

CATOR PARK SCHOOL

NUMERACY POLICY

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Numeracy co-ordinator:

Mrs. A. Karakas Mathematics Faculty

STATEMENT OF AIMS

Our aim at Cator Park School is to develop and extend the numeracy of all students in every area of the curriculum so that they become increasingly confident in their ability to communicate. This encompasses competency in number skill problem solving, skills and handling data skills. All students should be given opportunities to extend their skills in numeracy in a wide range of different contexts across the curriculum.

Numeracy equips pupils with a powerful set of tools with which to understand the worldit transcends subject, historical and cultural boundaries.

We recognise that all staff are teachers of numeracy. The numerical development of our students is a responsibility that we all share and it is not the exclusive preserve of any one department.

WHAT IS NUMERACY?

Numeracy is a proficiency which involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an inclination and ability to solve number problems in a variety of contexts. Numeracy also demands practical understanding of the ways in which information is gathered by counting and measuring and is then presented in graphs, diagrams, charts and tables.

As a teacher you can help children to acquire this proficiency by giving a sharp focus to the relevant aspects of the programmes of study for mathematics. The outcome should be numerate pupils who are confident enough to tackle mathematical problems without going immediately to teachers or friends for help. Your pupils should:

- have a sense of the size of a number and where it fits into the number system;
- know by heart number facts such as number bonds, multiplication tables, doubles and halves;
- use what they know by heart to figure out answers mentally;
- calculate accurately and efficiently, both mentally and with pencil and paper, drawing on a range of calculation strategies;
- recognise when it is appropriate to use a calculator and be able to do so effectively;
- make sense of number problems, including non-routine problems, and recognise the operations needed to solve them;
- explain their methods and reasoning using correct mathematical terms;
- judge whether their answers are reasonable and have strategies for checking them where necessary;

- suggest suitable units for measuring and make sensible estimates of measurements; and
- explain and make predictions from the numbers in graphs, diagrams, charts and tables.

ASSESSMENT OF STUDENT NEEDS

STUDENT BACKGROUND:

- 68 feeder primary schools,
- range of different mother tongues,
- includes refugees, some of whom have little experience of formal education,
- full ability range.

ASSESSMENT:

On entry, all pupils will sit NFER CAT. These results will be used to aid setting in mathematics areas together with KS2 SAT results and teacher assessment levels.

CLASSROOM ENVIRONMENT

We recognise that the classroom environment is an integral part of the numeracy programme.

Ideally each classroom should:

- display work rules,
- display marking symbols,
- display charts,
- contain a Mathematics Vocabulary Checklist,
- display number facts.

RAISING ACHIEVEMENT THROUGH NUMERACY

It must be clear that the development of numeracy is an entitlement for all pupils and a responsibility of all teachers.

At the INSET in April 2000, the following strategies were agreed to be used by all teachers in all areas of the curriculum:

- find out in advance how students would learn a topic in mathematics before using it,
- display number facts in the classroom,
- display charts and graphs in the classroom,
- encourage estimating before calculating,
- present sums in a horizontal format first to encourage mental calculation,
- expect students to have their own calculator, and to use it sensibly,
- use diagrams or practical equipment to help pupils make sense of mathematics,
- be an ambassador for numeracy.

NUMERACY LESSON

The Mathematics faculty base lessons upon the National Curriculum Framework for Key Stages 3 and 4. All faculties will be asked to contribute work and ideas to these lessons.

Objectives:

Pupils should:

- develop their mental calculation strategies,
- develop their written calculation methods,
- develop pupils use of numeracy skills in other areas of the curriculum,
- develop an understanding of the historical and cross-cultural nature of numeracy.

Practice:

Teachers should:

- structure lessons on the Numeracy Scheme "3 part lesson" to maintain good pace.
 - Oral and mental starter (5–10 minutes).
 - Main teaching and pupil activity (35-40 minutes).
 - Plenary (5 minutes).
- provide regular oral and mental work to develop and secure pupils' calculation strategies and rapid recall skills,
- devote a high proportion of lesson time to direct teaching of whole classes and groups, making judicious use of textbooks, worksheets and ICT resources to support teaching, not to replace it,
- demonstrate, explain and illustrate mathematical ideas, making links between different topics in mathematics and between mathematics and other subjects,
- use and give pupils access to number lines and other resources, including ICT, to model mathematical ideas and methods,
- use and expect pupils to use correct mathematical vocabulary and notation,
- question pupils effectively, including as many of them as possible, giving them time to think before answering, targeting individuals to take account of their attainment and needs, and exploring reasons for any wrong answers,
- involve pupils and maintain their interest through appropriately demanding work, including some non-routine problems that require them to think for themselves,
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- Ensure that differentiation is manageable and centred around work common to all the pupils in a class, with targeted, positive support to help those who have difficulties with mathematics to keep up with their peers.

Revised: July 2009