

## Test Analysis Grids 2005 – User Guide and Technical Support

### Technical Support

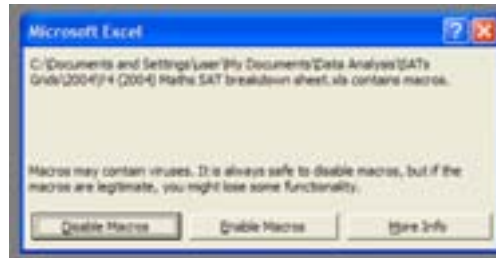
Electronic copies of the grids can be found at:

[www.bristol-lea.org.uk/teaching/primary/maths/test\\_analysis.html](http://www.bristol-lea.org.uk/teaching/primary/maths/test_analysis.html)

### Macros

The 2005, like the 2004 versions, use 'macros' which will need to be enabled within your version of excel.

When you open one of the analysis grids, you may be faced with a message like this:



Click *Enable Macros* to ensure all aspects of the grids work correctly.

If your macros are disabled as shown here, Click *OK* and then go to *Tools -> Macro -> Security*. Here set your level to *Medium*.



For any other questions or enquiries regarding the test analysis grids, please contact:

Shelagh Le Prince, Numeracy Administrator  
Bristol Mathematics Centre  
Bristol Education Centre  
Sheridan Road  
Horfield  
Bristol BS7 0PU  
Tel: 0117 90 31395  
Fax: 0117 93 11619  
Email: shelagh\_le\_prince@bristol-city.gov.uk

## Test Analysis Grids 2005 – User Guidance Notes

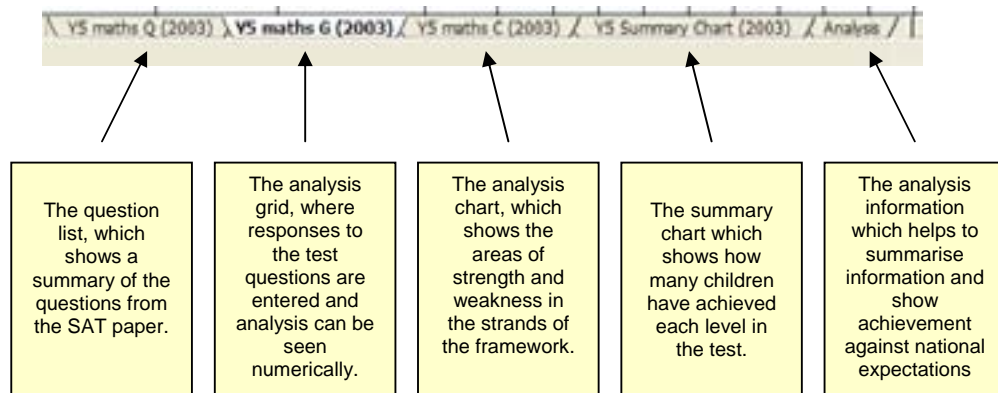
Electronic copies of the grids can be found at: [www.bristol-lea.org.uk/teaching/primary/maths/test\\_analysis.html](http://www.bristol-lea.org.uk/teaching/primary/maths/test_analysis.html)

### What are the grids for?

The aim of the grids is to enable teachers to analyse the results of optional and end of key stage SATs to highlight children's strengths and weaknesses. This may show areas of the mathematics curriculum where extra input is required, e.g. in mathematics, by changing the number of days allocated or the order of the units on the medium term plan. This can also enable curricular targets to be set for classes, individuals or groups. You can complete the analysis grids with pencil and paper, using those supplied by QCA, or use these excel grids to assist you to work out many of the lengthy calculations automatically. They will also total the scores for each question and each child and give a clear indication of any patterns in children's responses.

### How are the grids arranged?

All grids are in *Microsoft Excel* format so that analysis across the years can be coordinated. The grids have a number of sections, shown on the tabs on the bottom of the worksheet:



### How can I use the grids?

The grids are fairly straightforward to complete with spaces for simple pupil information, such as names, dates of birth and a series of boxes for entering the scores for each question for individual pupils. If there is more than one class in a year group, it is best to put all the data onto one grid, either in one go, or by cutting and pasting the information together. Information can be sorted by class / set / year group later, giving a more powerful set of data.

Click on the tab to bring up the analysis grid (the tab at the bottom labelled *Y5 Maths G 2003*). Enter the date the test was taken in 17/5/05 format in the yellow box in the top left of the sheet. This will allow the spreadsheet to calculate the ages of your pupils and automatically work out the age standardised scores. Enter the surname and first name in the columns provided and if you want to have the standardised scores automatically calculated, enter the date of birth in the format 6/3/93. The pupil's age in years and months is also automatically calculated in the next column to the right. If you are entering data for pupils in Y3 or Y4, you need to record a 1 in the appropriate column to indicate whether test A or test B was completed.

Now enter the question score under the appropriate question number, which is usually a 1, 0 or occasionally 2 marks, as highlighted in red below. There are spaces for question scores for all papers including the mental tests. Once completed, the software gives raw scores and percentages for each paper and the whole test.

As you enter the marks from the papers, you will notice the percentage of children answering each question correctly is shown above the question number. It changes to green if 80% or more children from those entered answered the question correctly, and changes to red if less than 20% have answered it incorrectly.

*What do the analysis grids show us?*

Using the scroll bar arrows at the bottom, move along until you can see the automatically calculated data:



This section adds up the scores from each paper of the test and picks out the questions by type, drawing them together according to the framework strands as shown here:

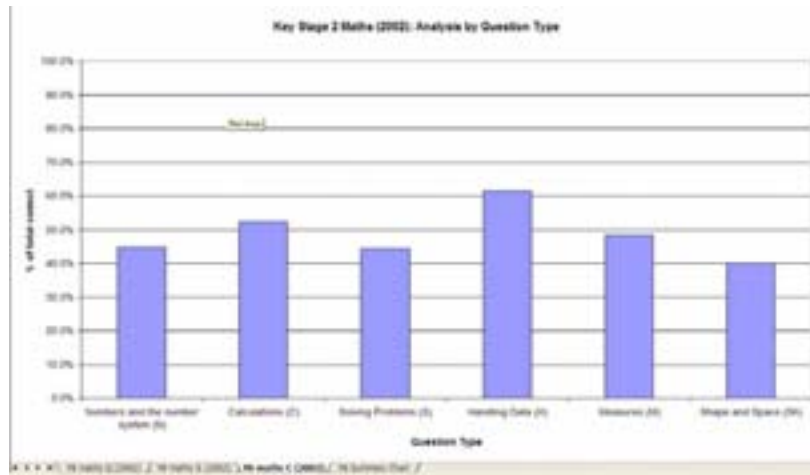
- C Calculations
- N Numbers and the number system
- Sh Shape and Space
- H Handling data
- S Solving Problems

This shows the areas of strength and weakness for individuals and the year group as a whole, the year group percentages for each strand being shown in the blue row:

This shows the total number of questions answered correctly by the year group on each part of the paper.

Here is the total number of questions answered correctly by the year group, expressed as a percentage

It is easier to see this data graphically, so click on the relevant tab at the bottom of the worksheet:



This will give you a clear idea about the areas of strength and weakness across the year group and will allow you to think about altering the teaching time spent on topics in the autumn term. For example, here there is strength in *Handling Data* and a weakness in *Shape and Space*. As you analyse each year group one by one, it may become clear that *every* year group is weaker in one particular area, so use this to help you to create some whole school development work in the year ahead.

As well as analysis to show areas of strength and weakness, the grids can also be used to draw some simple conclusions from the data. If you click on the *analysis* tab at the bottom of the page, you will see a screen similar to this one:



This shows how individuals are performing against national expectations. The levels highlighted in red are below the expected level: those children *just* below may benefit from targeted work or further support through springboard intervention programmes next year. Check to see who has scored below the lowest level and consider whether these pupils may require an IEP that includes targets for mathematics. If you prefer to see some of the information as a graph, click on the summary chart tab at the bottom of the page. This will show the number of children at each level from the year group to help with tracking.

### What else can the grids do?

The analysis grids can also give you information about how well groups of pupils or individuals are progressing. If you look on the main analysis grid and scroll to the right you will see there is a section called analysis by groups. Here you can enter as much or as little information you need to suit your school. It might be that you wish to compare boys and girls, those who had been involved in springboard this year, those with EAL, those with SEN and so on.

| Surname | Forename  | Date of Birth | Age (yy.mm) | SEN  | Set       | Class | Gender | Group of Interest 1 | Group of Interest 2 | Group of Interest 3 |
|---------|-----------|---------------|-------------|------|-----------|-------|--------|---------------------|---------------------|---------------------|
| 120     | Youssef   | Youssef       | 20/11/1994  | 8.4  | statement | 2 AB  | F      | Springboard         | all                 |                     |
| 121     | Angela    | Angela        | 21/01/1994  | 7.5  |           | 2 AB  | F      |                     |                     |                     |
| 122     | Simon     | Alexandra     | 21/08/1994  | 7.9  |           | 2 AB  | F      |                     |                     |                     |
| 123     | Isabella  | Isabella      | 26/01/1994  | 8.3  |           | 2 AB  | F      |                     | all                 |                     |
| 124     | Isabella  | Isabel        | 18/10/1993  | 8.6  |           | 2 CD  | F      | Springboard         |                     |                     |
| 125     | Andy      | Samuel        | 26/09/1993  | 8.8  |           | 2 CD  | F      |                     |                     |                     |
| 126     | Henry     | Thomas        | 27/04/1993  | 9.1  |           | 2 AB  | M      |                     |                     |                     |
| 127     | Isabella  | Isabel        | 24/01/1994  | 8.4  |           | 2 AB  | F      |                     |                     |                     |
| 128     | Abby      | Bea           | 23/10/1993  | 8.6  | all       | 2 AB  | M      |                     |                     |                     |
| 129     | David     | Alexandra     | 22/07/1994  | 7.9  |           | 2 AB  | F      |                     |                     |                     |
| 130     | Henry     | Simon         | 18/08/1994  | 7.8  |           | 2 AB  | M      |                     |                     |                     |
| 131     | Simon     | James         | 26/06/1994  | 7.9  |           | 2 AB  | F      | Springboard         |                     |                     |
| 132     | Isabel    | Isabella      | 24/06/1994  | 8.0  |           | 2 AB  | F      |                     |                     |                     |
| 133     | Henry     | Samuel        | 09/11/1993  | 8.8  |           | 2 AB  | F      |                     | all                 |                     |
| 134     | Isabella  | Isabel        | 27/11/1994  | 8.4  | all       | 2 AB  | F      |                     |                     |                     |
| 135     | Henry     | Isabel        | 15/10/1993  | 8.7  |           | 2 CD  | F      |                     |                     |                     |
| 136     | Alexandra | Isabel        | 18/05/1994  | 8.9  |           | 2 CD  | F      | Springboard         |                     |                     |
| 137     | Henry     | Sam           | 27/09/1993  | 8.7  |           | 2 CD  | F      | Springboard         | all                 |                     |
| 138     | Henry     | Isabella      | 12/12/1993  | 8.9  |           | 2 CD  | M      |                     |                     |                     |
| 139     | Isabella  | Isabel        | 20/03/1994  | 8.1  |           | 2 CD  | F      |                     |                     |                     |
| 140     | Isabella  | Isabel        | 15/01/1994  | 7.11 |           | 2 CD  | F      |                     |                     |                     |

Choose a simple code for the data (i.e. F for females, M for males) and enter data into some or all of the rows as in the example shown above. Use the filter arrows to pull out the children you want to know more about: These are shown at the top of each column:

| Question Total | Age (yy.mm) | SEN       | Set  | Class | Gender | Group of Interest 1 | Group of Interest 2 | Group of Interest 3 |
|----------------|-------------|-----------|------|-------|--------|---------------------|---------------------|---------------------|
| 84             | 8.4         | statement | 2 AB |       | F      | Springboard         | all                 |                     |
| 84             | 7.5         |           | 2 AB |       | F      |                     |                     |                     |

Click on the arrow and choose who it is you want to pick out – all the entries from the column are shown, for example, here chooses just the girls from the year group. Now if you click on the analysis chart again, the graph has been drawn again, this time just showing the group you have picked out. You can also double filter – e.g. look at all the girls in class CD only, or the boys with EAL. Simply carry out the process twice. To get the entire year group back again, click on the filter arrow again and select (All). Also, if you want to show the analysis graph for an individual child, go the filter arrow at the top of the names column and choose the pupil name from there. The question worksheet, accessed on the tab at the bottom of the screen is a useful reminder of the questions and the percentages that the year group, individual or group of interest has attained.

Y5 maths Q (2003) \ Y5 maths G (2003) \ Y5 maths C (2003) \ Y5 Summary Chart (2003) \ Analysis /

### How can we use test analysis information to inform curricular targets?

Test analysis outcomes, combined with teacher assessment information (recorded on class key objective record sheets), can be used to identify current strengths and areas in which children are doing less well. This information can be used to set targets and inform adjustments of teaching plans.

The most effective way to do this is to identify three or four objectives which are strengths for the cohort as a whole and then up to three objectives which are areas to be prioritised in the autumn term. Ideally, this should be done working jointly with colleagues, perhaps in a staff meeting. Teachers will need to look at the test analysis grids, copies of the test papers and the class key objective records.

To identify curricular strengths:

- Look at the questions which are highlighted green on the question worksheet (i.e. questions which more than 80% of children successfully answered).
- Consider the level of difficulty of those questions, matched to year group expectations (i.e. you may decide not to identify a question as strength if it was pitched at a level appropriate for a younger age group).
- Look at those questions in the paper and decide which objective(s) the questions most closely relate to.
- Compare these to class key objective records to identify three or four objectives

| Question | Description of Question   | Year | Year Group | Success Rate | Year Group Expectations |
|----------|---------------------------|------|------------|--------------|-------------------------|
| 1        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 2        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 3        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 4        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 5        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 6        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 7        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 8        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 9        | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |
| 10       | Identify the odd one out. | 1    | Year 1     | 85%          | Year 1                  |

against which the class are successfully achieving

Here is a brief description of the questions from each part of the paper.

Here is the total number of questions answered correctly by the year group, expressed as a percentage

This column shows the difficulty of the question, matched to year group expectations

To identify priorities for the coming year:

- Look at the questions which are highlighted red (i.e. questions which less than 20% of children successfully answered).
- Consider the level of difficulty of those questions, matched to year group expectations (i.e. you may decide not to identify a question as a concern if it was pitched at a level appropriate for an older age group).
- Consider if the question was towards the end of the paper (and so if the question has been flagged red because many children did not get that far as opposed to were unable to answer it).
- Look at those questions in the paper and decide which objective(s) the questions most closely relate to.
- Compare these to class key objective records to identify up to three objectives against which the class are not so successfully achieving.

The strengths and priorities that have been identified can then be recorded. A test analysis information summary sheet has been provided at the end of this document for this purpose.

### *Using pupil test scripts*

It is important also to look at pupil test scripts to deduce the nature of difficulty for pupils when solving these questions.

By looking at the children's test papers alongside the information the analysis grids have shown you, it is possible to identify common errors, misconceptions and approaches that may inform your future teaching. This could highlight a particular calculation method, an approach to using jottings or areas for development in those questions that require a *show your working* or *explain how you know* style answer.

For questions that have been answered most and least successfully by the children, you may wish to select a sample of marked scripts and consider the following points.

- What strategies have children used for answering these questions? What recording has been made?
- Is there any annotation of the questions themselves? For example, underlining or circling key words/information, crossings off, tallies etc
- Are the questions in a problem-solving context or are they simple computation/recall of facts?
- Are the questions single or multi step problems?
- Do the questions require a written and/or mathematical explanation? Are these clear?
- Do the questions contain a lot of written information including specific mathematical vocabulary?
- Are there any similarities between the most and least successfully answered questions?
- Are there approaches children are using in the successful questions that could be applied to the least successfully answered questions, for example, jottings and annotation, number lines or a particular written method?

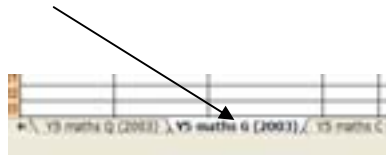
This information could be passed on to the teachers who will be receiving these pupils in the Autumn Term. Teachers can adjust class / group curricular targets based on these priorities and modify medium term plans to allocate more teaching time to these areas, perhaps through additional mental / oral starters and also consider freeing up some teaching time from the areas identified as strengths.

### *The school context - some useful questions*

- Are there any areas of the curriculum that have been a priority this academic year within key stages, year groups or for groups of children, such as mental maths, subtraction, using number lines, problem solving etc?
- How successfully have questions involving these areas of the curriculum been answered?
- What percentage of children answered these questions successfully?
- How does the success in these particular areas compare to other areas of the curriculum?

How can I use the data analysis information to plan intervention programmes in key stage two?

- First, identify number of pupils in each year group who would benefit from support by clicking on the main grid's tab at the bottom of the page.



- Click on the filter arrow at the top of the level column as shown and choose the level just below that of national expectation, e.g. level 2C for Year 2. This then shows only the names of pupils achieving that level. This information, used alongside teacher judgements, should help you plan the groups of children who could benefit from further targeted support.

| Surname | Forename     | Date of Birth | Age (yy/mm) | % of total | D=Required (Yield not at least) | Raw Score (out of 20) | Level | Standardised Score |
|---------|--------------|---------------|-------------|------------|---------------------------------|-----------------------|-------|--------------------|
| Moore   | Emily Jane   | 13/09/1993    | 8.8         | 25.0%      | 1                               | 16                    | 2A    | 84                 |
| Roy     | Robert James | 21/12/1993    | 8.8         | 25.0%      | 1                               | 16                    | 2A    | 80                 |
| Collins | Cameron      | 30/04/1994    | 8.8         | 25.0%      | 1                               | 13                    | 4     | 88                 |
| Gooding | Harry        | 22/08/1994    | 7.8         | 12.5%      | 1                               | 16                    | 2A    | 88                 |
| Goodman | Ben          | 22/02/1994    | 8.2         | 25.0%      | 1                               | 16                    | 2B    | 88                 |
| Wright  | Shane        | 11/05/1994    | 8.2         | 25.0%      | 1                               | 16                    | 2B    | 88                 |
| Wain    | Yasmin       | 16/10/1993    | 8.7         | 25.0%      | 1                               | 17                    | 2C    | 88                 |

What else as maths subject leader do I need to do?

- In consultation with the Head Teacher, decide how many springboard groups it is possible to run and in which year groups you will run them: it is more realistic to choose the year group(s) with the most number of children with potential to 'get back on track' with expectations. It recommended running springboard with groups of between 6 and 8 pupils, so if numbers are large, you may have to organise more groups accordingly. Record whole school information together, as shown on the next page and share with the all staff.
- Consider carefully who will benefit most from more focused support – the intervention programmes are designed for pupils who, with a little extra support are able to catch up with national expectations for their age group. You also may wish to include pupils who are already on track but need more confidence. Use the proformas on pages 12-14 to support this process.
- Remember springboard 5 is designed to be teacher led with a follow up lesson by a teaching assistant. Springboard 3 and 4 can be led by a teaching assistant.
- Plan implementation of Springboard linked to medium term plans.
- Review targets accordingly.
- Ensure all staff are reviewing key objective / test analysis information and adjusting medium-term plans appropriately each half term.
- Support teachers with planning & teaching identified priority areas.
- Support teachers with planning to meet needs of lower achieving pupils (i.e. those not targeted for Springboard as their attainment is too low to access the springboard materials).