ABOUT THIS PUBLICATION:

WHO IS IT FOR?
Headteachers, teachers, local authority advisers and consultants, assessment and subject coordinators

WHAT IS IT ABOUT?
Pupils' performance in the 2009 National Tests

WHAT IS IT FOR?
To provide teachers with information about the problematic areas where pupils performed less well in the 2009 National Tests

ACHIEVE

IMPLICATIONS FOR TEACHING AND LEARNING 2009
MATHEMATICS

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ACHIEVE

IMPLICATIONS FOR TEACHING AND LEARNING

MATHEMATICS

Every year Rising Stars commission an experienced Year 6 teacher to review the Key Stage 2 National Test papers and pinpoint those areas where pupils performed less well.

This report outlines those areas that were identified as being problematic and makes suggestions for helping pupils to address these difficulties. This summary should be used in conjunction with teachers' and schools' own analysis of pupils' performance in the National Tests and knowledge of the teaching that had prepared the children for them.

MENTAL MATHEMATICS PAPER

Remember, this paper is worth 20% of the final marks and could easily be the difference between a level 3 and a level 4! Make sure children have plenty of practice answering mental maths questions. This will help to reinforce their knowledge and skills and to develop expertise and confidence in this area.

In recent years, the number of key facts that children need to know has increased. The mental maths paper is incorporating all of this, including: place value; decimals, fractions and percentages; measurement conversions; and of course multiplication and division facts. It is not enough however, for your pupils to know these facts. They also need to be able to apply them to various contexts as well as completing two or more steps to each question. For example, they need to be able to use place value to multiply or divide and then convert a measurement.

PAPER A (NON-CALCULATOR)

NUMBER

This is almost always linked to problem solving or data, except for the one multiplication and one division calculation which is included to assess whether pupils can use appropriate methods. Again, it is really important that your pupils understand and know their key facts. What is the relationship between fractions, decimals and percentages? How do you convert one to the other? Money always comes up as an area within number, and pupils need to be able to convert between pounds and pence.

HANDLING DATA

This is always related to number. Pupils need to show that they understand a variety of charts and graphs and that they can read and interpret various scales. The questions are rarely straightforward. For example, each question normally requires two or more steps to answer it and the question will link several areas of mathematics.

SHAPE AND MEASURES

Every aspect of this attainment target is covered from names and properties, to coordinates, area and perimeter, reflection and length. Each question overlaps the topics so pupils need to be able to inter-relate their knowledge and apply their understanding. It is important that pupils are taught how to use tracing paper and mirrors for these questions as this will save time and confusion in the tests.

PAPER B (CALCULATOR)

NUMBER

This is always related to other areas of mathematics and usually involves two or more steps to answer the question. There has been a lot of emphasis lately on percentages, fractions and decimals, conversions of measurements and the link between number and data. Calculations occur throughout each question. Remember, pupils do not always need to use a calculator to answer the question, but they do need to know how to use one. When money comes up in Paper B, pupils need to show that they understand its place value and can write down correctly the pounds and pence when using a calculator to gain the answer. For example, if the calculator shows 4.6 the answer to be written is £4.60.

HANDLING DATA

The issues are similar to those identified for Paper A. The emphasis is on being able to interpret a variety of graphs and charts which use various scales.

SHAPE AND MEASURES

The issues are similar to those identified for Paper A. In 2009, questions covered angles, area and quadrilaterals, as well as both 2-D and 3-D shapes. The use of tracing paper and mirrors is very important to reinforce key skills in answering shape questions.

BORDERLINE PUPILS

LEVEL 3–4

For your pupils to achieve a level 4, make sure they:

- know their times tables (or know how to calculate them quickly)
- can complete all four operations using a correct method
- know how to use a calculator
- can interpret simple graphs and charts
- understand shape and its properties
- are able to solve simple one- and two-step problems accurately.

LEVEL 4–5

To gain a level 5, pupils need to be able to solve multi-step problems usually relating to ratio, measurements and angles. Make sure you specifically teach how to answer a wide range of level 5 questions as they are not always covered in Year 6. Remember, on the mental maths paper the level 5 questions come at the end of each section (5 seconds, 10 seconds and 15 seconds).

IMPORTANT INFORMATION

- Know which questions are at which level in both the mental maths paper and the written papers. This will help your pupils know how to tackle the paper.
- Use any equipment available – calculator (Paper B), mirror, tracing paper and ruler.
- Teach specific topics to your higher achievers so they can access the level 5 questions when they sit the test.
- Make sure your pupils know their key facts and can apply these to all areas of mathematics.
- Some topics come up every year: percentages, fractions, decimals, data, multi-step problem solving, area and perimeter, and angles. Make sure all your pupils are well prepared to answer questions in these areas.
- Give your pupils plenty of opportunities to practice past questions from previous years' papers. Getting used to the format and the time limit is half the battle!

ACHIEVE

IFTM

RESOURCES TO HELP IMPROVE YOUR PUPILS' PERFORMANCE IN THE 2009 NATIONAL TESTS

ACHIEVE REVISION AND PRACTICE

The *Achieve* series of revision and practice books has been developed to raise attainment in the National Tests.

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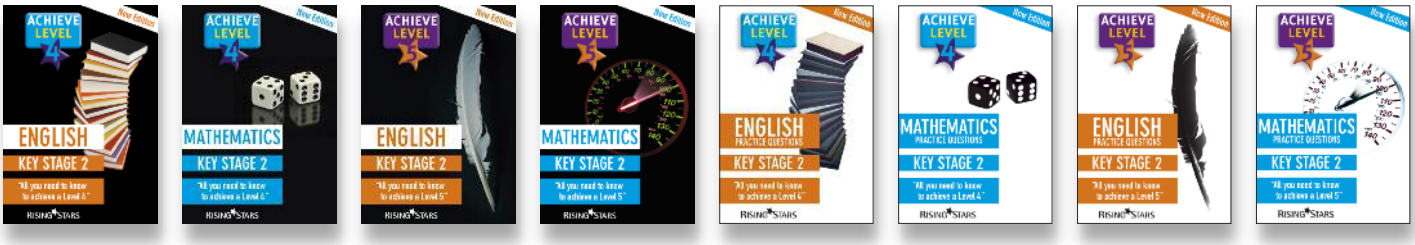

ACHIEVE TRICKY BITS CD-ROM

Interactive whiteboard software for your revision and booster classes that focuses on those question types that children get wrong time and time again.

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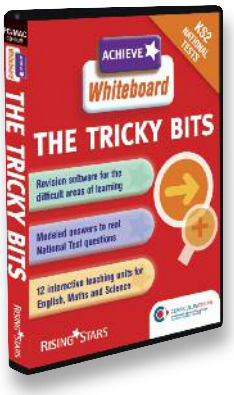

ACHIEVE THE TRICKY BITS PRACTICE QUESTIONS BOOKS

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