: [Our Sports](#)

NRICH: [The Olympic Flame: Are You in the 95%?](#)

NCETM: [Activity A](#)

NCETM: [Activity B](#)

Learning review

NCETM: [NC Assessment Materials \(Teaching and Assessing Mastery\)](#)

Reasoning opportunities and probing questions.

- Show me a bar chart. And another. And another.
- Kenny thinks that a bar chart is the same as a block diagram. Do you agree with Kenny? Explain your answer.
- Jenny draws a bar chart with gaps between the bars. Lenny draws a bar chart with no gaps between the bars. Who is correct? Explain your answer.
- Penny draws a bar chart with horizontal bars. Benny says the bars must be vertical. Who is correct? Explain your answer.
- Always/Sometimes/Never: One centimetre on the frequency axis of a bar chart represents one unit.

NCETM: [Statistics Reasoning](#)

- I can interpret a pictogram where the symbol represents multiple items
- I can construct a pictogram where the symbol represents multiple items
- I can interpret a bar chart
- I can construct a bar chart
- I can interpret data in a table
- I can create a table to show data
- I can answer one-step questions about data in charts and tables (e.g. 'How many?')
- I can answer two-step questions about data in charts and tables (e.g. 'How many more?')

Week 3- 4
Investigating
Angles

Pupils will be able to:

- recognise angles as a property of shape or a description of a turn
- 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

It is thought that the origin of the name 'right angle' is the Latin word for 'upright'; as in perpendicular to the horizontal base in architectural contexts.

NCETM: [Glossary](#)

Common approaches

All pupils experience the 'feel' of a right angle by turning through quarter turns

NRICH: [Square It](#)

NCETM: [Activity Set B](#)

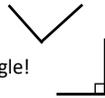
NCETM: [Activity Set C](#)

Learning review

NCETM: [NC Assessment Materials \(Teaching and Assessing Mastery\)](#)

Reasoning opportunities and probing questions.

- Show me a right angle in this classroom. And another. And another.
- Show me an angle in this classroom less (greater) than a right angle. And another. And another.
- Is this a right angle? Explain your answer.



- Convince me why this is not called a 'left' angle!

NCETM: [Geometry - Properties of Shapes Reasoning](#)

- I can understand that angle is a description of turn
- I can understand that angles are a feature of shapes
- I can identify a right angle as a quarter turn and when a shape has a right angle
- I can recognise that two right angles make a half-turn
- I can recognise that three right angles make three quarters of a turn
- I can recognise that four right angles make a complete turn
- I can identify angles that are less than right angle
- I can identify angles that are greater than a right angle

<p>Week 5 – 6 (Assessment week) Fractions, decimals and percentages.</p>	<p>Pupils will be able to:</p> <ul style="list-style-type: none"> • 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: unit fractions and non-unit fractions with small denominators • recognise and show, using diagrams, equivalent fractions with small denominators <p>compare and order unit fractions, and fractions with the same denominators</p> <p>Reminder of the term’s numerator and denominator, their definitions and identifying them within a fraction.</p> <p>Using fractions other than halves, quarters and thirds.</p> <p>Finding unit fractions of a number by dividing by the denominator eg $1/7$ of $42 = 42/7 = 6$</p> <p>Finding non- unit fractions of a number by dividing by denominator and multiplying by numerator eg $2/5$ of $15 = 15/5 = 3 \times 2 = 6$</p> <p>Discuss what a unit fraction and non- unit fraction means.</p> <p>Understand the concept of equivalent. What does it mean to be equivalent?</p> <p>Use Cuisenaire rods strips of paper and Lego blocks to investigate equivalent fractions.</p> <p>Using pictorial representations (number lines, diagrams) children to find equivalent fractions</p> <p>Introduce fraction wall</p> <p>Using pictorial representations to compare sets of unit fractions and order them from smallest to largest or largest to smallest understanding that as the denominator gets bigger the size of the fraction decreases</p> <p>Using pictorial representations to compare fractions with the same denominator understanding that as the numerator increases the size of the fraction increases.</p> <p>NRICH: Fraction Match NRICH: Matching Fractions NCETM: Activity F - Comparing Fractions</p> <p>Learning review KM: 3M8 BAM Task, 3M9 BAM Task NCETM: NC Assessment Materials (Teaching and Assessing Mastery)</p> <p>Reasoning opportunities and probing questions.</p> <ul style="list-style-type: none"> • Show me a fraction. And another. And another. • Which you would prefer, $1/2$ of a cake, $1/3$ of a cake or $1/4$ of a cake? • Convince me that $\frac{1}{2} = \frac{2}{4}$ • Show me a picture of $\frac{1}{2}$. And another. And another. <p>NCETM: Fractions Reasoning</p> <p><i>Sometime within this week pupils to complete a half termly Rising Stars assessment based on the stage in which they are working within. (WEEK 5)</i></p>	<ul style="list-style-type: none"> • I can recognise a unit fraction of a set of objects • I can recognise a non-unit fraction of a set of objects • I can write a fraction of a set of objects • I can understand a unit fraction as a number • I can understand a non-unit fraction as a number • I can understand the concept of equivalent fractions • I can recognise equivalent fractions from diagrams • I can complete diagrams to show equivalent fractions • I can create diagrams to show equivalent fractions • I can compare a set of unit fractions • I can compare a set of fractions which have the same denominator
<p>Assessment</p>	<p>End of block assessments. End of half term assessment.</p>	
	<p>Notes:</p>	