Shape

- Circles- introduce terms: radius, diameter and circumference
- Triangles- introduce scalene, isosceles, equilateral and right angled
- Understand the relationship between radius and diameter of a circle
- Investigate and discuss where and why shapes are used in the environment
- Investigate square/triangle based pyramids and triangular prism
- Create circle patterns and measure radius
- Investigate rigidity of triangles in model making
- Investigate the difference between skeleton and solid shapes

Angles and Symmetry

- Estimate size of angles to nearest 5 degrees
- Calculate size of angles
- Understand and investigate turns of 30 and 45 degrees
- Introduce 3 figure bearings
- Introduce rotation (co-ordinates)
- Complete symmetrical patterns with two or more lines of symmetry
- Understand the terms origin, x-axis, y-axis, axes, x-coordinate, y-coordinate and use them correctly in discussion
- Understand why scaling is useful and when we can use it e.g. When designing new playground features
- Understand the use of a colon when reading a scale

Information Handling

- Interpret, compare and draw conclusions from a range of data displays
- Understand that the method used to collect the information may affect the data gathered, the predictions made or conclusions drawn
- Recognise when presentation is misleading and discuss possible causes for this, e.g. Inappropriate information gathered or data poorly displayed
- Identify a range of ways to collect, organise and display data e.g. The role of the internet in on-line surveys
- Design and use a variety of methods to gather data
- Using a given set of data, including all key features, e.g. Title, labelled axes, key
- Understand what the term scale means and how it applies to graphs
- Construct frequency tables using the symbols $<, \leq, \geq, >$
- Use language associated with data handling e.g. Frequency, frequency table, grouped, frequency table, discrete data
- Demonstrate and understand the concept of equal chance, fifty-fifty, one in two etc through a range individual and collaborative tasks
- Be able to assign a numerical value to the likelihood of simple events occurring, e.g. There is a one in six chance that I will roll a four

We would love to hear your views on our Mathematics and Numeracy Milestones. Please contact us at:

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St. Andrew's Primary School and Nursery Class

Numeracy and Mathematics Milestones

Primary 6

The Milestones outlined in this booklet set the **minimum** expectations we have for the children in St. Andrew's within Numeracy and Mathematics for our nursery pre-school children

It is our aim to ensure a smooth transition for our children into Primary 6 with a clear focus on clear and progressive learning pathways.

The Milestones are split into the following sections:

- Estimation & Rounding
- Number & Number Processes and Patterns & Relationships
- Fractions, Decimals and Percentages
- Money
- Time
- Measurement
- Shape
- Angles and Symmetry
- Information Handling

Under each heading there is detail about the specific learning children will experience

Estimation & Rounding

- Round to nearest 10, 100, 1000, 10000, 100000
- Use skills of estimation and rounding in real life contexts

Number & Number Processes and Patterns & Relationships

- Be able to work with numbers to 1000000
- Place value to 1000000 and beyond
- Explain the link between a digit, its place and its value up to 2 decimal places
- Understand the inverse relationships of +/-/x//
- Solve word problems in context with negative numbers
- Sequence positive and negative numbers (up to -20)explain
- Locate numbers with a value e.g. 8-11=-3
- Identify a sequence finding the rule and extending the sequence
- Describe a sequence to a partner allowing them to reproduce using + - x /
- Generate a sequence using + - x /
- Use irregular sequences e.g. + 10 then + 20

Multiples, Factors and Primes

- Identify multiples and factors of a given number

Fractions, Decimals and Percentages

- Order/compare/read decimal fractions up to 2nd decimal place
- Sequence decimal fractions to 2 decimal places
- Identify mystery numbers e.g. 0.7 less than 12.99 is?
- Understand what happens to decimal fractions when multiplied or divided by 10 or 100
- Use written and mental methods to find percentages of amounts
- Identify true/false e.g. 4/9 = 16/18.
- Use division to express a fraction in its simplest form
- Consolidate relationship between fraction/ decimal/ percentage e.g. 1/4=0.25=25%

Money

- Appreciate sales tactics/strategies like 1. The location of items in a store e.g. Cheaper items on the lower and higher shelves. 2. Music choice and smells created from bakery 3. Lighting and promotions
- Know that there can be hidden costs when purchasing items, e.g. Fuel, postage, delivery, VAT
- Know how to interpret sales information, realising that it can be ambiguous
- Understand that marketing strategies can be misleading e.g up to 75% off means only some items are available at 75% discount
- Plan purchases after costing things out e.g. If 4 oranges cost £1.00, how much will 14 oranges cost? The unit amount of one orange is - £1.00 ÷ 4 = £0.25. So, the cost of 14 oranges is 14 x £0.25 = £3.50
- Use a variety of methods to calculate cost (mental, written, calculator)
- Understand and use terms such as budget, balance, overdrawn, interest, credit, debit, account, statement, PIN,ATM, withdrawal
- Know the purposes of different types of bank account
- Understand the importance of budgeting and the advantages/ disadvantages of saving and borrowing
- Appreciate that certain charges may be levied on an account and understand the financial implications of being overdrawn
- Know the potential risks of using bank cards to obtain cash or purchase goods at an ATM, or on the Internet
- Read and interpret bank card statements
- Experience using bank accounts and bank cards safely and responsibly in dramatic/roleplay simulations
- Consolidate understanding of profit and loss

Time

- Write each time as 24 hour time
- Read clocks and write times as 12 and 24 hour time
- Order times (earliest to latest and vice versa)switching between 12 and 24 hour clock
- 24 hour clock- times past and to the hour e.g. 25 mins after 0855/ 1905 etc
- Durations- 12 and 24 hour clock
- Read timetables/charts in 12 and 24 hour clock
- Read and record times in seconds and minutes

Measurement

- Consolidate use of square centimetre and square metre
- Practise estimating to improve accuracy
- Find area of right angled triangle
- Calculate area using formula (l x b)
- Convert between units of measurement by multiplying and dividing by 10,100 and 1000
- Volume- introduce formula (l x b x h)use cm cubes to measure volume