GL Assessment

CAT4

CAT4 Combination report

Sample Reports –

Ability and attainment combined PTM, PTE and NGRT

www.gl-assessment.co.uk/cat4

GL Assessment

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Compare ability and attainment easily with our CAT4 Combination report

Easy-to-understand reports are a key feature of our core assessments. Supported by clear narrative and dynamic graphs, they help you interpret the data and understand each pupil, providing essential information for progress tracking, personalised learning and raising achievement.

To support schools even further, GL Assessment have developed a new ***CAT4 Combination report***. It is the UK's first report of its kind that compares pupils' ability with attainment – free of charge to all users of the *Cognitive Abilities Test: Fourth Edition (CAT4)*.

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Coupled with your own teacher judgement, by combining data from *CAT4* with our popular *Progress Test in English (PTE)*, *Progress Test in Maths (PTM)* and *New Group Reading Test (NGRT)*. You will be provided with an 'all round view' of each pupil and an assessment model that:

- Compares ability levels against current attainment to identify under-achievers and the factors influencing this
- Identifies barriers to learning and informs intervention strategies at the earliest opportunity
- Delivers the all-important national benchmark.

The *CAT4 Combination report* is available for users of both the paper and digital versions of *CAT4*.

See page 2 for details of how to generate the report.

As many of you will already be aware, our attainment tests provide the ideal tool when it comes to tracking progress. This will play a crucial role in any post-levels assessment regime and in evidencing progress to Ofsted and parents.

Report Combinations

The report can be generated for two or three combinations of the tests shown below. *PTE* and *NGRT* will never appear in the same report together. If a school has tested with both, a choice may be made between the two to fulfil the Literacy element of the combined report or separate reports may be run. Valid combinations of data to be reported on are:

- *CAT4* with *PTE*
- *CAT4* with *NGRT*
- *CAT4* with *PTM*
- *CAT4* with *PTE* and *PTM*
- *CAT4* with *NGRT* and *PTM*

In addition, significant *CAT4* analysis is included within the report, including analysis of group by battery and learning profiles along with scores of the Non-verbal and Spatial tests.

The sample reports included in this document are taken from a combination of testing with *CAT4, PTE* and *PTM,* and *NGRT.*

How to generate a CAT4 Combination report

CAT4 Digital Users

When comparing your *CAT4 Digital* results with data from the digital versions of *PTM, PTE or NGRT* – this can all be done in *Testwise*.

In fact, some of you may have already noticed the "Combination report" option in your 'Subscriptions' list on *Testwise*. To generate a report, simply:

1. Click on this option.
2. Choose the *Combination Group report for teachers* (a PDF) or the *Combination Excel report* for your MIS.
3. Select which datasets to include. It is important to remember that *PTE* and *NGRT* will never appear in the same report together.
4. Enter the requested details for the report (report name etc.).
5. Click 'Generate report'.

CAT4 Paper Users

For paper users, your *CAT4 Combination report* can be created in the same *Testwise Reporting System (TRS)* through which you receive your *CAT4* reports.

- All *PTM* and *PTE* paper assessments are marked by GL Assessment.
- If your *PTM* and/or *PTE* or *NGRT* assessment has been marked by our Scoring Service, the results will already be in the *TRS.*
- If you are comparing your *CAT4* data with results from the digital versions of *PTM, PTE* or *NGRT*, in which case the results can be extracted from your *Testwise* account (please contact us for further guidance).

Then it is simply a question of five easy steps:

1. Log into *TRS* as normal and click on 'Download and Create Reports'.
2. Select 'Create New Reports'.
3. Select the *CAT4* group for which there is also data for *PTM* and/or *PTE* or *NGRT*.
4. Wait until the report status is shown as 'Completed'.
5. Your report is then ready to download.

NEED MORE ADVICE?

For further help and advice on the *CAT4 Combination report* or any of our other assessments and reports, please contact our friendly advisers on **0330 123 5375** or email **info@gl-assessment.co.uk**

Or contact your local Area Consultant directly – details can be found on page 33 or online at

www.gl-assessment.co.uk/consultants.

School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *PTE*: 29/02/2016	**Level:** 11
Date(s) of testing for *PTM*: 27/02/2016	**Level:** 11

Scores for the group (by surname)

Student name	*CAT4* Verbal SAS	*PTE* Overall SAS	English discrepancy category	*CAT4* Quantitative SAS	*PTM* Overall SAS	Maths discrepancy category	*CAT4* Non-verbal SAS	*CAT4* Spatial SAS	*CAT4* Mean SAS
Tom Albright	96	134	Much higher than expected	80	110	Much higher than expected	88	100	91
Daniel Browne	110	93	Much lower than expected	106	106	Expected	100	109	106
Dominic Browne	103	96	Expected	85	98	Higher than expected	97	98	96
Joshua Browne	130	93	Much lower than expected	116	102	Lower than expected	106	117	117
Louisa Cole	113	115	Higher than expected	107	113	Higher than expected	98	97	104
Danielle Dixon	92	94	Expected	106	91	Much lower than expected	112	125	109
Nick Duffy	100	103	Expected	101	112	Much higher than expected	87	112	100
Billy Freeman	117	108	Expected	107	85	Much lower than expected	98	108	108
Martin Gibson	81	103	Much higher than expected	73	79	Expected	64	66	71
Nathan Gill	94	113	Much higher than expected	91	80	Much lower than expected	83	81	87
Jahazabe Imran	122	73	Much lower than expected	112	89	Much lower than expected	101	100	109
Sophie Jobson	99	91	Lower than expected	103	117	Much higher than expected	88	116	102
Natasha Jones	109	105	Expected	108	119	Much higher than expected	101	105	106
Elise Kelly	105	102	Expected	79	106	Much higher than expected	75	120	95
Sarah Ling	106	115	Higher than expected	110	104	Expected	109	105	108
Ben Lynch	101	119	Much higher than expected	103	93	Lower than expected	76	86	92
Yordan Madzhirov	108	99	Lower than expected	83	104	Much higher than expected	92	-	94
Charlie Masters	93	91	Expected	91	101	Higher than expected	97	107	97
Sue Moore	109	93	Much lower than expected	95	89	Lower than expected	92	107	101
Tom Murdie	107	78	Much lower than expected	109	107	Expected	95	101	103
Florence Nash	110	105	Expected	125	103	Much lower than expected	114	114	116
Fiona Norton	110	107	Expected	107	105	Expected	106	112	109
Pauline Nurse	94	97	Expected	96	88	Lower than expected	102	100	98
Dora Okai	103	105	Expected	112	110	Expected	109	108	108

The **Standard Age Score (SAS)** is based on the student's raw score which has been adjusted for age and placed on a scale that makes a comparison with a nationally representative sample of students of the same age across the UK. The average score is 100.

Student name	*CAT4* Verbal SAS	*PTE* Overall SAS	English discrepancy category	*CAT4* Quantitative SAS	*PTM* Overall SAS	Maths discrepancy category	*CAT4* Non-verbal SAS	*CAT4* Spatial SAS	*CAT4* Mean SAS
Nancy Roberts	103	113	Higher than expected	59	92	Much higher than expected	59	59	70
Alice Rogers	103	110	Higher than expected	87	96	Higher than expected	87	81	90
Nia Smith	126	109	Lower than expected	123	112	Expected	115	117	120
Katie Ward	113	69	Much lower than expected	111	89	Much lower than expected	96	114	109
Adrian Watt	-	120	-	94	86	Lower than expected	114	106	105
Nick Williams	124	100	Much lower than expected	114	107	Expected	101	105	111

School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *PTE*: 29/02/2016	**Level:** 11
Date(s) of testing for *PTM*: 27/02/2016	**Level:** 11

Analysis of group scores

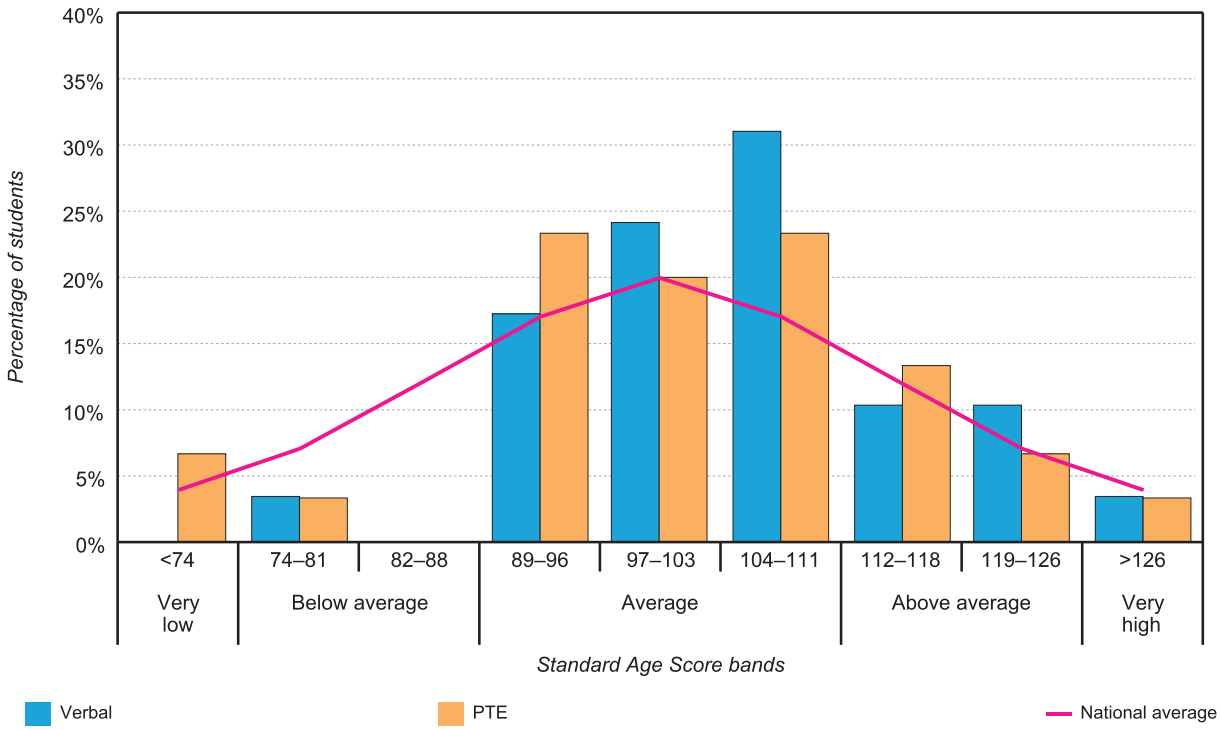
The table below shows mean (average) scores for your group compared with those for the national sample.

	***CAT4* Verbal mean SAS**	***PTE* mean SAS**	***CAT4* Quantitative mean SAS**	***PTM* mean SAS**	***CAT4* Non-verbal mean SAS**	***CAT4* Spatial mean SAS**	***CAT4* Overall mean SAS**
National average	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Group	106.2	101.8	99.8	99.8	95.4	102.6	101.1

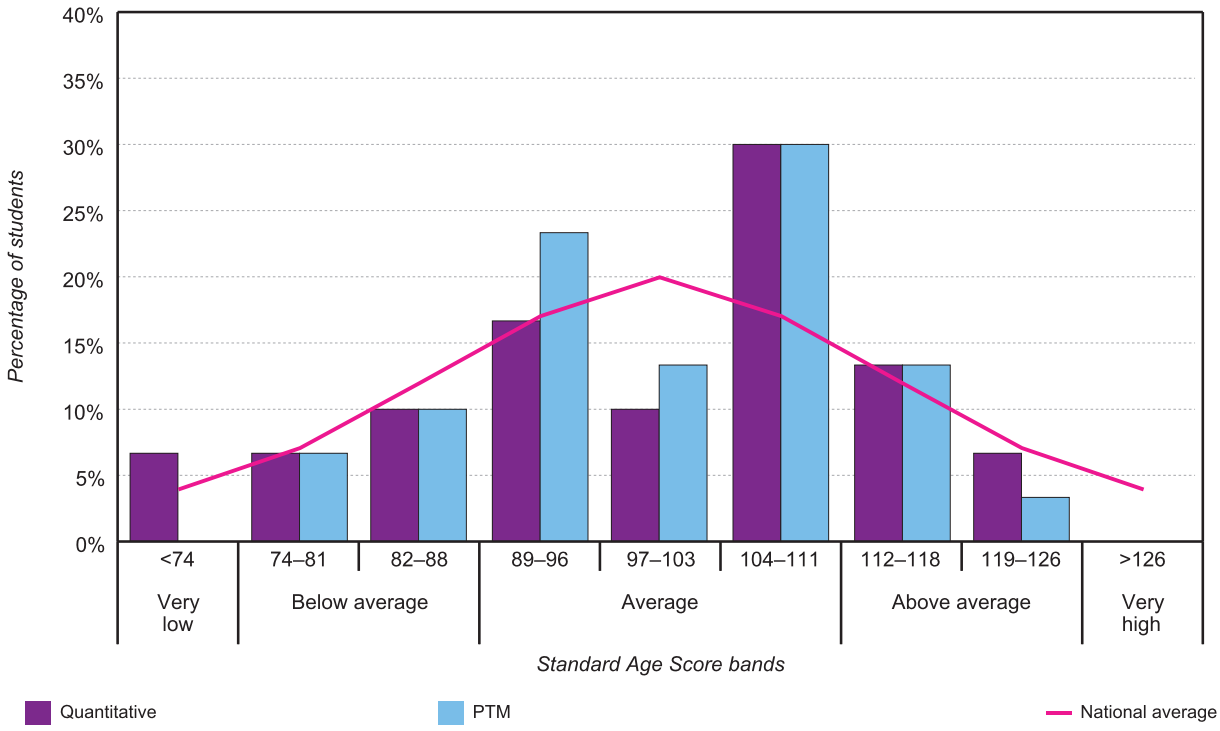
The table below shows the distribution of scores for your group compared with those for the national sample. In addition, the bar charts presents this information.

Description	**Very low**	**Below average**		**Average**			**Above average**		**Very high**
SAS bands	**<74**	**74–81**	**82–88**	**89–96**	**97–103**	**104–111**	**112–118**	**119–126**	**>126**
National average	**4%**	**7%**	**12%**	**17%**	**20%**	**17%**	**12%**	**7%**	**4%**
CAT4 Verbal	0%	3%	0%	17%	24%	31%	10%	10%	3%
PTE	7%	3%	0%	23%	20%	23%	13%	7%	3%
CAT4 Quantitative	7%	7%	10%	17%	10%	30%	13%	7%	0%
PTM	0%	7%	10%	23%	13%	30%	13%	3%	0%
CAT4 Non-verbal	7%	7%	17%	13%	30%	13%	13%	0%	0%
CAT4 Spatial	7%	7%	3%	0%	21%	31%	24%	7%	0%

Distribution of *CAT4* Verbal and *PTE* scores for your group compared with those for the national sample



Distribution of *CAT4* Quantitative and *PTM* scores for your group compared with those for the national sample



Distribution of *CAT4* Non-verbal scores for your group compared with those for the national sample

Distribution of *CAT4* Spatial scores for your group compared with those for the national sample

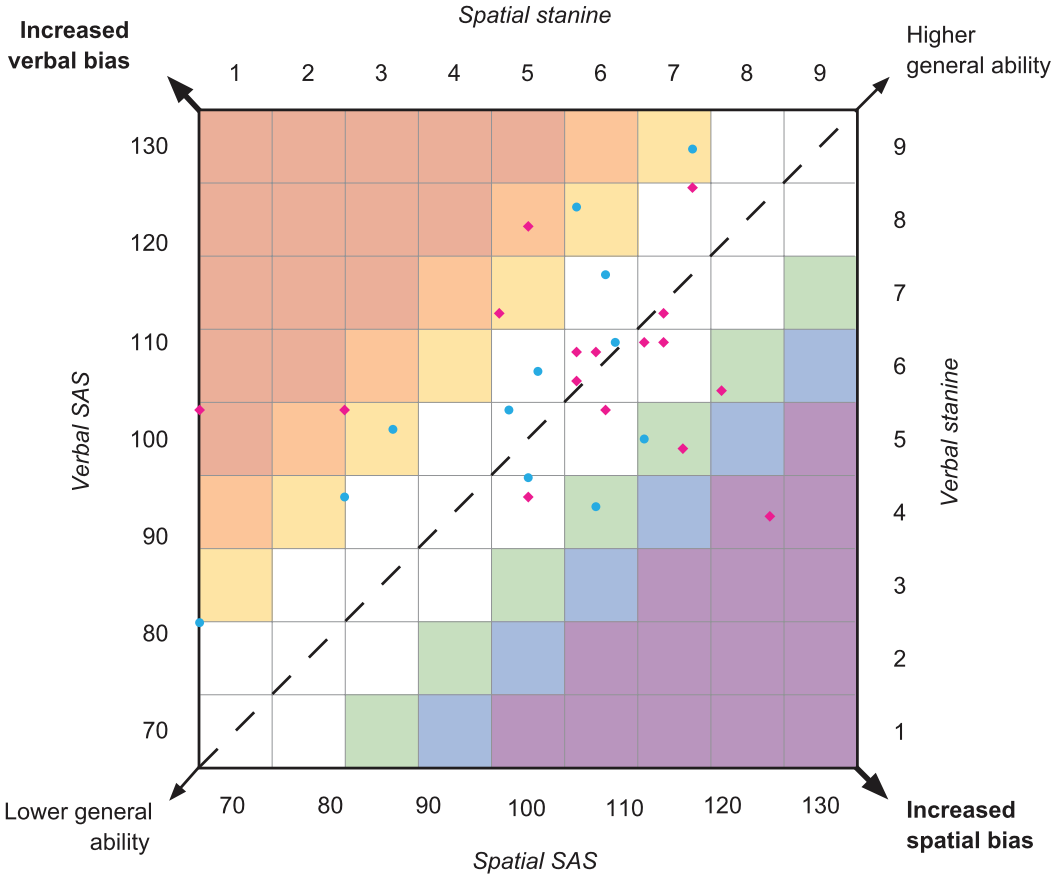
School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *PTE*: 29/02/2016	**Level:** 11
Date(s) of testing for *PTM*: 27/02/2016	**Level:** 11

CAT4 profiles

The analysis of *CAT4* scores allows all students to be assigned a profile; that is they are assigned to one of seven broad descriptions of their preferences for learning. The Verbal Reasoning and Spatial Ability Batteries form the basis of this analysis and the profiles are expressed as a mild, moderate or extreme bias for verbal or spatial learning or, where no bias is discernable (that is, when scores on both batteries are similar), as an even profile.

The diagram shows the distribution of students across the seven profiles which are indicated by the coloured bands.

- Extreme verbal bias
- Moderate verbal bias
- Mild verbal bias
- No bias
- Mild spatial bias
- Moderate spatial bias
- Extreme spatial bias
- Males
- Females



General characteristics of each student profile

It may be helpful to consider which students fall into which broad profile, but this information must be treated with caution as the descriptors are general and not individualised: students' preferences for learning will be influenced by other factors. The *CAT4* Individual student report for teachers offers more fine detail.

	National	Group	
	%	%	No. of students
Extreme verbal bias	2%	4%	1
Moderate verbal bias	4%	7%	2
Mild verbal bias	11%	18%	5
No bias or even profile	66%	54%	15
Mild spatial bias	11%	14%	4
Moderate spatial bias	4%	0%	0
Extreme spatial bias	2%	4%	1

Extreme verbal bias

- These students should excel in written work and should enjoy discussion and debate.
- They should prefer to learn through reading, writing and may be very competent independent learners.
- They are likely to be high achievers in subjects that require good verbal skills such as English, modern foreign languages and humanities.
- They may prefer to learn step-by-step, building on prior knowledge, as their spatial skills are relatively weaker, being in the low average or below average range.

Students:
Nancy Roberts

Moderate verbal bias

- Students in this group will have average to high scores for Verbal Reasoning and relatively weaker Spatial Ability with scores in the average range.
- These students are likely to prefer to learn through reading, writing and discussion.
- Step-by-step learning, which builds on prior knowledge incrementally, is likely to suit these students.

Students:
Jahazabe Imran
Alice Rogers

Mild verbal bias

- Some students with this profile will have low average or below average scores for Verbal Reasoning and relatively weaker Spatial Ability, but the gap between scores will be narrow.
- A slight bias for learning through reading, writing and discussion may be discerned in the students in this group.

Students:
Joshua Browne
Louisa Cole
Nathan Gill
Ben Lynch
Nick Williams

No bias or even profile

- Scores for students with this profile will be very similar for both Verbal Reasoning and Spatial Ability, but will be across the range from low to high.
- Students with high even scores will excel across the curriculum and will learn through the range of media and methods.
- Students with low even scores, conversely, may require significant levels of support to access the curriculum but will be open to a range of teaching and learning methods.

Students:

Tom Albright	Daniel Browne	Dominic Browne
Billy Freeman	Martin Gibson	Natasha Jones
Sarah Ling	Sue Moore	Tom Murdie
Florence Nash	Fiona Norton	Pauline Nurse
Dora Okai	Nia Smith	Katie Ward

Mild spatial bias

- Some students with this profile will have low average or below average scores for Spatial Ability and relatively weaker Verbal Reasoning skills, but the gap between scores will be narrow.
- A slight bias for learning through visual media may be discerned in the students in this group.

Students:

Nick Duffy	Sophie Jobson	Elise Kelly
Charlie Masters		

Moderate spatial bias

- Students in this group will have average to high scores for Spatial Ability and relatively weaker Verbal Reasoning with scores in the average range.
- These students are likely to prefer to learn through visual and kinaesthetic media and will need to use diagrams, pictures, videos and objects to learn best.
- Students with above average or high Spatial Ability are often characterised as ‘intuitive’ or ‘big picture’ learners: attention to detail may be a weakness.
- Owing to a relative weakness in verbal skills, attainment may be uneven and they are likely to need support in subjects where the emphasis is on the written word.

Students: None

Extreme spatial bias

- These students should excel in problem solving and will grasp concepts quickly and intuitively.
- They will not enjoy rote learning and may arrive at a correct solution to a task without demonstrating the steps along the way.
- They are likely to be high achievers in subjects that require good visual-spatial skills such as maths, physics and technology.
- Owing to a relative weakness in verbal skills, attainment may be uneven and they may need support in subjects where the emphasis is on the written word.

Students:

Danielle Dixon

Comparing attainment with ability

To extract maximum value from each test, a comparison of scores can be made. This offers deeper insights into students' attainment and the relationship with underlying ability and potential. It is possible to identify where attainment is broadly in line with ability and where under- or over-achievement may be the case.

Some profiles may seem anomalous. In such cases information beyond the test score must be considered. For example, hard work and good teaching may account for cases of apparent 'over-achievement'.

In all cases, error around test scores must be taken into consideration: scores reflect performance on a single test on a given day and can only provide an estimate of a student's true ability or attainment.

If, for some individual students, scores appear to be too low it will be important to consider external factors that may have had an impact of how the students performed in the test. Illness, emotional upset or tiredness can mean that students' test scores are not a true reflection of their capabilities. Test-related anxiety is not uncommon, even when students have been reassured that tests like *CAT4* are intended to find out how each student learns best. Some students respond impulsively under the pressure of a test but work more consistently otherwise.

School: Test School	
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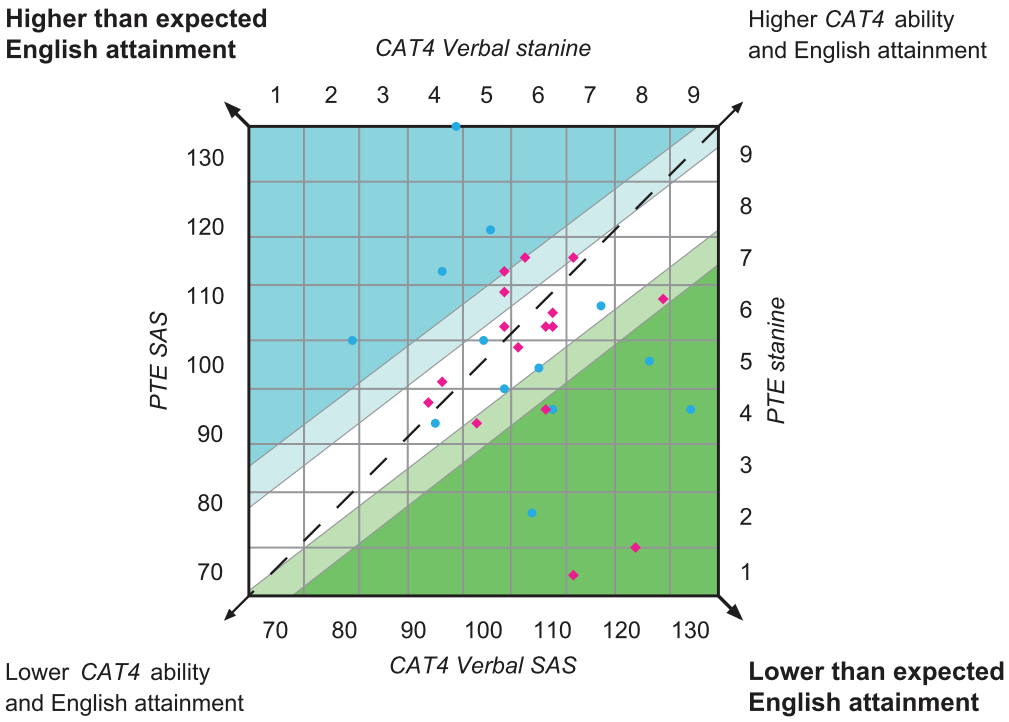
Date(s) of testing for *PTM*: 27/02/2016	**Level:** 11

English profiles

In several studies, *CAT* has been found to be a good indicator of English attainment and, in particular, reading. However, there will be other factors, outside the scope of this report, that must be considered when forming a comprehensive profile of that attainment. The purpose of this report is to identify students whose English attainment differs markedly from what might be expected from their *CAT4* score.

The *CAT4* Verbal Reasoning score and the *Progress Test in English (PTE)* score form the basis of this analysis and profiles are indicated by the coloured bands.

- Much higher than expected English attainment
- Higher than expected English attainment
- Expected English attainment
- Lower than expected English attainment
- Much lower than expected English attainment
- Males
- Females



Progress Test in English (PTE) includes tests of spelling and grammar as well as reading comprehension, all of which contribute to the standard age score for the test as a whole. Reading comprehension is based on a fiction text and information text and accounts for 50% of the final score.

The Verbal reasoning tests in *CAT4* measure something discrete and different from the English skills measured in *PTE*. In *CAT4*, the difficulty level of reading, which is at word level, is kept as low as possible and the task is to make connections and understand relationships between words. In *PTE* students are tested on the technical aspects of writing (spelling, grammar and punctuation) and reading comprehension (through two linked passages).

However, the test scores for *CAT4* and *PTE* are highly correlated at national level and the *CAT* scores provide an indicator of English attainment such that the majority of students will be in the expected attainment category below.

The *CAT4* Verbal reasoning score is the basis for the indicator for English Language GCSE where the correlation is 0.7 and this offers further evidence of the link between verbal reasoning ability and attainment in English.

In the narrative section overleaf, profiles have been paired and are reported upon as:

- Much higher or higher than expected attainment
- Expected attainment
- Much lower or lower than expected attainment

The narrative for each category poses some questions which may help with thinking about how to use the information in this report. It is likely that students of most concern will be those whose performance in *CAT4* suggests their attainment should be better. However, when considering all students, the level of performance, not just the relative performance, will be important. The report does not differentiate in this regard.

English discrepancy category	National	Group	
	%	%	No. of students
Much higher than expected English attainment	10%	14%	4
Higher than expected English attainment	15%	14%	4
Expected English attainment	50%	38%	11
Lower than expected English attainment	15%	10%	3
Much lower than expected English attainment	10%	24%	7
Total	100%	100%	29

Much higher or higher than expected English attainment

- Do some students in this group show an uneven profile in their ability in English?
  - *Look for any discrepancy in the PTE curriculum content categories; it may be that some students are stronger in spelling and grammar than reading comprehension. (The PTE group report has this information.)*
  - *This may imply some difficulty with higher order comprehension or a relative weakness in understanding texts more in line with the verbal reasoning result.*
- Could some students have had difficulty attending to the instructions in *CAT4*?
  - *For example, this might have affected the score of those with poor listening skills. The level of PTE in this report has relatively short oral instructions.*
- Have any students in this group received high levels of academic support at school and/or home which will have helped them to achieve at a higher level than might have been predicted from their verbal reasoning ability?
  - *This might be in the form of extra lessons, parental input or very good classroom teaching.*
- Do any of the students in this group show high academic motivation which will have impacted positively on their learning during lessons and during the assessment tasks?
- Does this group include slow processors of information who would have benefitted from *PTE* being untimed, but who would struggle to complete the *CAT* tasks in the time allocated?
  - *Extra time is not an option for CAT4 as it is the combination of the difficulty of the tasks and the time allocated to complete them that contributes to the score and in turn the student profile.*
- It may be helpful to look at Non-verbal Reasoning and Spatial Ability scores for some students who may have difficulty processing information presented verbally but demonstrate better processing where non-verbal and spatial tasks are involved.

Much higher than expected English attainment

Students:

Tom Albright	Martin Gibson	Nathan Gill
Ben Lynch		

Higher than expected English attainment

Students:

Louisa Cole	Sarah Ling	Nancy Roberts
Alice Rogers		

Expected English attainment

- The level of attainment shown in this group matches the indications of ability provided by *CAT4*; so they can be said to be performing at an average level for their ability.
- It may be beneficial to set expectations for school work at a slightly higher level than is currently being achieved in order to stretch students but without making targets unrealistic or de-motivating.
- There may be a statistical link between attainment and ability scores but is this an accurate reflection of the students' achievement?
  - *The external factors mentioned above may have had a negative effect on performance in both CAT4 and the attainment test(s).*
  - *The teacher's assessment of each individual student, particularly where some external difficulty may have had an impact, will be very important when interpreting the data in this report.*

Students:

Dominic Browne	Danielle Dixon	Nick Duffy
Billy Freeman	Natasha Jones	Elise Kelly
Charlie Masters	Florence Nash	Fiona Norton
Pauline Nurse	Dora Okai	

Much lower or lower than expected English attainment

- Are any of the students in this group still acquiring English? If so, is their understanding of English sufficient for them to access the language demands of *PTE*?
  - *The tests in the verbal part of CAT4 have a much lower language demand than PTE.*
  - *Higher verbal reasoning scores will give an indication that these students' potential in English is higher than the PTE test results would indicate.*
- Do all students in this group have sufficient literacy skills to access the assessment tasks in *PTE*?
  - *Again, the demands of CAT4 verbal reasoning tests are much lower than those of PTE in terms of literacy skills.*
- Look for discrepancy in the percentage correct in the *PTE* curriculum categories: is reading comprehension relatively weak? (The *PTE* group report has this information.)
  - *This might imply slow reading rate or processing rather than difficulties with comprehension.*
- Was *PTE* administered at the recommended point in the school year, that is, in the second half of the year?
  - *The test content reflects the curriculum year by year, so testing from the mid-point in the school year is strongly recommended.*
- Have factor such as students' school attendance or school history led to gaps in curriculum knowledge that will have limited their score on *PTE*?
  - *If so, now that CAT4 has provided a measure of potential can support be put in place to ensure better progress in literacy?*
- Have all students in the group had life experiences which would allow them to understand the questions and give the expected answers in *PTE*?
  - *Considerable work was put into making CAT4 Verbal Reasoning as culturally neutral as possible but for measures of reading comprehension there is likely to be some cultural impact.*

Lower than expected English attainment

Students:

Sophie Jobson	Yordan Madzhirov	Nia Smith

Much lower than expected English attainment

Students:

Daniel Browne	Joshua Browne	Jahazabe Imran
Sue Moore	Tom Murdie	Katie Ward
Nick Williams		

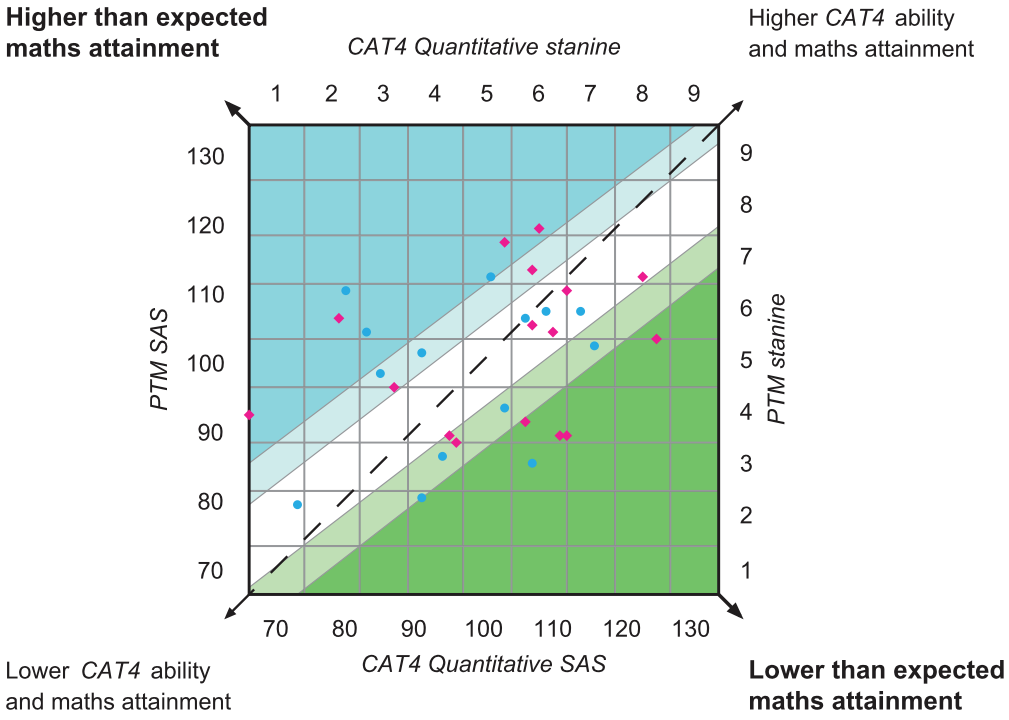
School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *PTE*: 29/02/2016	**Level:** 11
Date(s) of testing for *PTM*: 27/02/2016	**Level:** 11

Maths profiles

In several studies, *CAT* has been found to be a good indicator of maths attainment. However, there will be other factors, outside the scope of this report, that must be considered when forming a comprehensive profile of that attainment. The purpose of this report is to identify students whose maths attainment differs markedly from what might be expected from their *CAT4* score.

The *CAT4* Quantitative Reasoning score and the *Progress Test in Maths (PTM)* score form the basis of this analysis and profiles are indicated by the coloured bands.

- Much higher than expected maths attainment
- Higher than expected maths attainment
- Expected maths attainment
- Lower than expected maths attainment
- Much lower than expected maths attainment
- Males
- Females



The Quantitative reasoning tests in *CAT4* measure something discrete and different from the maths skills measured in *PTM*. In *CAT4*, maths knowledge is a minimum requirement across all levels and the test is to make connections and understand relationships between numbers. In *PTM*, the questions cover aspects of the curriculum the students will be studying, including mental maths. Results allow the teacher to see where strengths in maths lie or where there may be gaps in knowledge at a group and individual level.

However, the scores for *CAT4* and *PTM* are highly correlated at national level and the former provide an indicator of maths attainment such that the majority of students will be in the expected attainment category below.

The *CAT4* Quantitative score is highly correlated with results for Maths at GCSE at 0.76 and offers further evidence of the link between quantitative reasoning ability and maths attainment.

In the narrative section overleaf, profiles have been paired and are reported upon as:

- Much higher or higher than expected attainment
- Expected attainment
- Much lower or lower than expected attainment

The narrative for each category poses some questions which may help with thinking about how to use the information in this report. It is likely that students of most concern will be those whose performance in *CAT4* suggests their attainment should be better. However, when considering all students, the level of performance, not just the relative performance, will be important. The report does not differentiate in this regard.

Maths discrepancy category	National	Group	
	%	%	No. of students
Much higher than expected maths attainment	10%	23%	7
Higher than expected maths attainment	15%	13%	4
Expected maths attainment	50%	27%	8
Lower than expected maths attainment	15%	17%	5
Much lower than expected maths attainment	10%	20%	6
Total	100%	100%	30

Much higher or higher than expected maths attainment

- Could some of the children in this group have benefitted from questions being brought to life through the use of real-world situations in *PTM* questions?
- Do some of the children in this group show an uneven profile of maths ability?
  - *For example, they might have particular strengths in areas of maths requiring visual-spatial skills (such as 'shape and space') but have difficulty with purely numerical reasoning? (See the curriculum process category information in the PTM report to check for any discrepancy.)*
- Does this group include students with strong language skills which help to support their mathematical problem solving?
- Have any students in this group received high levels of academic support at school and/or home which will have helped them to achieve at a higher level than might have been predicted from their ability in quantitative reasoning?
  - *This might be in the form of extra lessons, parental input or very good classroom teaching.*
- Do any of the students in this group show high academic motivation which will have impacted positively on their learning during lessons and during the assessment tasks?
- Does this group include slow processors of information who would have benefitted from *PTM* being untimed but who would struggle to complete the *CAT4* tasks in the time allocated?
  - *Extra time is not an option for CAT4 as it is the combination of the difficulty of the tasks and the time allocated to complete them that contributes to the score and in turn the student profile.*

Much higher than expected maths attainment

Students:

Tom Albright	Nick Duffy	Sophie Jobson
Natasha Jones	Elise Kelly	Yordan Madzhirov
Nancy Roberts		

Higher than expected maths attainment

Students:

Dominic Browne	Louisa Cole	Charlie Masters
Alice Rogers		

Expected maths attainment

- The level of attainment shown in this group matches the indications of ability provided by *CAT4*; so they can be said to be performing at an average level for their ability.
- It may be beneficial to set expectations for school work at a slightly higher level than is currently being achieved in order to stretch students but without making targets unrealistic or de-motivating.
- There may be a statistical link between attainment and ability scores but is this an accurate reflection of the students' achievement?
  - *The external factors mentioned above may have had a negative effect on performance in both CAT4 and the attainment test(s).*
  - *The teacher's assessment of each individual student, particularly where some external difficulty may have had an impact, will be very important when interpreting the data in this report.*

Students:

Daniel Browne	Martin Gibson	Sarah Ling
Tom Murdie	Fiona Norton	Dora Okai
Nia Smith	Nick Williams	

Much lower or lower than expected maths attainment

- Are any of the students in this group still acquiring English?
  - *There is a significant language requirement in the maths curriculum and although the language content in PTM has been minimised, it is possible that students with EAL may have difficulty understanding fully every task.*
- Do all students in this group have sufficient literacy skills (both reading accuracy and reading comprehension) to access *PTM*?
  - *If students routinely have access to a reader this service should have been provided for both CAT4 (for the instructions and example sections) and PTM.*
- Have factors such as school attendance or school history led to gaps in curriculum knowledge that will have limited the *PTM* scores for any pupils in this group?
  - *Any impact will be greater in PTM rather than CAT4.*
- Was *PTM* administered at the recommended point in the school year, that is during the second half of the year?
  - *The test content reflects the curriculum year by year, so testing from the mid-point in the school year is strongly recommended.*
- Do some students in this group have a weakness in specific areas of maths which may have limited their *PTM* score?
  - *It may be helpful to look at the CAT4 Spatial Ability score to identify students who have difficulty with spatial tasks.*
  - *Taking PTM as the starting point, for selected students, it may be helpful to carry out an audit of curriculum strengths and weakness in order to underpin support. Their score in PTM may not reflect attainment in maths more broadly.*

Lower than expected maths attainment

Students:

Joshua Browne	Ben Lynch	Sue Moore
Pauline Nurse	Adrian Watt	

Much lower than expected maths attainment

Students:

Danielle Dixon	Billy Freeman	Nathan Gill
Jahazabe Imran	Florence Nash	Katie Ward

School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *NGRT*: 29/02/2016	**Level:** 3

Scores for the group (by surname)

Student name	*CAT4* Verbal SAS	*NGRT* Overall SAS	Reading discrepancy category	*CAT4* Quantitative SAS	*CAT4* Non-verbal SAS	*CAT4* Spatial SAS	*CAT4* Mean SAS
Tom Albright	96	95	Expected	80	88	100	91
Daniel Browne	110	122	Much higher than expected	106	100	109	106
Dominic Browne	103	120	Much higher than expected	85	97	98	96
Joshua Browne	130	104	Much lower than expected	116	106	117	117
Louisa Cole	113	98	Lower than expected	107	98	97	104
Danielle Dixon	92	109	Much higher than expected	106	112	125	109
Nick Duffy	100	95	Expected	101	87	112	100
Billy Freeman	117	110	Expected	107	98	108	108
Martin Gibson	81	84	Expected	73	64	66	71
Nathan Gill	94	90	Expected	91	83	81	87
Jahazabe Imran	122	101	Much lower than expected	112	101	100	109
Sophie Jobson	99	98	Expected	103	88	116	102
Natasha Jones	109	102	Expected	108	101	105	106
Elise Kelly	105	100	Expected	79	75	120	95
Sarah Ling	106	102	Expected	110	109	105	108
Ben Lynch	101	120	Much higher than expected	103	76	86	92
Yordan Madzhirov	108	95	Lower than expected	83	92	-	94
Charlie Masters	93	93	Expected	91	97	107	97
Sue Moore	109	119	Higher than expected	95	92	107	101
Tom Murdie	107	102	Expected	109	95	101	103
Florence Nash	110	113	Expected	125	114	114	116
Fiona Norton	110	99	Lower than expected	107	106	112	109
Pauline Nurse	94	105	Higher than expected	96	102	100	98
Dora Okai	103	106	Expected	112	109	108	108
Nancy Roberts	103	110	Higher than expected	59	59	59	70
Alice Rogers	103	84	Much lower than expected	87	87	81	90

The **Standard Age Score (SAS)** is based on the student's raw score which has been adjusted for age and placed on a scale that makes a comparison with a nationally representative sample of students of the same age across the UK. The average score is 100.

NGRT allows a further level of analysis by stanine for both parts of the test: sentence completion and passage comprehension. Please see the *NGRT* Group report for teachers for this finer level of detail for each student.

Student name	*CAT4* Verbal SAS	*NGRT* Overall SAS	Reading discrepancy category	*CAT4* Quantitative SAS	*CAT4* Non-verbal SAS	*CAT4* Spatial SAS	*CAT4* Mean SAS
Nia Smith	126	93	Much lower than expected	123	115	117	120
Katie Ward	113	78	Much lower than expected	111	96	114	109
Adrian Watt	-	94	-	94	114	106	105
Nick Williams	124	101	Much lower than expected	114	101	105	111

School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *NGRT*: 29/02/2016	**Level:** 3

Analysis of group scores

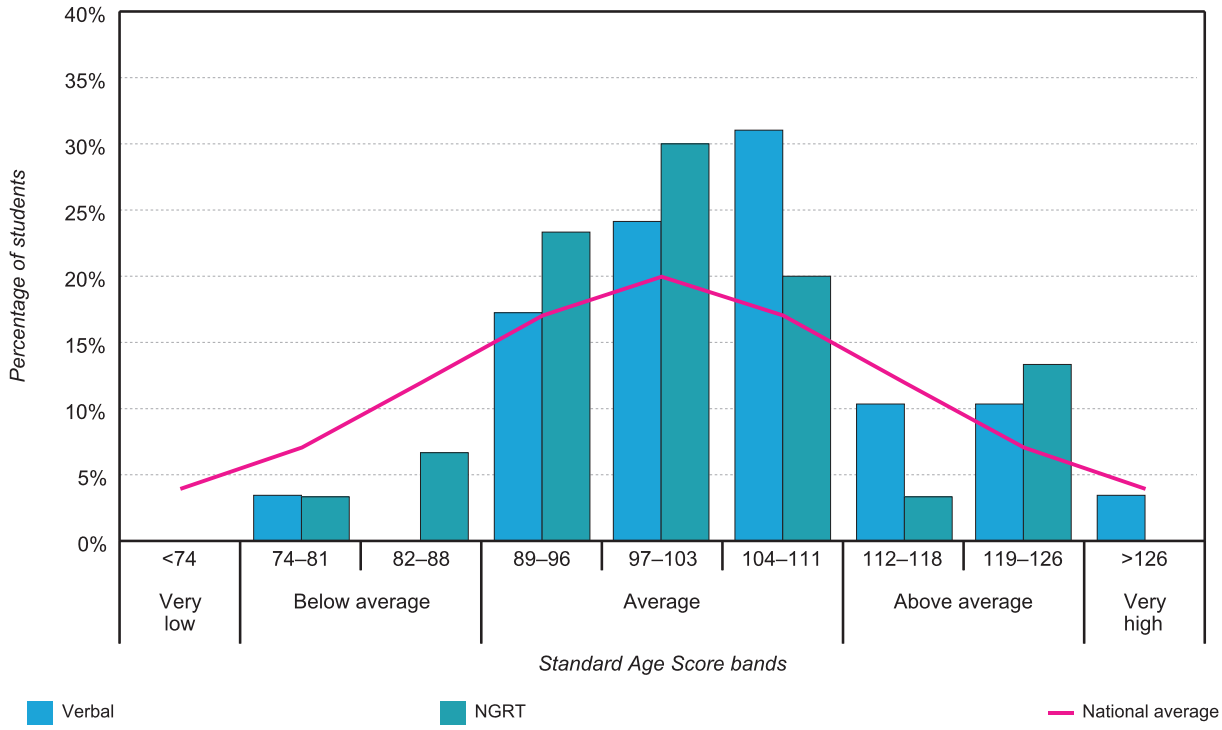
The table below shows mean (average) scores for your group compared with those for the national sample.

	CAT4 Verbal mean SAS	*NGRT* mean SAS	*CAT4* Quantitative mean SAS	*CAT4* Non-verbal mean SAS	*CAT4* Spatial mean SAS	*CAT4* Overall mean SAS
National average	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Group	106.2	101.4	99.8	95.4	102.6	101.1

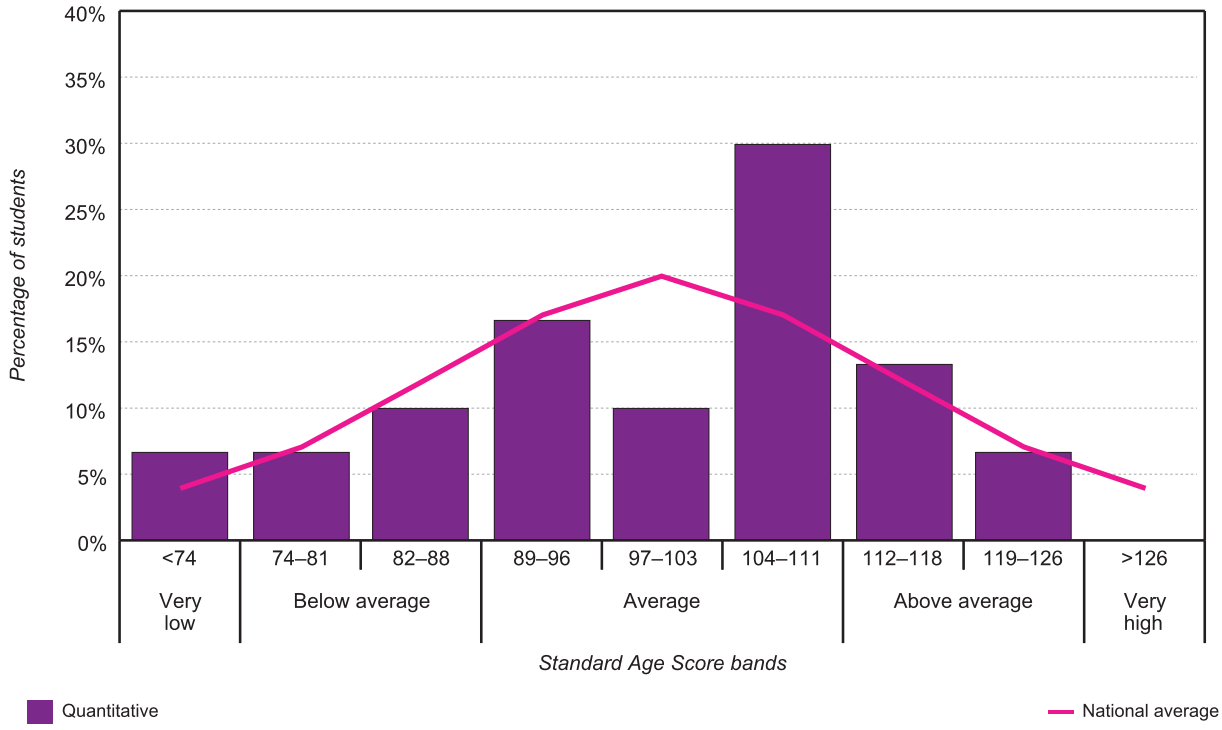
The table below shows the distribution of scores for your group compared with those for the national sample. In addition, the bar charts presents this information.

Description	**Very low**	**Below average**		**Average**			**Above average**		**Very high**
SAS bands	**<74**	**74–81**	**82–88**	**89–96**	**97–103**	**104–111**	**112–118**	**119–126**	**>126**
National average	**4%**	**7%**	**12%**	**17%**	**20%**	**17%**	**12%**	**7%**	**4%**
CAT4 Verbal	0%	3%	0%	17%	24%	31%	10%	10%	3%
NGRT	0%	3%	7%	23%	30%	20%	3%	13%	0%
CAT4 Quantitative	7%	7%	10%	17%	10%	30%	13%	7%	0%
CAT4 Non-verbal	7%	7%	17%	13%	30%	13%	13%	0%	0%
CAT4 Spatial	7%	7%	3%	0%	21%	31%	24%	7%	0%

Distribution of *CAT4* Verbal and *NGRT* scores for your group compared with those for the national sample

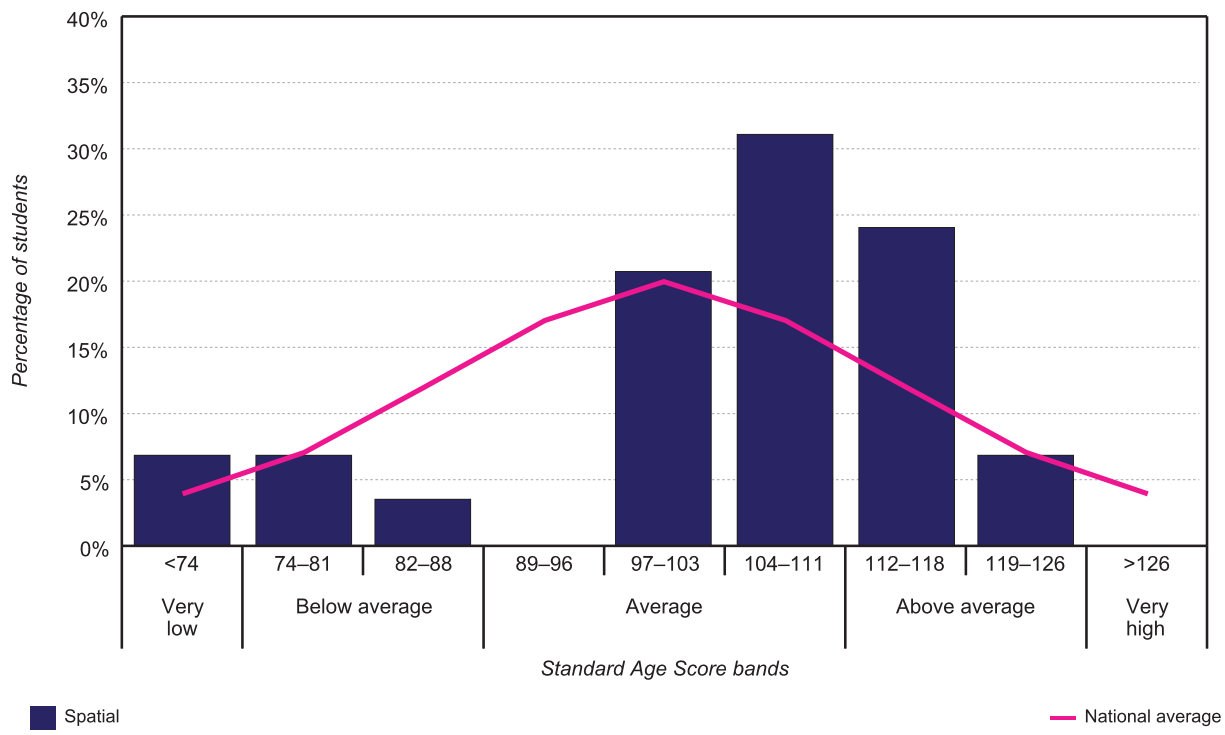


Distribution of *CAT4* Quantitative scores for your group compared with those for the national sample



Distribution of *CAT4* Non-verbal scores for your group compared with those for the national sample

Distribution of *CAT4* Spatial scores for your group compared with those for the national sample



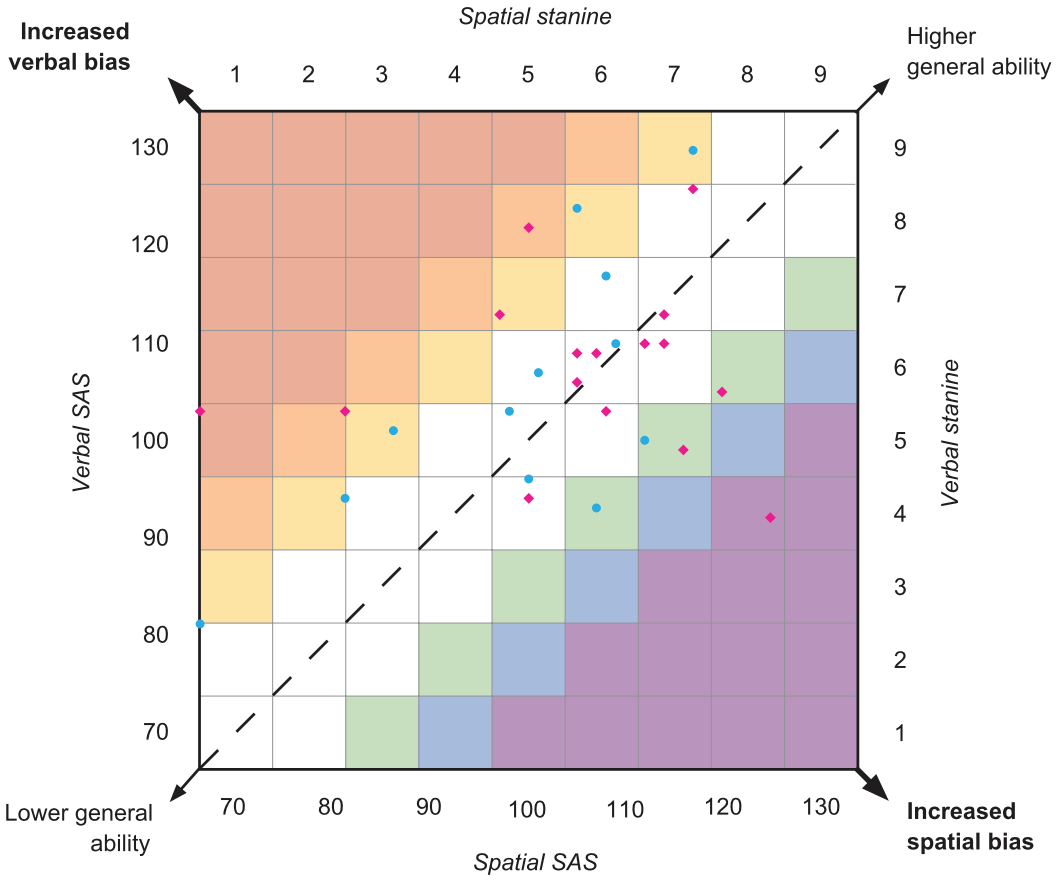
School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *NGRT*: 29/02/2016	**Level:** 3

CAT4 profiles

The analysis of *CAT4* scores allows all students to be assigned a profile; that is they are assigned to one of seven broad descriptions of their preferences for learning. The Verbal Reasoning and Spatial Ability Batteries form the basis of this analysis and the profiles are expressed as a mild, moderate or extreme bias for verbal or spatial learning or, where no bias is discernable (that is, when scores on both batteries are similar), as an even profile.

The diagram shows the distribution of students across the seven profiles which are indicated by the coloured bands.

- Extreme verbal bias
- Moderate verbal bias
- Mild verbal bias
- No bias
- Mild spatial bias
- Moderate spatial bias
- Extreme spatial bias
- Males
- Females



General characteristics of each student profile

It may be helpful to consider which students fall into which broad profile, but this information must be treated with caution as the descriptors are general and not individualised: students' preferences for learning will be influenced by other factors. The *CAT4* Individual student report for teachers offers more fine detail.

	National	Group	
	%	%	No. of students
Extreme verbal bias	2%	4%	1
Moderate verbal bias	4%	7%	2
Mild verbal bias	11%	18%	5
No bias or even profile	66%	54%	15
Mild spatial bias	11%	14%	4
Moderate spatial bias	4%	0%	0
Extreme spatial bias	2%	4%	1

Extreme verbal bias

- These students should excel in written work and should enjoy discussion and debate.
- They should prefer to learn through reading, writing and may be very competent independent learners.
- They are likely to be high achievers in subjects that require good verbal skills such as English, modern foreign languages and humanities.
- They may prefer to learn step-by-step, building on prior knowledge, as their spatial skills are relatively weaker, being in the low average or below average range.

Students:
Nancy Roberts

Moderate verbal bias

- Students in this group will have average to high scores for Verbal Reasoning and relatively weaker Spatial Ability with scores in the average range.
- These students are likely to prefer to learn through reading, writing and discussion.
- Step-by-step learning, which builds on prior knowledge incrementally, is likely to suit these students.

Students:
Jahazabe Imran
Alice Rogers

Mild verbal bias

- Some students with this profile will have low average or below average scores for Verbal Reasoning and relatively weaker Spatial Ability, but the gap between scores will be narrow.
- A slight bias for learning through reading, writing and discussion may be discerned in the students in this group.

Students:
Joshua Browne
Louisa Cole
Nathan Gill
Ben Lynch
Nick Williams

No bias or even profile

- Scores for students with this profile will be very similar for both Verbal Reasoning and Spatial Ability, but will be across the range from low to high.
- Students with high even scores will excel across the curriculum and will learn through the range of media and methods.
- Students with low even scores, conversely, may require significant levels of support to access the curriculum but will be open to a range of teaching and learning methods.

Students:

Tom Albright	Daniel Browne	Dominic Browne
Billy Freeman	Martin Gibson	Natasha Jones
Sarah Ling	Sue Moore	Tom Murdie
Florence Nash	Fiona Norton	Pauline Nurse
Dora Okai	Nia Smith	Katie Ward

Mild spatial bias

- Some students with this profile will have low average or below average scores for Spatial Ability and relatively weaker Verbal Reasoning skills, but the gap between scores will be narrow.
- A slight bias for learning through visual media may be discerned in the students in this group.

Students:

Nick Duffy	Sophie Jobson	Elise Kelly
Charlie Masters		

Moderate spatial bias

- Students in this group will have average to high scores for Spatial Ability and relatively weaker Verbal Reasoning with scores in the average range.
- These students are likely to prefer to learn through visual and kinaesthetic media and will need to use diagrams, pictures, videos and objects to learn best.
- Students with above average or high Spatial Ability are often characterised as ‘intuitive’ or ‘big picture’ learners: attention to detail may be a weakness.
- Owing to a relative weakness in verbal skills, attainment may be uneven and they are likely to need support in subjects where the emphasis is on the written word.

Students: None

Extreme spatial bias

- These students should excel in problem solving and will grasp concepts quickly and intuitively.
- They will not enjoy rote learning and may arrive at a correct solution to a task without demonstrating the steps along the way.
- They are likely to be high achievers in subjects that require good visual-spatial skills such as maths, physics and technology.
- Owing to a relative weakness in verbal skills, attainment may be uneven and they may need support in subjects where the emphasis is on the written word.

Students:
Danielle Dixon

Comparing attainment with ability

To extract maximum value from each test, a comparison of scores can be made. This offers deeper insights into students' attainment and the relationship with underlying ability and potential. It is possible to identify where attainment is broadly in line with ability and where under- or over-achievement may be the case.

Some profiles may seem anomalous. In such cases information beyond the test score must be considered. For example, hard work and good teaching may account for cases of apparent 'over-achievement'.

In all cases, error around test scores must be taken into consideration: scores reflect performance on a single test on a given day and can only provide an estimate of a student's true ability or attainment.

If, for some individual students, scores appear to be too low it will be important to consider external factors that may have had an impact of how the students performed in the test. Illness, emotional upset or tiredness can mean that students' test scores are not a true reflection of their capabilities. Test-related anxiety is not uncommon, even when students have been reassured that tests like *CAT4* are intended to find out how each student learns best. Some students respond impulsively under the pressure of a test but work more consistently otherwise.

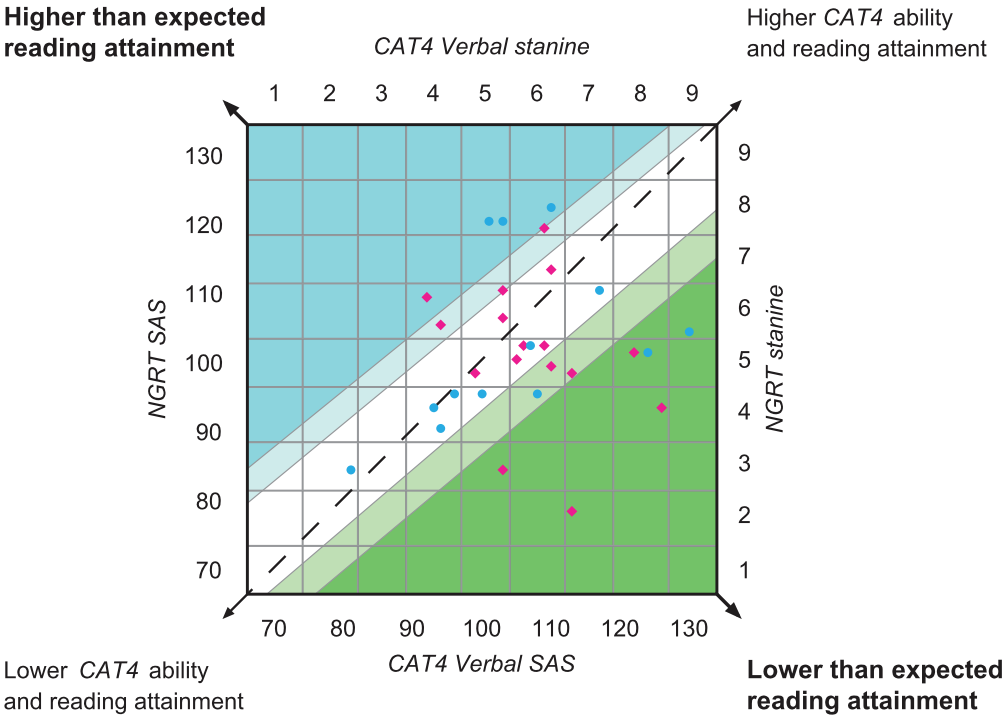
School: Test School	
Group: Sample School	**No. of students:** 30
Date(s) of testing for *CAT4*: 11/10/2015	**Level:** D
Date(s) of testing for *NGRT*: 29/02/2016	**Level:** 3

Reading profiles

In several studies, *CAT* has been found to be a good indicator of reading attainment. However, there will be other factors, outside the scope of this report, that must be considered when forming a comprehensive profile of that attainment. The purpose of this report is to identify students whose reading attainment differs markedly from what might be expected from their *CAT4* score.

The *CAT4* Verbal Reasoning score and the *New Group Reading Test (NGRT)* score form the basis of this analysis and profiles are indicated by the coloured bands.

- Much higher than expected reading attainment
- Higher than expected reading attainment
- Expected reading attainment
- Lower than expected reading attainment
- Much lower than expected reading attainment
- Males
- Females



The Verbal reasoning tests in *CAT4* measure something discrete and different from the reading skills measured in *NGRT*. In *CAT4*, the difficulty level of reading, which is at word level, is kept as low as possible and the task is to make connections and understand relationships between words. In *NGRT* students read and complete sentences, and read and answer questions on a range of passages: both proven models for assessing reading as it is presented on a daily basis.

However, scores for *CAT4* and *NGRT* are highly correlated at national level and the *CAT4* scores provide an indicator of reading attainment such that the majority of students will be in the expected attainment category below.

The *CAT4* Verbal reasoning score is the basis for the indicator for reading at KS2 where the correlation is 0.74 and this offers further evidence of the link between verbal reasoning ability and attainment in reading.

In the narrative section overleaf, profiles have been paired and are reported upon as:

- Much higher or higher than expected attainment
- Expected attainment
- Much lower or lower than expected attainment

The narrative for each category poses some questions which may help with thinking about how to use the information in this report. It is likely that students of most concern will be those whose performance in *CAT4* suggests their attainment should be better. However, when considering all students, the level of performance, not just the relative performance, will be important. The report does not differentiate in this regard.

Reading discrepancy category	National	Group	
	%	%	No. of students
Much higher than expected reading attainment	10%	14%	4
Higher than expected reading attainment	15%	10%	3
Expected reading attainment	50%	45%	13
Lower than expected reading attainment	15%	10%	3
Much lower than expected reading attainment	10%	21%	6
Total	100%	100%	29

Much higher or higher than expected reading attainment

- Do some students in this group show an uneven profile in reading?
  - *Look for any discrepancy in the NGRT scale scores: sentence completion (decoding) may be secure but passage (reading) comprehension may need support. (The NGRT group report has this information.)*
  - *This may imply some difficulty with higher order comprehension or a relative weakness in understanding texts more in line with the verbal reasoning result.*
- Could some students have had difficulty attending to the instructions in *CAT4*?
  - *For example, this might have affected the score of those with poor listening skills. NGRT has relatively short oral instructions.*
- Have any students in this group received high levels of academic support at school and/or home which will have helped them to achieve at a higher level than might have been predicted from their verbal reasoning ability?
- Do any of the students in this group show high academic motivation which will have impacted positively on their learning during lessons and during the assessment tasks?
- Does this group include slow processors of information who would have benefitted from *NGRT* being untimed, but who would struggle to complete the *CAT4* tasks in the time allocated?
  - *Extra time is not an option for CAT4 as it is the combination of the difficulty of the tasks and the time allocated to complete them that contributes to the score and in turn the student profile.*
- It may be helpful to look at Non-verbal Reasoning and Spatial Ability scores for some students who may have difficulty processing information presented verbally but demonstrate better processing where non-verbal and spatial tasks are involved.

Much higher than expected reading attainment

Students:

Daniel Browne	Dominic Browne	Danielle Dixon
Ben Lynch		

Higher than expected reading attainment

Students:

Sue Moore	Pauline Nurse	Nancy Roberts

Expected reading attainment

- The level of attainment shown in this group matches the indications of ability provided by *CAT4*; so they can be said to be performing at an average level for their ability.
- It may be beneficial to set expectations for school work at a slightly higher level than is currently being achieved in order to stretch students but without making targets unrealistic or de-motivating.
- There may be a statistical link between attainment and ability scores but is this an accurate reflection of the students' achievement?
  - *The external factors mentioned above may have had a negative effect on performance in both CAT4 and the attainment test(s).*
  - *The teacher's assessment of each individual student, particularly where some external difficulty may have had an impact, will be very important when interpreting the data in this report.*

Students:

Tom Albright	Nick Duffy	Billy Freeman
Martin Gibson	Nathan Gill	Sophie Jobson
Natasha Jones	Elise Kelly	Sarah Ling
Charlie Masters	Tom Murdie	Florence Nash
Dora Okai		

Much lower or lower than expected reading attainment

- Are any of the students in this group still acquiring English? If so, is their understanding of English sufficient for them to access the language demands of *NGRT*?
  - *The tests in the verbal part of CAT4 have a much lower language demand than NGRT.*
  - *Higher verbal reasoning scores will give an indication that these students' potential in reading is higher than the NGRT test results would indicate.*
- Do all students in this group have sufficient literacy skills to access the assessment tasks in *NGRT*?
  - *Again, the demands of CAT4 verbal reasoning tests are much lower than those of NGRT in terms of literacy skills.*
  - *Look at the NGRT scale scores as sentence completion (decoding) may be secure but passage (reading) comprehension may require support, or vice versa. (The NGRT group report has this information.)*
- Have factor such as students' school attendance or school history led to a delay in reading and comprehension development that will have limited their score on *NGRT*?
  - *If so, now that CAT4 has provided a measure of potential can support be put in place to ensure better progress in reading?*
- Have all students in the group had life experiences which would allow them to understand the questions and give the expected answers in the passage comprehension part of *NGRT*?
  - *Considerable work was put into making CAT4 Verbal Reasoning as culturally neutral as possible but for measures of reading comprehension there is likely to be some cultural impact.*

Lower than expected reading attainment

Students:

Louisa Cole	Yordan Madzhirov	Fiona Norton

Much lower than expected reading attainment

Students:

Joshua Browne	Jahazabe Imran	Alice Rogers
Nia Smith	Katie Ward	Nick Williams

Area Consultants

To find your local Area Consultant, please use the colour-coded map.

In addition to your Area Consultant, there is now a dedicated member of the Customer Services Team for each area of the UK that can help with your enquiries. Please see opposite for details.

For further information on each area, please visit:
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