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RM Education Advisory Council Key Stage 1: Indicators of Success



RM Education Advisory Council **Research Series**



About this report

This report is based on analyses commissioned by RM and carried out by the Fischer Family Trust Data Analysis Project. The underlying data used in these analyses is derived from the Fischer Family Trust database, which holds pupil-level attainment data provided by the Department for Education and Skills. The data analysis was performed by Mike Treadaway, (Director of Research at the Fischer Family Trust) and Andrew Hindley (Assistant Director of Research at the Fischer Family Trust), with the involvement of Mike Fischer (Founder of the Fischer Family Trust).

About the Fischer Family Trust

The Fischer Family Trust is a charitable trust actively engaged in education, medical and maritime research. It seeks to use in-depth data analysis and rigorous quality improvement techniques to improve processes in its areas of interest.

About the RM Education Advisory Council

The RM Education Advisory Council was set up by RM plc, with Professor Tim Brighouse as Chairman, to provide insight into educational processes and interventions. As well as providing independent expert educational advice to the RM Group, the RM Education Advisory Council seeks to disseminate research, knowledge and understanding of educational improvement.

Background

The introduction of national Key Stage testing in England and Wales has resulted in the creation of a large and growing amount of data about pupil performance. This has created the opportunity to perform analyses on this data to provide definitive information which is of use to teachers, school management, and educational professionals at all levels. In particular as the data begins to allow the correlation of the performance of children at one Key Stage with the outcomes at later stages. The Fischer Family Trust is a pioneer in creating models and performing analyses on this data.

This report is the first in the [RM Education Advisory Council Research Series](#). The RM Education Advisory Council has identified a number of specific analyses that might be of use to the education community, and has commissioned the Fischer Family Trust to carry out these analyses. This report addresses the area of Key Stage 1 (KS1) Indicators of Success, with the aim of addressing the question:

“What patterns of Key Stage 1 (KS1) outcome are associated with a high probability of level 4+ outcomes at Key Stage 2 (KS2)?”

Introduction

The core of this report is addressed at providing a definitive answer to a simple question: Based on existing experience, are there patterns of KS1 outcome which are clearly indicative of early literacy and numeracy success, and if so what are they?

Whilst early literacy or numeracy success does not guarantee a level 4+ outcome at KS2, we nevertheless hypothesized that looking for patterns of KS1 outcomes which were associated with a high likelihood of a level 4+ would be a reasonable approach to the problem. Thus the explicit question addressed by this report is 'What patterns of KS1 outcome are associated with a high probability of level 4+ outcomes at KS2?'

The context of this question is the possibility that the most important step towards achieving success at KS2 may be to avoid failure at KS1. Logic, anecdotal experience and statistical analysis all suggest that [early literacy failure is a particular problem and all too frequently results in a consequential handicap in a pupil's ability to benefit from the written element of education from year two onwards.](#)

Early literacy failure then creates a major challenge in recovery during the remaining years of primary education. We suggest that for most pupils, [the inherent challenge and cost of achieving early literacy success is significantly lower than the challenge and cost of recovering from early literacy failure after the event.](#)

If the avoidance of early literacy failure is potentially such an important element in a quality education for all pupils, then it is particularly important to understand what pattern of KS1 outcomes are particularly indicative of early literacy success.

To some extent there is already a 'rule of thumb' for this issue, which is that achieving a level 2B or above at KS1 is associated with a high probability of a level 4+ at KS2. Part of the purpose of this report is to provide a definitive set of answers: Is this rule of thumb accurate? Are there better rules of thumb? What rules are valid for boys and girls? Do these rules apply equally in schools in all social contexts?

Contents

This report is organised in three sections:

- 1. Key Findings in Outline:** Contains the essential conclusions of the analyses.
- 2. Key Findings:** Provides the key numbers which support the essential conclusions.
- 3. Annexes:** One of the objectives of this report is, where possible, to provide definitive conclusions. In order to meet this goal, the annexes provide an additional level of detail to enable the reader to draw their own conclusions from the underlying data. The annexes also extend the analyses to look at level 5+ at KS2, and to also look at attainment in Science.

Key Findings in Outline

1. The first major finding is that there are definitive rules of thumb for the minimal KS1 achievement associated with a high probability of success at KS2, and that these rules of thumb are as follows:

For a high probability of English level 4+ at KS2, for both genders, at least:

either: (R2B & W2C), i.e. level 2B in Reading together with level 2C in Writing

or: (R2C & W2B), i.e. level 2C in Reading together with level 2B in Writing

For a high probability of Mathematics level 4+ at KS2, at least:

For Boys: (M2B & R2C), i.e. level 2B in Mathematics together with level 2C in Reading

For Girls: (M2B & R2B), i.e. level 2B in Mathematics together with level 2B in Reading

2. The second major finding is that these rules of thumb hold true for all schools. Variations between schools with the lowest quartile and highest quartile of free school meals (FSM) are relatively small in relation to variations relating to different levels of KS1 attainment.

These analyses are based on data which covers the first two annual cohorts for which there is both KS1 data and KS2 data for each pupil. Thus the analyses are based on data covering the two cohorts KS1 1998 to KS2 2002, KS1 1999 to KS2 2003. This data represents a total of approximately 1.2 million pupils.

Key Findings

English - all pupils:

What is meant by a high probability of success? In broad terms we were looking for two things: firstly a level of probability which was reasonably high; secondly, if supported by the data, a set of KS1 outcomes which represented some sort of threshold, i.e. which are associated with a substantially higher level of success than that associated with the next lowest level of KS1 outcome.

As can be seen in the table below, the '(R2B & W2C) or (R2C & W2B)' rule is associated with an 81% probability of KS2 English level 4+, looking at all pupils in England. This broadly suggests that, in most current circumstances, such pupils have a very good chance of achieving level 4+, given a reasonable quality of teaching during KS2.

If pupils achieve (R2C & W2C) at KS1, the associated probability of KS2 English level 4+ drops to 64%. This suggests that such pupils will need better than average learning experience, perhaps including some additional support, to fully secure their literacy. If the pupils achieve (R2B & W2B), the associated probability of KS2 English level 4+ rises to 91%, which suggests that such pupils have acquired a robust level of literacy.

Table 1: Percentage of English level 4+ outcome at KS2:

		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	5%	14%				
	R1	13%	26%	42%	63%		
	R2C	34%	47%	64%	81%	91%	
	R2B		64%	81%	91%	96%	
	R2A		74%	90%	96%	98%	99%
	R3			98%	99%	100%	100%

High probability of KS2 level 4+ shaded in blue

Blank cells indicate insufficient pupils for reliable analysis.

English - Boys versus Girls:

To what extent do these rules of thumb hold for both boys and girls? The full data can be found on pages 14 and 15. The data shows that on average, for a given set of KS1 outcomes, the outcomes at English KS2 for girls will be slightly better than that for boys. Thus the associated English KS2 level 4+ probability for KS1 (R2B & W2C) is 80% for Boys and is 82% for Girls, and for R2C & W2B the figures are 79% for Boys and 83% for Girls. Thus although there are gender differences, they are small compared to the outcomes associated with different levels of achievement at KS1, and one set of 'rules' is valid for both genders.

English - School Context:

Here the differences are more significant than the gender issues. The detailed information is available on page 11. The data shows that, for KS1 outcomes associated with an 80% probability of English level 4+ at KS2 for all schools:

- 75% of pupils with these KS1 outcomes achieve English level 4+ outcomes in the quartile of schools with the highest percentage FSM;
- 85% of pupils with these KS1 outcomes achieve English level 4+ outcomes in the quartile of schools with the lowest percentage FSM.

Nevertheless, the data shows that in all quartiles of schools, the 'national average' rules of thumb still appear to represent the most meaningful threshold between early literacy failure and early literacy success.

Mathematics - all pupils:

The full data for Mathematics is given on pages 16 and 17. As can be seen from the tables below, for a high probability of KS2 mathematics level 4+, a level M2B is required by all. In Mathematics, the second most important indicator is the level of reading. Thus the probability of Mathematics level 4+ for Boys with KS1 (M2B & R2C) is 80%, and for Girls with K1 (M2B & R2B) the probability is 81%.

As would be expected, the associated KS2 Mathematics outcome is more affected by differences in the KS1 Mathematics outcome than by the KS1 reading outcome.

Table 2: Percentage of Mathematics level 4+ outcome at KS2:

		KS1 Reading Level											
		Boys						Girls					
		RW	R1	R2C	R2B	R2A	R3	RW	R1	R2C	R2B	R2A	R3
KS1 Mathematics Level	MW	3%	8%	14%	15%			2%	4%	8%	11%		
	M1	13%	22%	34%	40%	45%	56%	8%	15%	25%	32%	38%	59%
	M2C	35%	46%	59%	69%	75%	84%	28%	36%	49%	60%	69%	82%
	M2B	54%	70%	80%	86%	90%	95%		59%	72%	81%	87%	93%
	M2A	64%	83%	90%	94%	96%	98%		76%	85%	91%	94%	98%
	M3		91%	96%	98%	99%	100%		86%	92%	96%	97%	99%

Mathematics - Boys versus Girls:

Whilst differences between boys and girls are, for the most part, smaller than differences associated with other factors, the data shows that, for the same KS1 outcomes, boys are more likely to achieve level 4+ in Mathematics at KS2. The differences tend to increase for lower levels of attainment in KS1 reading.

Mathematics - School Context:

Looking at the charts on page 12, the effect of a school’s context on associated KS2 Mathematics outcome is almost identical to that for English. Thus on average, the quartile of schools with the **lowest FSM** have an associated KS2 Mathematics outcome about **5% higher** than that for the average of all schools, and the quartile of schools with the **highest FSM** have an associated KS2 Mathematics outcome which is **5% lower** than the average for all schools.

General Points

Taking into account more variables:

In these analyses, we have looked at the outcome probabilities for the average across all pupils, and at how these probabilities vary with gender or school context. The conclusion is that relatively useful rules of thumb can be deduced in this way. However, statistically significant variations exist for a much larger number of variables, than can be deduced as rules.

The Fischer Family Trust provides detailed analysis taking into account all available factors with statistical significance. It provides detailed analyses to over 135 LEAs, at the pupil, school, project, LEA, and national level. These analyses currently take into account individual pupil prior attainment, date of birth, gender, school FSM context, and school prior attainment context. Analyses which are able to take account of differences associated with length of time in school, ethnicity and other factors are also under development.

Taking into account each of these variables simultaneously improves the quality of the analyses, but also results in relationships which go beyond the point where these can be no longer sensibly be looked at in terms of simple rules of thumb. Future reports in this series will look at the particular question of the effect of educational outcome in relation to some of these other variables.

Teacher assessment:

Detailed analysis undertaken as part of the Fischer Family Trust Data Analysis Project shows that the combined use of test data and teacher assessment data provides a more reliable analysis than the use of either test or teacher assessment data alone. However, in order to reduce the complexity of the data and to enable a graphical representation of key outcomes, this paper concentrates mainly upon analyses which use attainment in National Curriculum tests at KS1 and KS2.

The individual has more potential than the average:

The goal we had in doing these analyses was to find whether there were certain levels of achievement at KS1 which basically corresponded to early literacy and numeracy success. This appears indeed to be the case. We hope that these analyses will help all those involved to try and find ways of achieving these definable measures of success for an ever growing percentage of children.

However in doing and presenting these analyses we would like to emphasise that each child is different. Thus these analyses should not suggest that certain children have clear and irremediable failure just because their test outcomes at KS1 are below some threshold. The test outcome itself may be invalid for that child at that point. Where the test outcome is low and valid, there are still a significant number of children who later do well. Thus for pupils who 'only' achieve KS1 R1 & W1, 26% on average currently go on to achieve KS2 English level 4+. For children below any particular threshold at KS1, we would prefer the analyses to be used to inform the level of support which that child is in need of to gain a higher chance of 'full' success.

Equally, although we have looked at average KS2 level 4+ outcome as a useful test for the concept of the determinacy of early literacy/numeracy success, we are not suggesting that KS2 level 4+ is the only worthwhile goal for each individual. There will be many children for whose lives are significantly changed by the additional attention which improves their KS2 English competency from that associated with level 2 to that competency associated with level 3.

The same individualism holds true at the school level. In particular, in schools with a challenging intake but with exceptional KS1 to KS2 value added, pupils who only achieve (R2C & W2C) may still have a high chance of achieving English level 4+ at KS2.

Annexe A - Key Factors in attaining Level 4 at Key Stage 2:

This section looks at percentage of pupils who achieve level 4 or higher at KS2 and how this varies according to different combinations of KS1 attainment.

Statistical analysis of matched datasets, looking at both test and teacher assessment data from KS1, can provide an indication of which aspects of attainment at KS1 are most strongly related (correlated) to attainment at KS2. The following table shows, for each KS2 subject, the two aspects at KS1 which are most strongly related to KS2 attainment:

KS2 Subject	First KS1 Aspect	Second KS1 Aspect
English	Reading	Writing
Mathematics	Mathematics	Reading

English Level 4+

Tables 3 and 4 show the number of pupils and the percentage achieving level 4 or higher in English at KS2 for each combination (where the total number of pupils exceeds 1000) of reading and writing levels at KS1:

Number of pupils achieving KS2 English level 4+:

Table 3:

		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	28240	3221				
	R1	30596	88534	50054	1441		
	R2C	1492	28252	135582	24623	1086	
	R2B		6977	108640	99867	12517	
	R2A		1482	39791	94616	40368	5108
	R3			15056	92265	127766	81265

Percentage of pupils achieving KS2 English level 4+:

Table 4:

		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	5%	14%				
	R1	13%	26%	42%	63%		
	R2C	34%	47%	64%	81%	91%	
	R2B		64%	81%	91%	96%	
	R2A		74%	90%	96%	98%	99%
	R3			98%	99%	100%	100%

This analysis shows that:

- for a given level in KS1 reading, the percentage of pupils attaining level 4 in writing varies with their KS1 writing level;
- the most significant variations, taking into account the number of pupils and the range of variation, are for pupils who attain levels 1, 2C and 2B in reading or writing at KS1.

Mathematics Level 4+

Table 5 shows the outcomes for Mathematics, looking at variation in terms of KS1 Mathematics and reading levels, shows:

Percentage of pupils achieving KS2 Mathematics level 4+:

Table 5:

		KS1 Mathematics Level					
		RW	R1	R2C	R2B	R2A	R3
KS1 Reading Level	MW	3%	6%				
	M1	12%	19%	29%	36%	41%	
	M2C	34%	42%	54%	64%	72%	83%
	M2B		66%	76%	84%	88%	94%
	M2A		81%	88%	93%	95%	98%
	M3		91%	95%	98%	98%	99%

Further examination of the data indicates that, for the same combination of KS1 levels:

- boys make more progress from KS1 to KS2 in Mathematics and slightly less in English;
- pupils make greater progress in schools where the overall intake is higher attaining / where a low proportion of pupils are entitled to Free School Meals.

Differences between the progress of boys and girls are included in more detailed analyses (Pages 13 to 18).

KS1 Outcomes - Impact of School Context

The proportion of pupils (in the school total cohort) entitled to Free School Meals (FSM) is often used as an indicator of the schools 'context'. An alternative approach is to group schools according to the overall attainment of their KS1 intake. Both approaches were investigated and gave similar results. The final groupings used were:

- schools with more than 22% FSM
- schools with FSM in the range 13% to 22%
- all schools
- schools with FSM in the range 7% to 12%
- schools with less than 7% FSM

This approach gives a similar number of pupils in each of the four sub-groups. The overall KS1 attainment for all schools in each of the FSM groups is shown in tables 6 and 7.

Key Stage 1 Reading Test/Task Level:

Table 6:

School Group	RW	R1	R2C	R2B	R2A	R3	Below 2	Below 2B
FSM - above 22%	11%	18%	34%	23%	10%	4%	29%	63%
FSM - 12% to 22%	5%	12%	33%	28%	15%	6%	18%	51%
FSM - 7% to 12%	3%	9%	30%	30%	18%	9%	12%	43%
FSM - less than 7%	2%	7%	27%	31%	21%	12%	9%	36%

Key Stage 1 Mathematics Test/Task Level:

Table 7:

School Group	MW	M1	M2C	M2B	M2A	M3	Below 2	Below 2B
FSM - above 22%	6%	24%	19%	19%	15%	16%	30%	49%
FSM - 12% to 22%	3%	16%	18%	21%	17%	26%	19%	37%
FSM - 7% to 12%	1%	12%	17%	21%	17%	32%	14%	30%
FSM - less than 7%	1%	9%	14%	20%	17%	39%	9%	24%

The following charts illustrate how attainment in English and Mathematics at KS2 varies with KS1 attainment.

English

For English, charts 1 to 3 show:

- the percentage attainment level 4+ at KS2 for pupils with KS1 reading levels of 1, 2C and 2B;
- how this varies according to their KS1 writing level and the 'context' of the school (as defined by their FSM grouping).

Chart 1

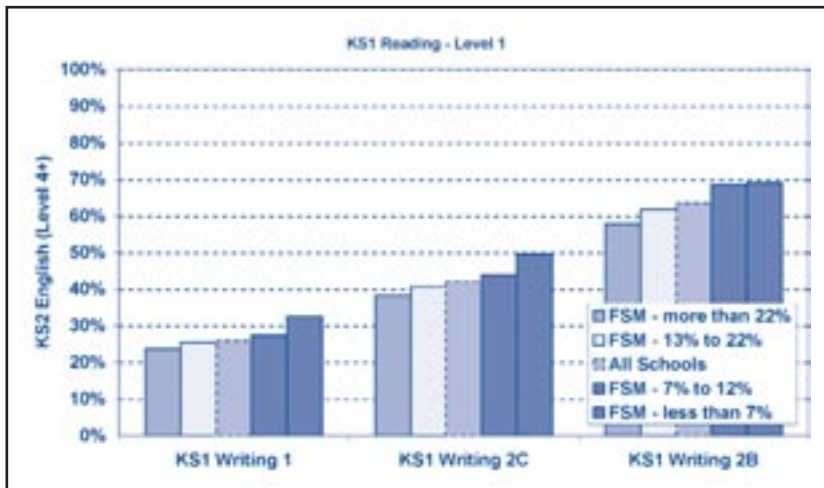


Chart 2

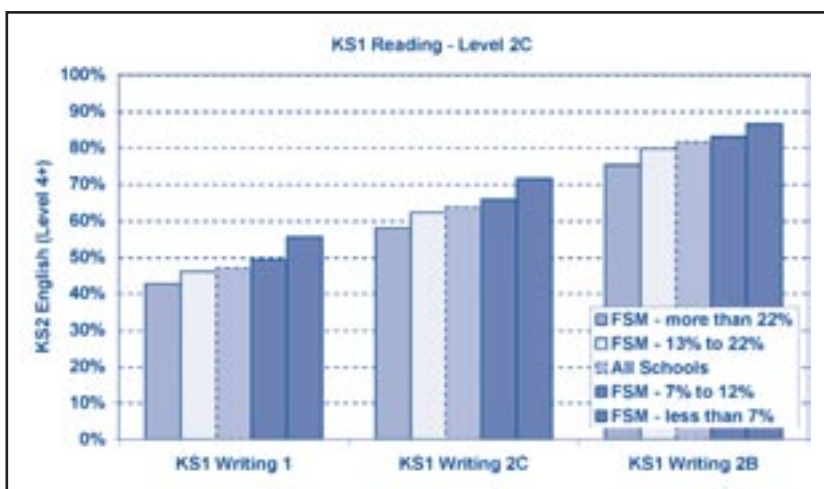
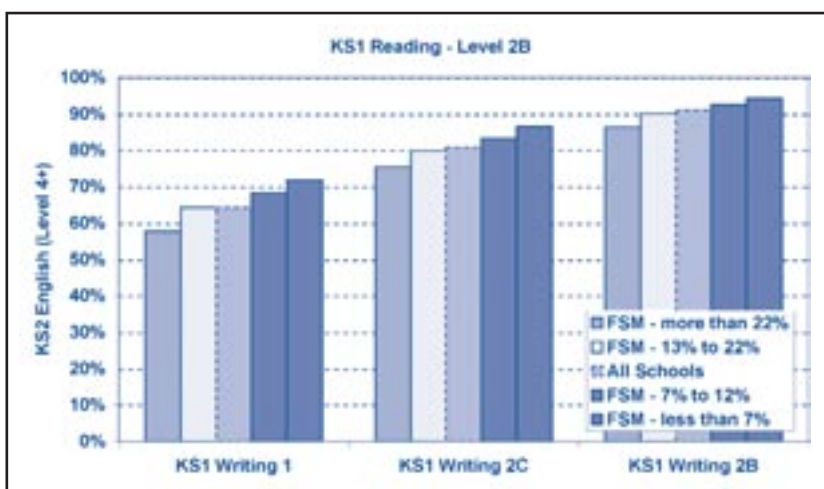


Chart 3



Mathematics

For Mathematics, charts 4 to 6 show:

- the percentage attainment level 4+ at KS2 for pupils with KS1 Mathematics levels of 1, 2C and 2B;
- how this varies according to their KS1 reading level and the 'context' of the school (as defined by their FSM grouping).

Chart 4



Chart 5

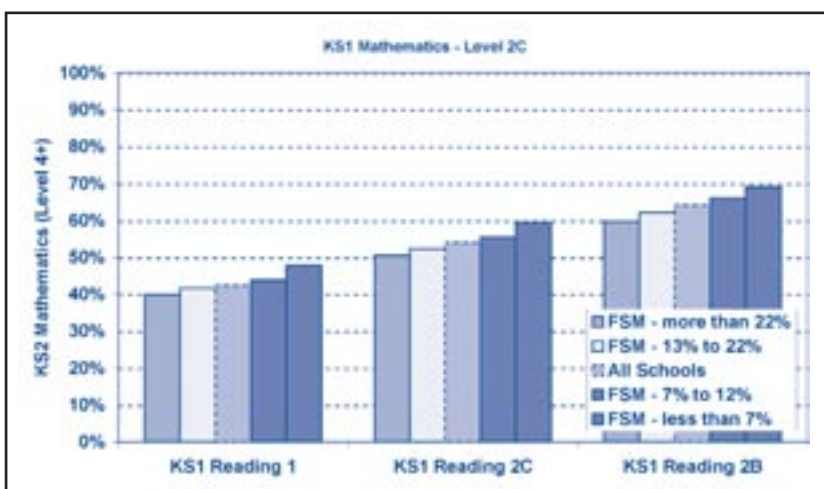
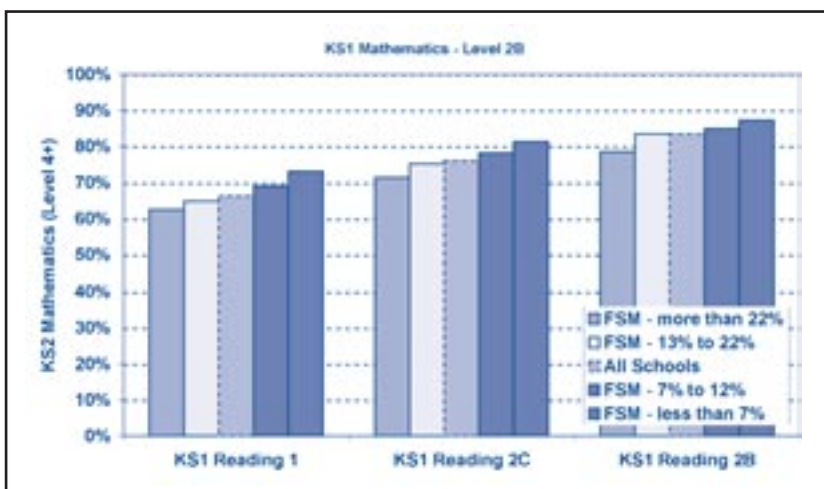


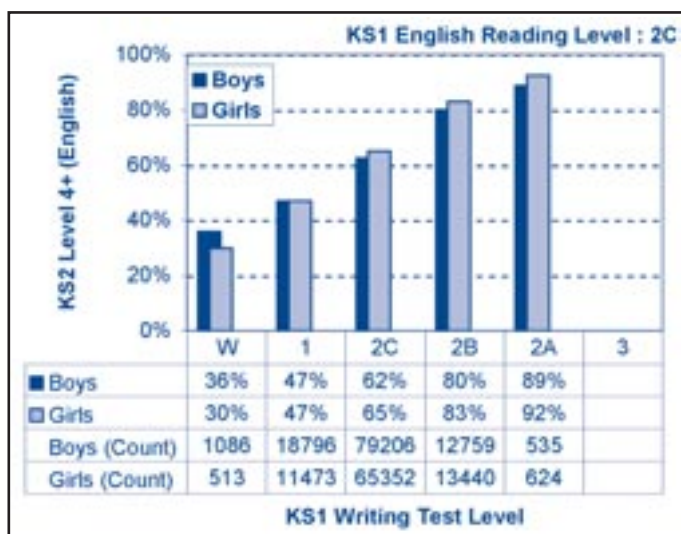
Chart 6



Annexe B1 - How to Read Detailed Charts and Tables:

Chart 7 illustrates the KS2 attainment of boys and girls in English and shows, for pupils with the same attainment in reading at KS1, how their KS2 attainment varies according to their KS1 attainment in writing.

Chart 7



Where there are less than 100 pupils in a category (e.g. writing level 3 in the chart above) then data is not shown.

The data shows that, for pupils with the same reading level (2C) at KS1:

- KS2 attainment in English (Level 4+) varies from 36% to 89% for boys and from 30% to 92% for girls;
- pupils where the ‘chances’ of attaining level 4 or higher at KS2 are above 80% are those with a level 2B or higher in writing;
- a significant number of pupils with lower attainment at KS1 (e.g. pupils with 2C in reading and 1 in writing) attain level 4.

In most cases, for pupils with the same attainment in reading and writing at KS1, girls are slightly more likely to attain level 4 in English at KS2 – but the differences are small. This pattern appears to change for pupils who are working towards level 1 – but the numbers here are a relatively small proportion of the total.

In the chart shown above, the ‘count’ shows the total number of pupils for each combination (e.g. 11473 girls with reading level 2C and writing level 1). The percentage figures show the % (out of the total count of pupils) who achieve (in this case) level 4 or higher at KS2.

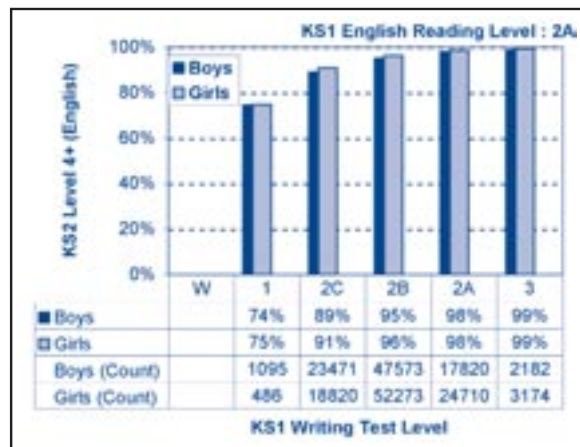
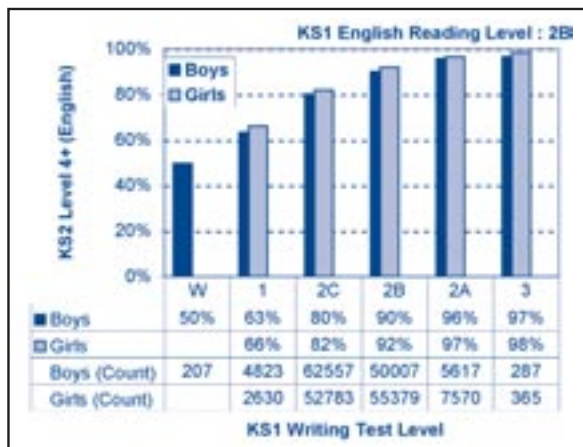
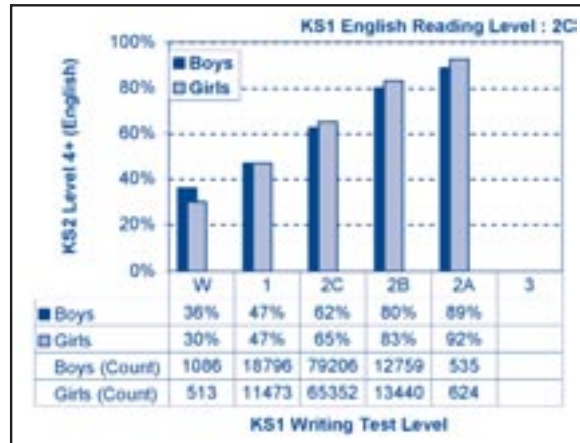
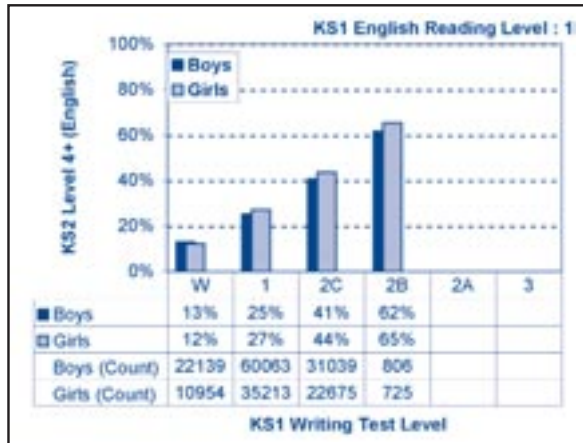
Each page in this section includes charts for pupils with levels 1, 2C, 2B or 2A in the first aspect (reading or mathematics). Also included on each page is a chart showing the percentage achieving level 4+ or level 5+ for all combinations (where represented by 100 or more pupils). For the level 4+ charts, combinations where 80% or more achieve level 4 or higher are highlighted.

The final page in this section provides an analysis of the relationship between teacher assessment in Science at KS1 and attainment in Science at KS2.

Annexe B2 - English (Level 4+):

The charts in this section show, for pupils who attain level 1 or level 2 in the reading test / task at KS1:

- how KS2 attainment in English (% of pupils attaining level 4 or higher) varies according to their KS1 reading test / task level (2C, 2B or 2A);
- how this changes, for pupils with the same reading level, according to their attainment in the KS1 writing test / task.



Key Stage 2 English Level 4+

		BOYS					
		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	5%	12%	17%			
	R1	13%	25%	41%	62%		
	R2C	36%	47%	62%	80%	89%	
	R2B	50%	63%	80%	90%	96%	97%
	R2A		74%	89%	95%	98%	99%
	R3		92%	97%	99%	100%	100%

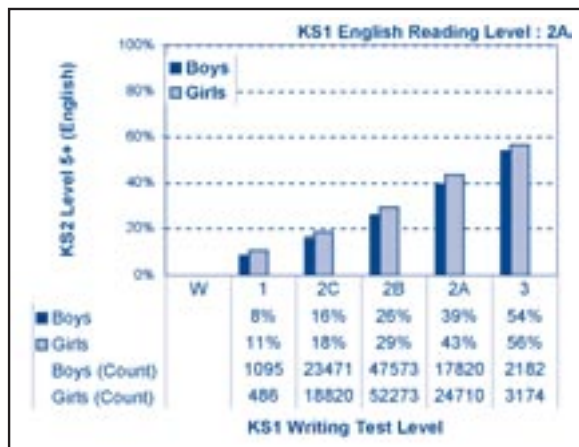
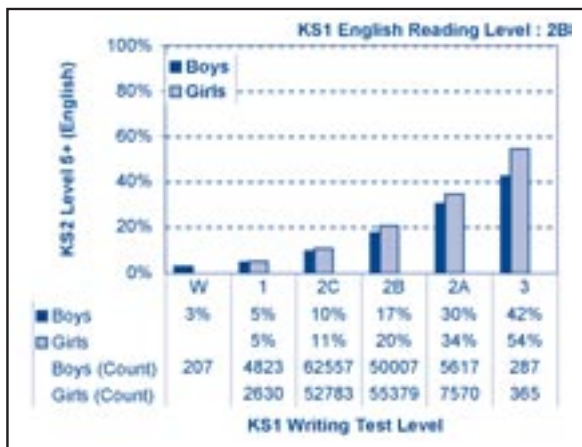
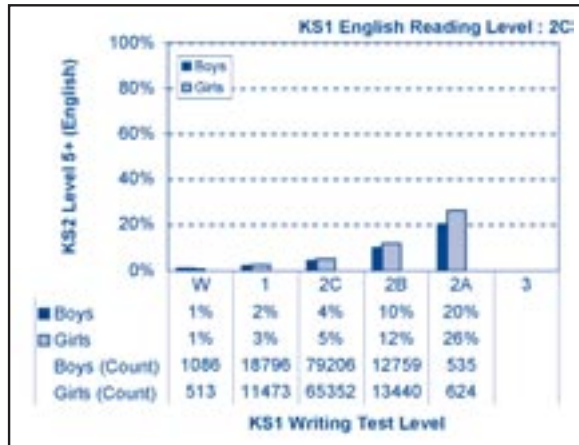
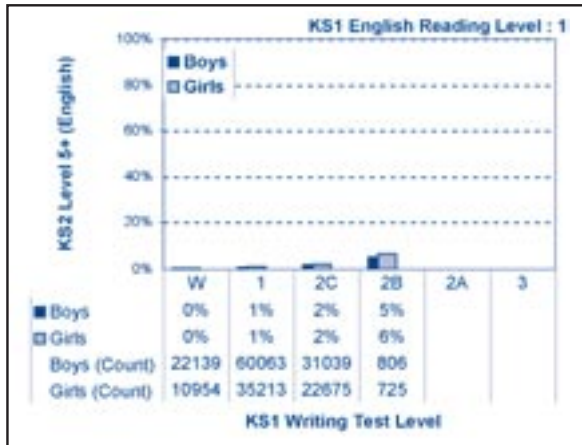
		GIRLS					
		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	5%	17%	26%			
	R1	12%	27%	44%	65%		
	R2C	30%	47%	65%	83%	92%	
	R2B		66%	82%	92%	97%	99%
	R2A		75%	91%	96%	98%	99%
	R3			98%	99%	100%	100%

High probability of Level 4+ shaded in blue.

Annexe B3 - English (Level 5+):

The charts in this section show, for pupils who attain level 1 or level 2 in the reading test / task at KS1:

- how KS2 attainment in English (% of pupils attaining level 5 or higher) varies according to their KS1 reading test / task level (2C, 2B or 2A);
- how this changes, for pupils with the same reading level, according to their attainment in the KS1 writing test / task.



Key Stage 2 English Level 5+

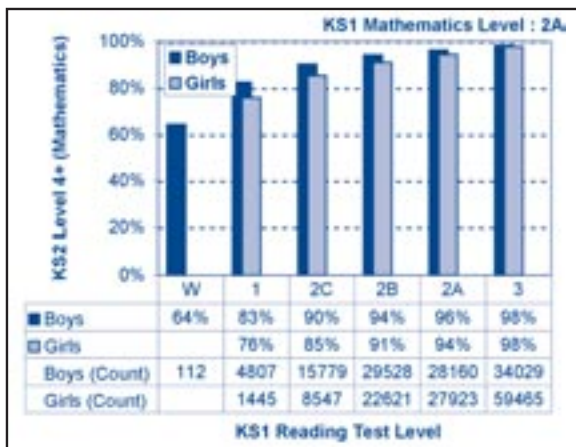
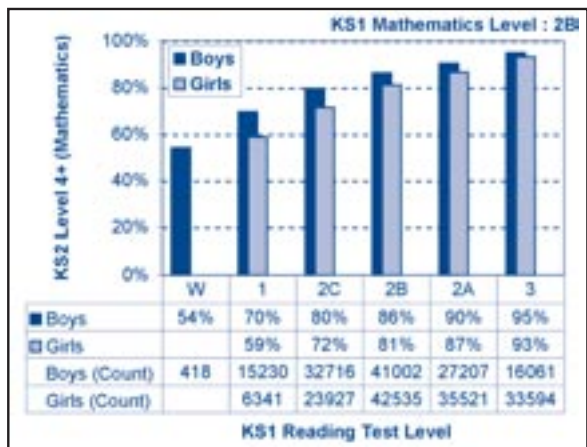
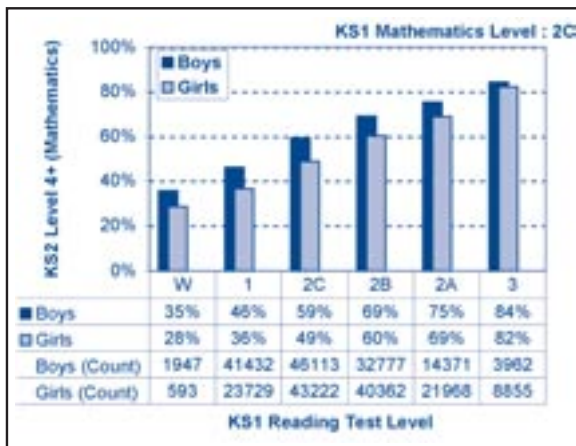
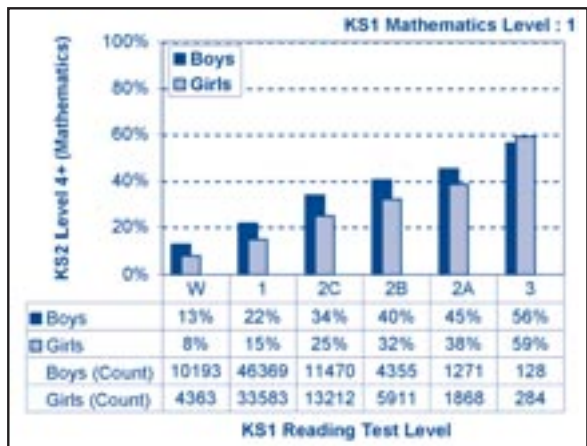
		BOYS					
		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	0%	1%	1%			
	R1	0%	1%	2%	5%		
	R2C	1%	2%	4%	10%	20%	
	R2B	3%	5%	10%	17%	30%	42%
	R2A		8%	16%	26%	39%	54%
	R3		25%	38%	51%	67%	83%

		GIRLS					
		KS1 Writing Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Reading Level	RW	0%	1%	3%			
	R1	0%	1%	2%	6%		
	R2C	1%	3%	5%	12%	26%	
	R2B		5%	11%	20%	34%	54%
	R2A		11%	18%	29%	43%	56%
	R3			45%	57%	72%	87%

Annexe B4 - Mathematics (Level 4+):

The charts in this section show, for pupils who attain level 1 or level 2 in the Mathematics test / task at KS1:

- how KS2 attainment in Mathematics (% of pupils attaining level 4 or higher) varies according to their KS1 Mathematics test / task level (2C, 2B or 2A);
- how this changes, for pupils with the same reading level, according to their attainment in the KS1 reading test / task.



Key Stage 2 Mathematics Level 4+

		BOYS					
		KS1 Reading Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Mathematics Level	MW	3%	8%	14%	15%		
	M1	13%	22%	34%	40%	45%	56%
	M2C	35%	46%	59%	69%	75%	84%
	M2B	54%	70%	80%	86%	90%	95%
	M2A	64%	83%	90%	94%	96%	98%
	M3		91%	96%	98%	99%	100%

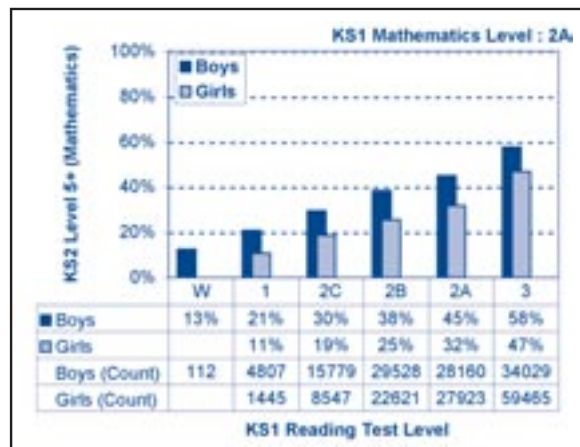
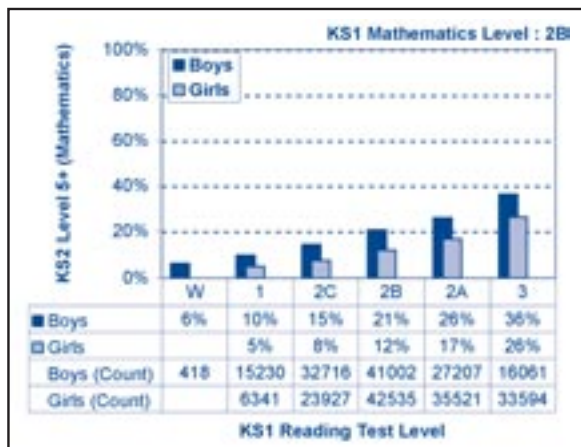
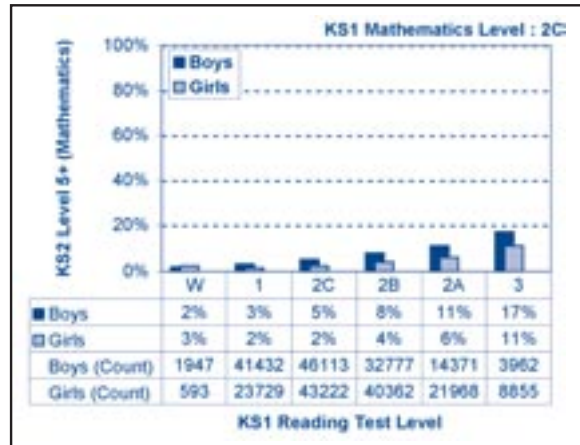
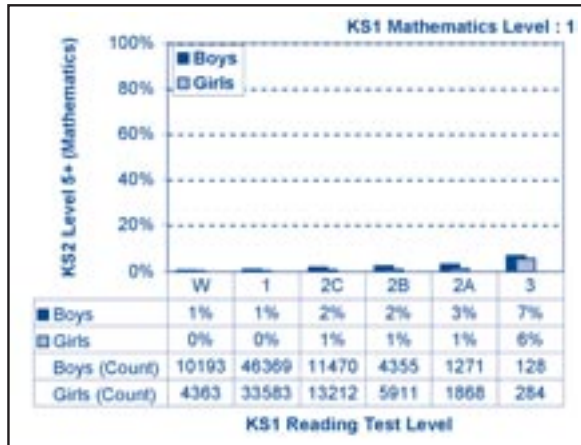
		GIRLS					
		KS1 Reading Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Mathematics Level	MW	2%	4%	8%	11%		
	M1	8%	15%	25%	32%	38%	59%
	M2C	28%	36%	49%	60%	69%	82%
	M2B		59%	72%	81%	87%	93%
	M2A		76%	85%	91%	94%	98%
	M3		86%	92%	96%	97%	99%

High probability of Level 4+ shaded in blue.

Annexe B5 - Mathematics (Level 5+):

The charts in this section show, for pupils who attain level 2 in the Mathematics test / task at KS1:

- how KS2 attainment in Mathematics (% of pupils attaining level 5 or higher) varies according to their KS1 Mathematics test / task level (2C, 2B or 2A);
- how this changes, for pupils with the same reading level, according to their attainment in the KS1 reading test / task.



Key Stage 2 Mathematics Level 5+

		BOYS					
		KS1 Reading Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Mathematics Level	MW	0%	0%	1%	1%		
	M1	1%	1%	2%	2%	3%	7%
	M2C	2%	3%	5%	8%	11%	17%
	M2B	6%	10%	15%	21%	26%	36%
	M2A	13%	21%	30%	38%	45%	58%
	M3		41%	52%	63%	71%	84%

		GIRLS					
		KS1 Reading Level					
		WW	W1	W2C	W2B	W2A	W3
KS1 Mathematics Level	MW	0%	0%	0%	1%		
	M1	0%	0%	1%	1%	1%	6%
	M2C	3%	2%	2%	4%	6%	11%
	M2B		5%	8%	12%	17%	26%
	M2A		11%	19%	25%	32%	47%
	M3		32%	38%	47%	53%	75%

Annexe B6 - Science:

At KS1 Science is assessed by teacher assessment. It is not, therefore, possible to take the same approach as for English and Mathematics. Teacher assessment at KS1 provides an overall level but, unlike the test data, level 2 is not differentiated (test data at KS1 differentiates level 2 into sub-levels ABC).

Teacher Assessment at KS1 does, however, provide details of attainment in individual attainment targets. Analysis of how KS2 Science outcomes varied in relation to KS1 levels in individual Science attainment targets shows that the 'weighting' to be assigned to each component at KS1 should be:

AT	Details	Weighting
SC 1	Scientific enquiry	40%
SC 2	Living processes and living things	20%
SC 3	Materials and their properties	20%
SC 4	Physical processes	20%

This shows that, in terms of the 'importance' in indicating likely KS2 attainment in Science, that SC1 has the highest impact.

The following table shows how attainment in Science at KS2 varies according to teacher assessment of:

- their overall level in Science at KS1;
- their attainment in SC1 (Scientific Enquiry) at KS1.

Key Stage 1			Key Stage 2 Science (Boys)			Key Stage 2 Science (Girls)		
SC Level	SC1 Level	Pupils	Mean Level	Level 4+	Level 5+	Mean Level	Level 4+	Level 5+
W	W	18160	2.91	17%	1%	2.88	13%	1%
1	W	5172	3.56	36%	3%	3.46	28%	2%
1	1	133404	4.00	57%	6%	3.94	53%	5%
1	2	55	3.97	59%	0%	3.87	54%	4%
2	1	45876	4.35	77%	13%	4.31	75%	11%
2	2	759823	4.76	92%	37%	4.77	93%	37%
2	3	344	4.86	92%	47%	4.90	94%	47%
3	2	31064	5.15	99%	68%	5.17	99%	70%
3	3	198579	5.26	99%	77%	5.27	99%	78%

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