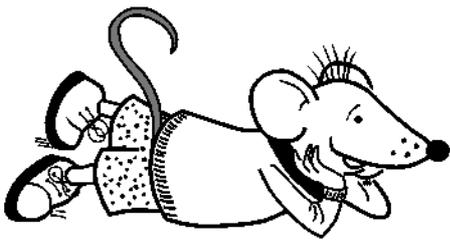


MENTAL ARITHMETIC

Teacher guidance



MathSphere

MENTAL ARITHMETIC TEACHER GUIDANCE

Mental arithmetic is at the heart of the Numeracy Strategy. From the beginning children are expected to use oral methods and to remember and recall number facts. The first five to ten minutes of each lesson should be focussed on these mental skills.

The papers that follow are organised into year modules, with two similar papers on each page. They have been written to support teaching, not to replace it and they should be used in a wide variety of ways, some of which are listed below:

1. Teachers have given the first paper at the beginning of the week, made comments on which questions the children have found difficult, and concentrated on these areas for the middle part of the week, returning to the second paper on Friday.
2. Usually the questions have been read out, but especially in the early years, the children can answer them in a variety of ways, not just written. Number cards can be held up, individuals can be asked to answer, or write the answer on the board and small 'whiteboards' for each child have also been used very successfully. The children write their answers on their whiteboard and then hold them up for the teacher to see. They then rub the answer off ready for the next question.
3. Often ten questions are too many to fit into the time allocation, and many teachers have used four or five in a session, especially when a new concept has been introduced. Keeping to a good pace is essential.
4. Talking and discussing how answers have been achieved is vital. Mental methods often use very different strategies than paper and pencil methods and children need to express how they did something and be shown quick ways of achieving the correct answer.
5. For some questions, especially involving sequences, teachers have found it useful to put the numbers on the board so that children can concentrate on working out the pattern rather than trying to remember the sequence.

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6. The questions have also been used as a written paper, with the children reading them rather than hearing them - the answers having been blanked out. This is very effective for assessment purposes.

It should be noted that many children, especially at Key Stage 2, have found the questions for their age group very difficult. It is most important that success is achieved and it may well be that children are started off with questions from one, two or even three years below their current year. When working with a mixed ability group teachers have also used some questions from earlier years, followed by harder questions in the same session.

Teachers have also used the questions as prompts - making up several similar ones themselves rather than going through the whole ten in one session.

The papers will only ever be a small part of the whole mental approach. Many other mental strategies should be used during the week, including number games, rhymes, knock out or head to head challenges.

The key to success is regular mental work on a daily basis, with plenty of opportunity to explain and discuss a variety of ways of working out an answer. Most of the questions in the papers are 'closed' in the sense that there is only one correct answer. Different methods should be discussed, but opportunities should also be given on a regular basis to attempt 'open' questions which can generate further discussion.