

Mathematics books for teachers

Geometric Images

ATM, 1982, £6.90 (members £5.52)

This book is mainly about geometric images, but there are some fractional problems at the beginning. All the activities begin with this wonderful relaxing commentary: 'Sit at ease, shut eyes. Make a mind picture' You can feel yourself drifting away already. It continues with children being encouraged to explain their visions and then develops into more complex ideas that can be used in the classroom.

Imaginings

SMILE (2112), 1995, £1.50

This excellent 36-page book is the result of several years of collaboration between practising teachers. It is crammed with good starters at all levels, particularly in the realm of shape and space. It suggests trying the activities out with colleagues before launching them in the classroom.

Mathematical Images

ATM, 1988, £3.50 (members £2.80)

Collection from *Mathematics Teaching*, selected by John Chatley

This is a collection of articles selected by John Chatley and published in 1988. It contains articles that vary in focus from number to shape; in age group from infants to tertiary; in depth from a brief musing to an analysis of what an image may mean; in use of stimuli from memory of early counting to use of computers; in culture from Sierra Leone to Somerset. You will find at least one article of interest here! Probably several will stimulate some thought and action. None seem outdated and many of the concerns are very much alive today.

Maths in Your Head

SMILE, £5.00

Whole-class lesson starters and enders. This A4 book contains 20 successful whole-class activities for developing fluency with mental mathematics. It includes comprehensive teachers' notes. Photocopiable resource sheets are provided. It will add variety and liveliness to the classroom environment. Suitable for Key Stages 2 and 3.

Mathematics Teaching

No. 160, September 1997

Mathematics Teaching is one of the journals of ATM and this particular issue has a feature on mental mathematics. The feature contains several articles, activities, posters and comments on the current mental tests.

Mental Methods in Mathematics

MA, 1992, £8.50 (members £5.75)

'In this book our concern with mental methods is primarily related to doing calculations, although we do give some consideration to geometric imagery and algebraic thinking.' This summarises the book simply and well. There are inset activities, reflections and some conclusions. A very useful book to have in the staff room or the classroom.

Mind's Eye Geometry

Ivan Moscovich, Tarquin publications, 0-906212-98-7

All the puzzles in this book can be solved just by looking, thinking and exercising the visual imagination. They offer a most enjoyable experience to anyone who is fascinated by the combination of geometrical ideas and logical thinking. For each puzzle there is a practical way of testing whether your answer is correct.

People Maths

Alan Bloomfield

Reckonings

SMILE (2324), 1997, £5.00

This is a compilation of whole-class activities, usually used as lesson starters or enders to encourage a mental approach for work with number. Each activity has a brief description. Teachers will need to spend some time introducing the basic activity in order to familiarise students with it. As students become more confident variations can be introduced (space has deliberately been left on each page for teachers to add their own) and the level of difficulty increased.

Starting from Your Head – Mental geometry

BEAM, 1993, £5.50

This book presents geometrical activities for teachers to present to groups of children or whole classes working at Key Stages 2 and 3. Some sentences from the introduction summarise the outlook: 'an attempt to ... help teachers bring back the power of imagery in work on shape and space It will become obvious to any teachers working with the activities in this book, if it is not obvious already, that mental work is an indispensable ingredient of shape and space'

Starting from Your Head – Mental number

BEAM, 1993, £4.50

This book presents numerical activities for teachers to present to groups of children or whole classes working at Key Stages 2 and 3. Some sentences from the introduction summarise the outlook: 'Children build up a different sort of familiarity through their mental images of number. They attain a greater flexibility in all aspects of number work by being able to manipulate those images. They can work towards generalisation of number patterns by visualising the generality And it is only in their minds that they can form an idea of infinity'

Stepping Stones

SMILE (1370), £1.80 + VAT

This is a cassette tape and small book to be used directly by students at Key Stages 2 and 3. The purpose of the activity is to tackle the subtraction of two-digit numbers by visualising a number line and then counting on from the smaller number to the larger. The activity only presents this one approach, but it could be a most important step for many children (and teachers) to recognise their freedom from the standard written algorithm.

Images of Infinity

Tarquin, Leapfrogs Group, 0 906212 89 8, 1984, £6.95

This book is a collection of drawings, writings, photographs, stories, poetry and cartoons revolving around the problems, paradoxes and theories about the infinite and the infinitesimal – ideas that people have grappled with throughout the centuries. It is a book for people of any age who find wonderment and fascination in pursuing the simple realisation that the counting numbers follow each other without end; or in peering at the reflections and the reflections-of-reflections when two mirrors face each other. Can a drawing of a hand drawing itself and the thing it is drawing ever be finished?