Bishop Chadwick Catholic Education Trust

St Anthony's Girls' Catholic Academy

Policy type:	School
Policy: 23	**Numeracy Policy**
Ratified by MAT Directors:	December 2020
Head Teacher signature:	M. Shepherd.
Chair of Directors signature:	Sr. M. Josepha
Review Date:	December 2021
Ownership:	M.McDonagh (Deputy Head) working with D.Pickervance-Clark (Numeracy Co.)

It is intended that this document will provide information and guidelines for a uniform approach to numeracy across the school.

What is Numeracy?

- Much more than just knowing about numbers and number operations
- It requires practical understanding and an ability to cope with the mathematical demands of everyday life
- It encourages problem solving in a variety of contexts
- It develops and enhances an analytical approach in dealing with measurement and handling data.

Purpose of a whole school Numeracy Policy

- To ensure that students receive positive messages about numeracy when used across the curriculum
- To secure high standards of numeracy across the school
- To set out the school's agreed approach to the teaching of numeracy skills
- To provide a basis against which progress can be judged
- To record methods, vocabulary and notation that have been agreed
- To assist the transfer of pupil's knowledge, skills and understanding between subjects
- To indicate areas for collaboration between subjects and processes for facilitating such collaboration
- To fulfil a current OFSTED requirement.

Important points to consider:
- Mental arithmetic should be recommended as a first resort. Students should be encouraged to continue and develop mental skills learnt in KS2 into KS3 and beyond.
- Teachers are encouraged to seek and compare a range of calculation methods by asking students how they worked out a calculation and discussing their responses. (Link with Literacy).
- Students will gain more and remember much more if understanding is given prominence
- Students should be helped to develop their own methods of calculation, however pupils who are not confident numerically require consistency in approach when learning or practising such skills.
- Students are expected to have their own calculator

Identifying key mathematical requirements across the curriculum
- Using and Applying Mathematics
- Here students use a variety of thinking skills
- Breaking the problem down into more manageable parts
- Logical deduction
- Hypothesising
- Predicting and testing

Number
Key skills are
- Place value
- Presentation of calculations to encourage mental calculation or estimation
- Language i.e. consistency of mathematical terms
- Correct reading of numbers i.e. 5.12 as five point one two and not five point twelve
- An equals sign must only occur once in a line of working
- Develop working down, not across, a page
- Link between fractions, decimals and percentages
- Correct use of standard form notation, not calculator display!
- Addition
- Subtraction
- Multiplication
- Division

Shape, Space and Measure
- Similarity – in mathematics the word similar means shapes that are the same shape but not necessarily the same size, their dimensions are in proportion to each other.
- A knowledge of both imperial units and metric units is useful.
- Appropriate units must always be stated on measurements in solutions and also on axes.
- Distinction between mass and weight.
- Bearings: Measured in a clockwise direction from North
  Described using at least 3 figures
- Use of the degree sign.

Handling Data
- All graphs should have a title and labelled axes, with units marked.
- Students should recognise the scale used and be able to identify what each small square represents on each axis.
- Students should be able to spot misleading graphs.
- Pie charts – label sectors or give a key
- Bar charts should have gaps between the bars and are used to display discrete data (takes a set value and is usually a whole number e.g. number of people).
- Histograms have no gaps between the bars and are used to display continuous data (can take any value e.g. time, length).
- Labelling of axes, number line versus spacing.

- Averages- refer to the common *average* as the mean average, try to use the mode and median too.
- Probabilities should be written as a fraction, decimal or percentage and not as a ratio or described as 1 in 3 or 1 out of 3.

Calculators
- Use of calculators allows freedom from repetitive difficult calculations.
- Discourage use for simple calculations.
- Encourage students to estimate the answer before using the calculator.
- Sensible rounding
- Answers alone are not acceptable. Students must show the sequence of the calculation
- Beware of basic calculators v scientific when the rules of BIDMAS are required (when the order of the calculation is important).