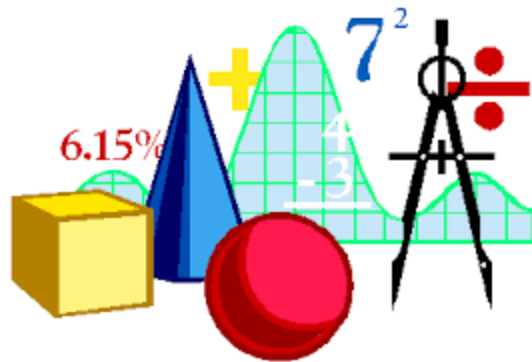


# Layman Scott Snr. High School



## Numeracy Across the Curriculum Policy



## **Rationale**

It is important that all pupils develop the ability to apply numerical understanding and skills confidently to solve problems in a variety of curriculum contexts and to cope with practical mathematical demands of everyday life.

## **Purpose/Aims**

The focus on Numeracy skills is not just the responsibility of the Mathematics department. All subjects where pupils are expected to apply numerical skills should be taking positive steps to develop pupils' Numeracy skills and concepts and provide opportunities for them to acquire the mathematical language crucial to understanding mathematical knowledge.

The purpose of this document is:

- i. To increase the pupils' ability to transfer mathematical skills into other subject areas, applying techniques to problem solving.
- ii. To improve Numeracy skills and raise pupils' mathematical attainment, which will promote high standards in other subjects.
- iii. To liaise with other departments to share cross curricular topics and methods
- iv. To increase pupils appreciation for the subject and help them to apply knowledge to real life situations.

## **Definition of Numeracy**

Numeracy is a proficiency which is developed mainly in mathematics but also in other subjects. It is more than an ability to do basic arithmetic. It involves developing confidence and competence with numbers and measures. It requires understanding of the number system, a repertoire of mathematical techniques, and an inclination and ability to solve quantitative or spatial problems in a range of contexts. Numeracy also demands understanding of the ways in which data are gathered by counting and measuring, and presented in graphs, diagrams, charts and tables.

*(Framework for Teaching Mathematics – yrs 7 to 9 – DfES)*

## Characteristics of a numerate student

Numerate students should:

- Have a sense of the size of a number and where it fits into the number system.
- Read numbers correctly from a range of meters, dials and scales.
- Know basic number facts and recall them quickly and confidently.
- Use what is known to work answers mentally
- Use calculators and other ICT resources appropriately and effectively to solve mathematical problems.
- Make sense of number problems, recognize the operation(s) needed and are available to work confidently with numbers.
- Know when answers are reasonable and give results to an appropriate degree of accuracy.
- Are able to manipulate algebraic expressions and simple formulae.
- Understand and use correct mathematical notation and terminology.
- Are able to explain methods, reasoning and conclusions
- Use units of measurement of length, angle, mass, capacity and time; can suggest suitable units for measuring, make sensible estimates of measurements and measure accurately using a range of instruments.
- Understand and use compound measures and rates.

- Use simple formulae and substitute numbers in them.
- Measure and estimate measurements, choosing suitable units and calculate simple perimeters, areas and volumes.
- Draw plane figures to given specifications and appreciate the concept of scale in geometrical drawings and maps.
- Understand the difference between the mean, median and mode and the purpose for which each is used.
- Collect data, discrete and continuous and draw, interpret and predict from graphs, diagrams, charts and tables.
- Understand probability and risk.
- Transfer/apply mathematical skills in real life situations.

## **Roles and responsibilities**

### **Math Department**

Provide opportunities for students to use math outside of the classroom through

- a. Numeracy morning activities
- b. House quiz competition
- c. Math challenges

### **Teachers of Mathematics**

Deliver the national curriculum through effective teaching

Assess the achievement of various attainment targets

Provide opportunities for students to apply math to real world situations

### **Teachers of other subject**

Provide opportunities for students to use math in their subject areas

Liaise with the Math department in planning for cross curricula numeracy

### **Students**

Learn basic math facts/skills

Apply concepts learned in one area to another.

Apply the math outside of the classroom setting.

Practice and review concepts on a regular basis

### **Parents**

- Provide an environment conducive to learning
- Provide the necessary resources needed to be used in the subject
- Support students learning of Math through discussions and practical applications in everyday situations
- Liaise with teachers on students progress in the subject

### **HOD**

- Monitor teaching and learning of the subject
- Support the development of the subject

### **Senior Management Team (SMT)**

- Monitor standards of achievement
- Monitor teaching and learning of the subject

### **Department of Education (DoE)**

- Provide opportunities for professional development

- Support teaching and learning through the provision of adequate resources
- Guide policy implementation and development



## **Appendices**

### 1. Focus Areas

- Number and Number sense
  1. Whole Numbers
  2. Fractions
  3. Decimals
  4. Percentage
  5. Money works
  6. Ratio and Proportion
  7. Measurement and conversion
  8. Read and Label Scales

### 2. NAC common areas in KS3

- Accounts and Business
  1. Consumer Arithmetic
  2. Graphs
  3. Percentage application
  4. Profit and Loss

- Art & Design
  1. Geometry
  
- Home Economics
  1. *Ratio and Proportion*
  2. *Measurement and Conversion*
  
- ICT
  1. Averages
  2. Consumer Arithmetic
  3. Formulae
  4. Graphs
  5. Percentage applications
  6. Order of Arithmetic
  7. Number Bases
  
- Science
  1. *Read and Label Scales*
  2. *Measurement and Conversion*
  
- Music

*1. Fractions*

- Design and Technology
  1. Measurement
  2. Pythagoras Theorem
  3. Angles
  4. Transformation Geometry
  
- Spanish
  1. *Percentage*
  2. *Time*
  
- Social Studies
  1. *Percentage*
  2. *Read and label scales*
  3. *Graphs*
  4. *Ratio and proportion*
  
- RE
  1. Geometry (shapes)
  2. Time

