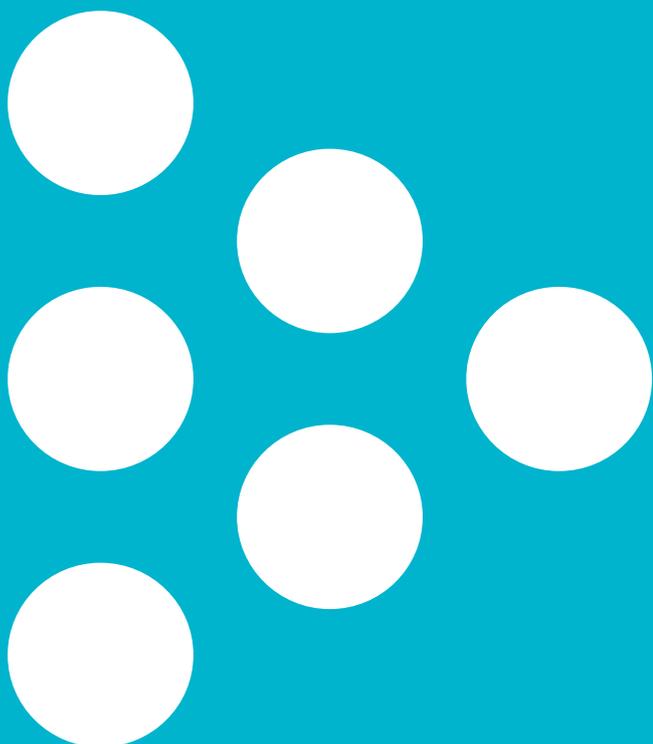


# Technical Report

Technical information for  
NFER tests in grammar and  
punctuation: suite 2 (autumn)



# Technical information for NFER tests in grammar and punctuation: suite 2 (autumn)

Centre for Assessment

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# 1 Introduction

In 2013, NFER produced a suite of reading and mathematics assessments for schools to use with years 3, 4 and 5 to help inform teacher assessment. These tests were very positively received.

Following the introduction of the new national curriculum in 2014 and the abolition of the eight-level scale of assessment, a new suite of tests has been developed. The design of these tests reflects the changes to the model of assessment used at the end of key stage 2 from 2016. The suite consists of a series of tests intended for use in the autumn term and a series intended for use in the summer term.

These tests were standardised with pupils who had been taught the new curriculum for at least a year.

## 2 Early development of texts and items

Teacher feedback is very important in the development of NFER tests. Teacher perspectives on the grammar and punctuation materials were collected using a questionnaire which was distributed to teachers taking part in our large scale standardisation trial. This questionnaire gathered teacher feedback on different aspects of the tests and the information has been very useful in refining the materials and informing the selection of items that comprise the final tests.

### 3 Sample characteristics

The NFER tests in grammar and punctuation were standardised in March 2016 with a sample of schools from across England. The standardisation sample was stratified according to the following characteristics:

- KS2 overall performance band 2015 (average point score)
- Primary school type
- School governance
- Region: government office region.

In order to ensure that the characteristics of the schools included in the standardisation sample were nationally representative, school level characteristics were compared with the national population and chi-square significance tests were conducted.

The achieved sample representations at school level by year group (years 3 to 5) are shown in Tables 1 to 3. The gender breakdown of the whole sample at pupil level is shown in Table 4.

**Table 1: Representation of the sample at school level – Year 3 grammar and punctuation**

		population		sample	
		Number	%	Number	%
KS2 overall performance band 2015 (av. point score)	Lowest 20%	2930	18	8	19
	2nd lowest 20%	2829	17	5	12
	Middle 20%	2556	16	3	7
	2nd highest 20%	2691	16	14	33
	Highest 20%	3082	19	10	24
	Missing	2368	14	2	5
Primary school type	Infant & Junior (Primary)	13855	84	36	86
	Junior	1090	7	4	10
	Independent schools	1376	8	1	2
	All Through school	135	1	1	2
School governance	Academy or Free school	3173	19	5	12
	Maintained	11907	72	36	86
	Independent	1376	8	1	2
Region	North	5026	31	16	38
	Midlands	5014	30	12	29
	South	6416	39	14	33
Total schools		16456	100	42	100

Since percentages are rounded to the nearest integer, they may not always sum to 100.

**Table 2: Representation of the sample at school level – Year 4 grammar and punctuation**

		population		sample	
		Number	%	Number	%
KS2 overall performance band 2015 (av. point score)	Lowest 20%	2930	18	9	20
	2nd lowest 20%	2829	17	9	20
	Middle 20%	2556	16	5	11
	2nd highest 20%	2691	16	11	24
	Highest 20%	3082	19	9	20
	Missing	2373	14	2	4
Primary school type	Infant & Junior (Primary)	13855	84	41	91
	Junior	1090	7	3	7
	Independent schools	1381	8	1	2
	All Through school	135	1	0	0
School governance	Academy or Free school	3173	19	6	13
	Maintained	11907	72	38	84
	Independent	1381	8	1	2
Region	North	5029	31	15	33
	Midlands	5017	30	19	42
	South	6415	39	11	24
Total schools		16461	100	45	100

Since percentages are rounded to the nearest integer, they may not always sum to 100.

**Table 3: Representation of the sample at school level – Year 5 grammar and punctuation**

		population		sample	
		Number	%	Number	%
KS2 overall performance band 2015 (av. point score)	Lowest 20%	2930	18	7	17
	2nd lowest 20%	2829	17	7	17
	Middle 20%	2556	16	7	17
	2nd highest 20%	2691	16	10	24
	Highest 20%	3082	19	10	24
	Missing	2378	14	1	2
Primary school type	Infant & Junior (Primary)	13855	84	38	90
	Junior	1090	7	2	5
	Independent schools	1386	8	1	2
	All Through school	135	1	1	2
School governance	Academy or Free school	3173	19	7	17
	Maintained	11907	72	34	81
	Independent	1386	8	1	2
Region	North	5030	31	18	43
	Midlands	5019	30	15	36
	South	6417	39	9	21
Total schools		16466	100	42	100

Since percentages are rounded to the nearest integer, they may not always sum to 100.

**Table 4: Representation of the sample at pupil level: gender**

	Population	Sample	
	%	Number	%
Boys	51	1613	51
Girls	49	1556	49

Since percentages are rounded to the nearest integer, they may not always sum to 100.

## 4 Whole test functioning

The following tables provide information on the overall functioning of each test separately by year group.

**Table 5: Whole test functioning by test: Year 3**

	<b>Year 3 grammar and punctuation</b>
Standardisation sample <i>n</i>	1075
Reliability (Cronbach's alpha)	0.851
Maximum score	30
Mean	13.80
Median	14.00
Standard deviation	6.15

**Table 6: Whole test functioning by test: Year 4**

	<b>Year 4 grammar and punctuation</b>
Standardisation sample <i>n</i>	1103
Reliability (Cronbach's alpha)	0.848
Maximum score	35
Mean	14.51
Median	14.00
Standard deviation	6.49

**Table 7: Whole test functioning by test: Year 5**

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	<b>Year 5 grammar and punctuation</b>
Standardisation sample <i>n</i>	1047
Reliability (Cronbach's alpha)	0.882
Maximum score	40
Mean	17.92
Median	18.00
Standard deviation	7.78

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## 5 Item level functioning

### Item level statistics

Information about item functioning is available in the analysis spreadsheets. These are available to download from the NFER portal for anyone who has purchased the tests.

### Differential item functioning

Differential item functioning (DIF) analysis, classified separately for gender and EAL, was carried out to identify observed differences in performance on each test. Differential item functioning identifies particular items for which two groups (e.g. girls and boys) perform differently above and beyond the disparity in their achievement on the test as a whole.

The following tables present the outcomes of the DIF analyses, showing the questions where statistical differences between groups have been identified. It is important to note that these statistical differences do not necessarily indicate that a particular question is globally biased towards one group or the other (e.g. gender), but may reflect genuine differences in performance for this sample of pupils.

**Table 8: Differential item functioning for gender: grammar and punctuation (Years 3, 4 and 5)**

	<b>Question number</b>	<b>DIF favours</b>
Year 3	Q8	Girls*
	Q15	Boys*
	Q16	Boys**
Year 4	Q10	Boys*
	Q13	Girls*
	Q14	Girls*
	Q16	Boys*
	Q17	Girls**
	Q22	Boys*
	Q23	Girls***
	Q24	Boys**
	Q30	Boys*
Year 5	Q7	Girls*
	Q8	Boys**
	Q10	Girls***
	Q24	Girls**
	Q29	Girls*
	Q31	Boys**
	Q34	Girls*

\* $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

**Table 9: Differential item functioning for EAL: grammar and punctuation (Years 3, 4 and 5)**

	Question number	DIF favours
Year 3	Q8	EAL**
	Q32	not EAL***
Year 4	Q20	EAL*
	Q25	not EAL*
	Q28	not EAL*
Year 5	Q9	EAL*
	Q29	not EAL***
	Q32	EAL**
	Q37	not EAL*

\* $p < .05$

\*\*  $p < .01$

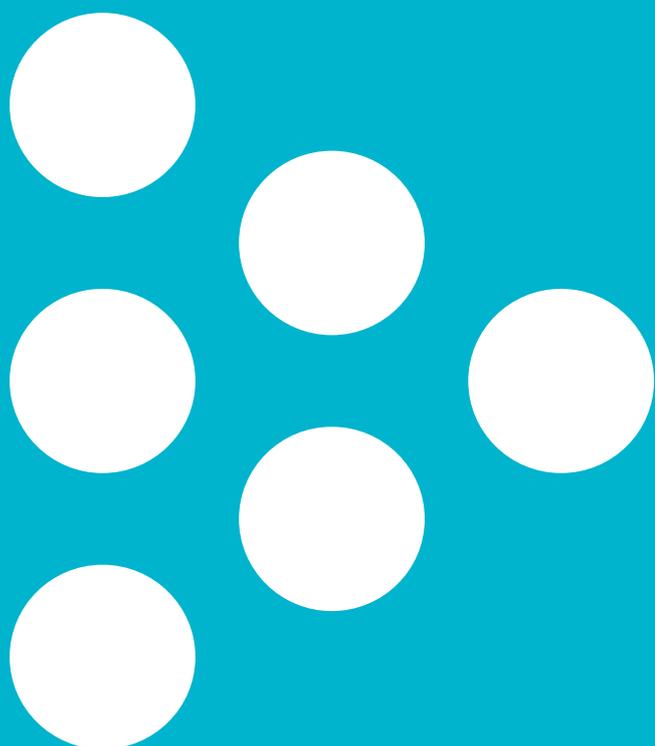
\*\*\*  $p < .001$

## 6 Test outcomes

The following outcomes are available from this suite of tests:

- raw score – the total number of marks attained by each pupil
- standardised score
- age standardised score

More details of each are available in the relevant teacher guide.



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