



Cognitive Abilities Test (CAT) Digital

Guidance and Information for Teachers

Digital Tests from GL Assessment

For fully comprehensive information about using digital tests from GL Assessment, please download the testwise user manuals from the help section of the website www.testingforschools.com

NB Testwise is an online assessment system that delivers tests to over 500,000 pupils a year.

Cognitive Abilities Test Digital (CAT Digital) is part of a selection of standardised tests available in both paper and digital editions from GL Assessment. The development of digital editions of major series such as the *Progress in Maths* and *Group Reading Test*, as well as *CAT*, is a response to the need for schools to test large numbers of pupils at regular intervals, and to make that process as efficient as possible by automating the scoring, analysis and reporting. At the same time, by developing digital editions of established tests, teachers and pupils can be assured of the robustness of these tests.

CAT Digital is often used at important moments during a pupil's school career, for example at the transition point between primary and secondary school. As such it is an important test and one on which decisions about, for example, setting, giftedness or intervention may be made in conjunction with teacher assessment and an evaluation of pupil performance throughout the year.

CAT Digital must be administered in a formal test environment with pupils made aware that they are taking a test and that the usual expectations of behaviour and constraints of a test session will be in place. Pupils' experience of working at a computer may lead to the impression that taking a test using a PC is not as important as the more familiar test session in the school hall or rearranged classroom. They may expect to spend time in the computer suite on less formal activities, engaging in learning that is presented in a highly visual or even game-like way. While GL Assessment digital tests do engage pupils, they are tests and must be approached in the same way as the more familiar paper test process.

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Introduction to Cognitive Abilities Test Digital

The digital version of the *Cognitive Abilities Test* comprise all the same tests as the paper edition.

CAT Digital has identical questions to the paper version, but pupils click on their answers on screen, using a mouse rather than marking an OMR sheet. Every question in the test is in the multiple-choice format with five responses.

See below for detailed description of test content.

Use of CAT Digital

CAT is available at eight levels of difficulty, aimed at pupils of appropriate ages as shown in the table below.

CAT Level	Age Group	England & Wales	Scotland	Norther Ireland
A	7:06 to 9:11	Year 4	Primary 5	Year 5 (P5)
B	8:06 to 10:11	Year 5	Primary 6	Year 6 (P6)
C	9:06 to 11:11	Year 6	Primary 7	Year 7 (P7)
D	10:06 to 12:11	Year 7	Secondary 1	Year 8 (F1)
E	11:06 to 13:11	Year 8	Secondary 2	Year 9 (F2)
F	12:06 to 14:11	Year 9	Secondary 3	Year 10 (F3)
G	13:06 to 15:11	Year 10	Secondary 4	Year 11 (F4)
H	14:06 to 17:00+	Year 11 +	Secondary 5+	Year 12 (F5)+

The levels of *CAT* do overlap, so that adjacent tests levels share some questions.

Timing

Allow 50 minutes for Verbal Reasoning, 50 minutes for Quantitative Reasoning and 50 minutes for Non-Verbal Reasoning.

Each subtest is precisely timed and the timing is controlled by the computer. A countdown clock is shown throughout each test. If a pupil finishes the test before the allotted time is up, he or she is invited to check the answers given. The three batteries can be scheduled on separate occasions or days if desired.

Each of the subtests is timed as follows:

Test battery	Subtest	Time in minutes
Verbal Reasoning	Verbal Classification	8
	Sentence Completion	10
	Verbal Analogies	10
Quantitative Reasoning	Number Analogies	12
	Number Series	10
	Equation Building	14
Non-Verbal Reasoning	Figure Classification	10
	Figure Analogies	10
	Figure Analysis	10

The above timings exclude time to do the practice questions so allow for around 50 minutes for each battery.

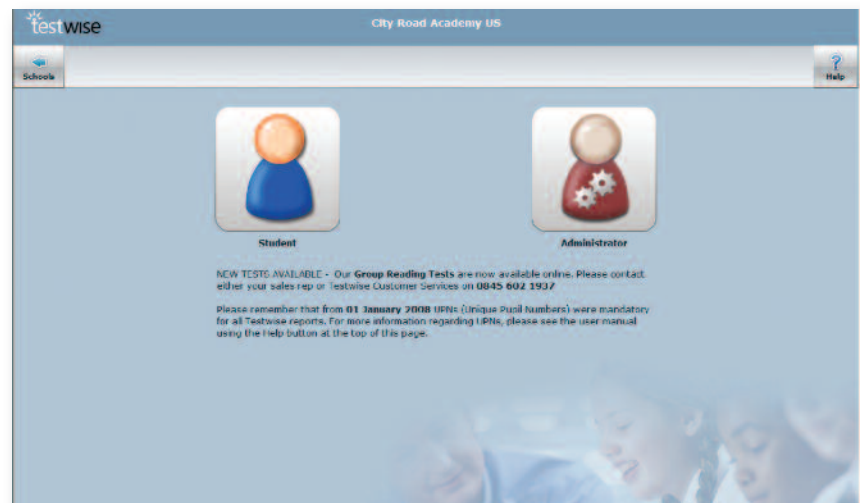
Administration

The Testwise url is:

<http://www.testingforschools.com>

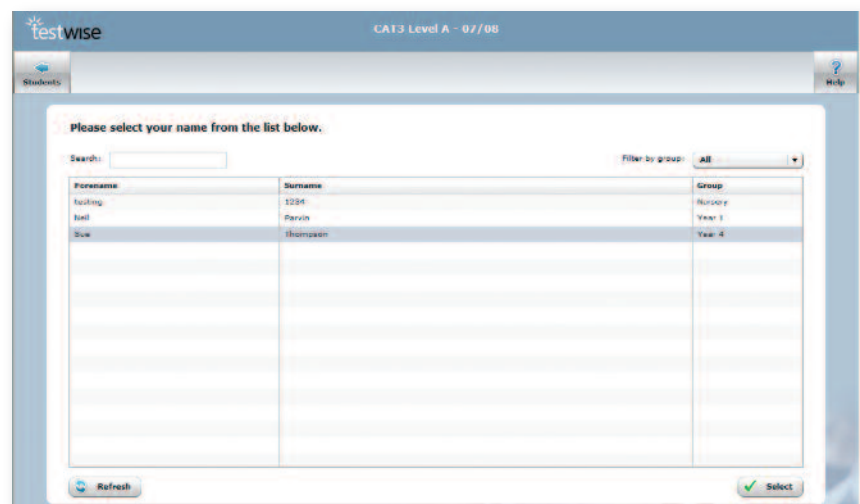
Pupils should click on **Enter Testwise** after selecting their region from the global map on the screen, and then select their school from the displayed list.

Once the school has been selected successfully and pupils have been added to the register by the administrator, they then click the **Student** icon. They will then enter the register ID.

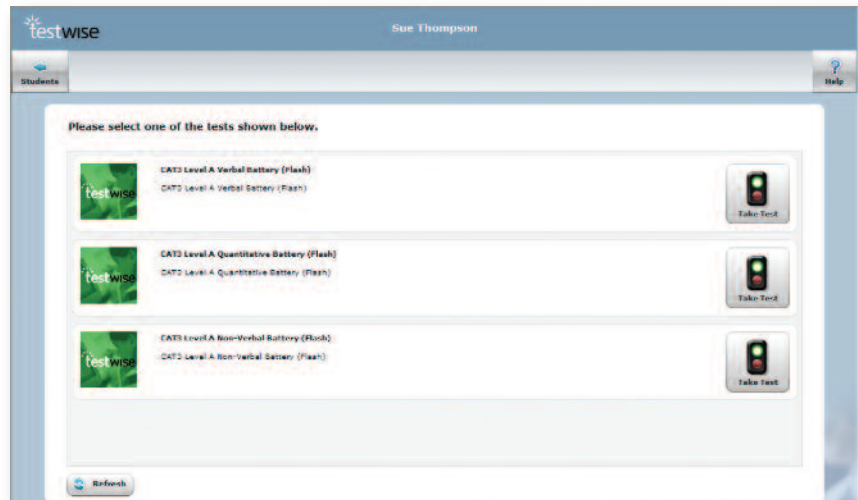


If the children are very young, the teacher may prefer to log on for each pupil.

Pupils will then see the following screen and they should select their name and enter their password.



Pupils can then click on **Take Test**.



Finally, when they click on **Take Test**, the title screen of the first battery of *CAT Digital* will appear.

You will need to inform pupils to take the *CAT Digital* tests in the following order:

Verbal followed by Quantitative and then Non-Verbal.

This is because the tests were nationally standardised in this order and administration in this order will have maximum possible validity

Please note that after an exercise has been completed it may remain on the list of assessments available to a pupil until results have been stored. The latter process can take some time at particularly busy test periods.

Once the pupil has selected the test to be taken, there is an onscreen and verbal introduction. This explains the nature of the test and how the pupil is to answer the questions. It includes how a pupil can change an answer if he or she has second thoughts. Then two or three practice questions are presented to familiarise pupils with the type of question in the test and to give them practice in how to answer. Then, when the pupil is ready, he or she can start the test and the strict timing begins.

Each battery of the test has three subtests. When the pupil has finished the subtest, the timer continues until time runs out. The pupil is invited to check his or her answers, and simple-to-use buttons allow him or her to navigate through the test as he or she wishes. When one subtest is completed, the introduction and practice questions for the next subtest begin immediately.

When the pupil has finished the third subtest in each battery, a "Sending results" message appears announcing that the responses are being sent off for processing. After a short time, this is completed and pupil will be returned to the screen above and should click on Take Test for the next battery.

It is important to complete all three subtests within a single battery as the data is sent back to the server at the end of the third subtest. Do not switch off the machine until the timer has run out. However, please note that you do not need to complete all 3 batteries in one sitting.

Pupils with Special Assessment Needs

No pupils should be automatically excluded from taking *CAT Digital* since it is designed to measure pupils' reasoning ability across the whole range. The only

reservation is children with poor reading skills, whether because of dyslexia or because they are not native speakers of English.

Such pupils would be expected to get low scores in the Verbal Reasoning battery compared to the other two batteries'. Indeed, a low relative Verbal Reasoning score might be the first indication that a pupil does have reading difficulty of some sort. In these cases the average of the Non-Verbal and Quantitative scores may be regarded as a better indication of the pupil's all-round reasoning ability.

The Test Environment

Each pupil will need a computer, headphones and mouse and all equipment needs to be in good working order. Pupils should be told that they are going to take a series of tests and explained the purpose of the test: 'to find out what you can do or where you may need help' or 'to let your teacher next year know what you can do'. Pupils should be told that they must work in silence but that if they have a query they should raise their hand and wait for the teacher to approach them. Answer any questions at this stage and explain that you cannot help with any of the test questions but that they should try to do their best and at the end go back and check their work.

While pupils are taking the test the teacher should walk round the computer suite to check that they are progressing appropriately, that they are not having difficulty with the methods of answering questions and, importantly with digital tests, that they have not rushed through any part of the test without attempting to answer some questions.

Unexpected Incidents during a Test Session

As with the paper test, should anything unexpected occur during the test session, the incident should be recorded and appended to the group report for the specific group of pupils. This will allow the incident to be taken into account when scores are being compiled.

If there is a failure in your computer system while pupils are taking an exercise, it will not be possible to re-enter the test at the point at which the failure occurred. In this instance, pupils will need to re-take the complete battery. If pupils complete a test battery and the results are stored (i.e. they have clicked the 'end test' button) and then the system fails, it may be possible to retrieve results, and therefore reports, from the GL Assessment back-up server.

Should this happen, the teacher should contact the GL Assessment Customer Support Team on 0845 602 1937 where he or she will be connected to a Testwise adviser.

Testwise Cognitive Abilities Test Report

A sample *CAT* report may be viewed at:

<http://www.gl-assessment.co.uk/cat>

There are a number of different reports available – individual, pupil and group – and all of them can be ordered onscreen. Reports can be sorted by pupil name, standardised score or by gender.

1. Standard *CAT* Reports
2. Subtest Reports

3. Cognitive Strengths and Weaknesses Profile
4. Key Stage 2 Indicators
5. Key Stage 3 Indicators
6. GCSE Indicators
7. AS and A level Indicator
8. Scottish Standard Grade Indicators
9. Export CAT KS-GCSE CSV Results
10. Export CAT Scottish Standard Grade CSV Result

Each report is briefly described in turn.

The Standard CAT Report

This report includes:

- Mean test SAS scores by battery for boys, girls and all pupils
- Graphs of distributions of scores for boys, girls and all pupils
- Group list of scores for each pupil by battery
- An individual, full-page report for each pupil.

Subtest Scores Report

This shows every pupil's scores for the nine subtests that comprise the three CAT batteries.

Cognitive Strengths and Weaknesses Report

These reports highlight differences between pupils' test battery scores which may reveal something about the pupil's preferred, or stronger, way of reasoning. Where such differences are detected, a simple code conveys the strengths and weaknesses shown by the scores. A graphical display of the group's verbal and non-verbal test performances reveals at a glance any general tendency in the group to prefer one or the other way of reasoning. More information is given in chapter 3 of the *Getting the Best from CAT* book.

KS2 Indicators

Graphs show the likely distribution of Key Stage 2 levels in English, Mathematics and Science for the whole group. Also, charts show the indicated probability of each child's attaining each available level in the end-of-KS2 tests. There is then a full page report for each pupil showing the probabilities of his or her attaining each level in the end-of-KS2 tests in the core subjects.

KS3 Indicators

Similar information is provided to that described above for KS2. In addition, group and pupil indicators are given for six non-core subjects, indicating pupils' end-of-KS3 teacher assessments in six additional subjects: Design and Technology, Geography, History, ICT, MFL and Music.

GCSE Indicators

Again, the format of the provision is similar to the KS2 and KS3 reports, but the range of subjects covered extends to thirty subjects. Also probabilities and likely outcomes are given for certain important statistics, such as the percentage of the group likely to get five or more GCSE subjects with grades A* to C including English and mathematics.

AS and A Level Indicators

Charts show the distributions of grades at AS and A Level corresponding to CAT scores for a range of subjects.

Scottish Standard Grade Indicators

In a format similar to that used for the AS and A Level reports, probabilities of

the available grades corresponding to *CAT* scores are shown for a range of subjects. A group summary is also given, which contains probabilities for certain key statistical summaries, such as the percentage of a group likely to get five or more Grades 1 or 2.

Export CAT KS-GCSE CSV results

The *CAT* pupil scores and KS2, KS3 and GCSE data are exported to a Comma Separated Variable (CSV) file. You can view the pupil scores in Excel.

Export CAT Scottish Standard Grade CSV result

The *CAT* pupil scores and Scottish Standard Grade data are exported to a Comma Separated Variable (CSV) file. You can view the pupil scores in Excel.

Checklist for Teachers

Before the test session

- Allow 50 minutes in the computer suite for each of the three test batteries.
- Check with your IT person that all the machines have been checked and the correct version of Flash are installed on each machine. Disable any pop-up blockers on the computers.
- It is useful to have a shortcut link created on the desktop so that pupils can click on it to go to the Testwise website: <http://www.testingforschools.com>
- All machines should have sound and headphones.
- Pupil need to use a mouse to click on the answers.
- Use a whiteboard to guide your pupils through the instruction screens (optional).
- Inform pupils which test they are taking during the session i.e. which of the three test they need to click 'Take Test'. The recommended order is Verbal followed by Quantitative and then Non-Verbal.
- At the login screen, inform pupils that they need to scroll down the organisation list and select the name of their school.
- Obtain a list of the pupil usernames and passwords. You may need to help pupils who have difficulty with the login process.
- A pencil and paper for working out should be provided when pupils take the quantitative test only. Do not provide this for the verbal or non-verbal tests.
- Stop pupils clicking on 'Take Test' until everyone is clear about what they are doing.

During the test session

Allow 50 minutes in the computer suite for each of the three tests. Each test is divided into three subtests. Pupils will need to wait until the time has elapsed before they move to the next subtest.

After the test is completed

The screen will show 'Sending results'. Do not switch off the machine until the screen changes to 'Continue'.

Ensure a suitable break before pupils start the next test.

What is the CAT?

The *CAT* assesses an individual's ability to reason with and manipulate different types of symbols. Three main types of symbol play a substantial role in human thought. These symbols represent:

- words
- quantities
- spatial, geometric or figural patterns.

In the *CAT*, separate batteries of subtests are provided to assess competence in working with each of these three types of symbol:

- Verbal Battery;
- Quantitative Battery;
- Non-verbal Battery.

Where possible, parallel question types have been incorporated in two or all three batteries, so that the influence of the different media can be identified more clearly. For example, tests of reasoning through analogies are included in all three batteries. The set of three scores will give a profile showing the level and pattern of each pupil's abilities. Knowledge of areas of relative strength and weakness should help both the individual and the school to use strengths most effectively, and to compensate for areas of weakness (see Chapter 3 of *Getting the Best from CAT*).

Perceiving relationships

CAT emphasises relational thinking – the perceiving of relationships among elements. Throughout each of the subtests the basic elements have been kept relatively simple, clear, familiar and appropriate to the ages of the pupils who will take the test. All pupils educated in schools and exposed to modern cultural influences should have had an opportunity to acquire the background knowledge needed to answer the questions. All questions in the subtests were pre-trialled with random samples of pupils of different ages, and only those questions that were of the desired difficulty and clarity were included in the final test. Questions were also evaluated to minimise or eliminate sex or ethnic bias. Thus questions that proved to be exceptionally difficult or easy for either males or females or for one of the ethnic groups were omitted or counter-balanced in the final test (see the *CAT* Technical Manual, pages 14 to 21).

Developed abilities

The *CAT* measures developed rather than innate abilities. The development of these abilities begins at birth and continues through early adulthood. It is influenced by both in-school and out-of-school experiences. Although test scores are based on experience, this does not negate the value of the test in helping to understand the individual as he or she is at the present time. Because these abilities are closely related to an individual's success in school in virtually all subjects, *CAT* scores, together with other relevant information, can be used to devise the types of learning experiences that will help pupils to improve their current levels of performance.

The three CAT test batteries

Verbal Battery – thinking with words

The Verbal Battery comprises three subtests:

- Verbal Classification
- Sentence Completion
- Verbal Analogies.

Although performance in these subtests depends upon the pupil's store of verbal concepts, the questions included in the Verbal Battery have been written with a view to making demands primarily upon the individual's flexibility in using his or her concepts.

The Verbal Battery is designed to assess relational thinking when the relationships are formulated in verbal terms. Since the greater part of education is presented through verbal symbols, the relevance of a verbal test for educational prognosis and diagnosis is clear. Tests of verbal reasoning have always been among the best ways of predicting educational progress.

Quantitative Battery – thinking with numbers

The Quantitative Battery comprises three subtests:

- Number Analogies
- Number Series
- Equation Building.

The solution of the problems in each question requires that the pupil has a basic store of quantitative concepts, but all the questions call for perception of relationships among concepts and for flexibility in using quantitative concepts. None of the questions in the subtests require reading, so reading skills will not affect performance.

Next to verbal reasoning, the ability to reason with quantitative symbols is the one most frequently required in an educational setting. Subjects such as mathematics, science, geography and economics make heavy demands on quantitative abilities. Quantitative reasoning together with verbal reasoning constitutes what some theorists have called 'academic ability'.

Non-Verbal Battery – thinking with shape and space

The Non-Verbal Battery comprises three subtests:

- Figure Classification
- Figure Analogies
- Figure Analysis.

The questions in this battery involve neither words nor numbers, and the shapes or figures used bear little direct relationship to the formal school curriculum. The first two subtests emphasise discovery of, and flexibility in manipulating, relationships expressed in figures. The third subtest, Figure Analysis, assesses 'spatial ability': that is, the ability to create, maintain and manipulate visual-spatial images.

Despite the lack of overlap with formal schooling, non-verbal reasoning tests have been found to relate significantly to school achievement, providing a useful addition to verbal tests. Among pupils with similar levels of verbal ability, the level of non-verbal ability may well identify those with the greater aptitude for the visual-spatial academic disciplines, such as mathematics, physics, art and design and technology. Tests of spatial ability are used in employment settings to identify those with aptitude for such careers as design, engineering and architecture.

The Non-Verbal Battery measures what has been termed 'fluid intelligence': that is, an ability to reason that is not strongly influenced by cultural and educational background. Where performance on this battery is superior to that on the other two batteries, it may suggest potential that is not fully expressed in performance on school-related tasks, for one reason or another. Scores on this battery may be particularly valuable in assessing the reasoning ability of

pupils with poor English language skills, pupils with specific problems in language-based work, or disaffected pupils who may have failed to achieve in academic work for motivational reasons.

Examples of the types of questions are given below:

Verbal Reasoning: Verbal Classification

Example: *These three words are similar in some way. Decide how they are the same. Then choose the word from the answer choices that goes with the first three words. Look at the example below.*

green blue red
Answer Options: colour crayon paint yellow rainbow

The example calls upon pupils to recognize the conceptual link tying the three given words together and then choose the word among the options that belongs with the original set of three words.

Verbal Reasoning: Sentence Completion

Each question has a sentence with one word left out. Look at the answer choices and choose the word that completes the sentence. Look at the example.

Apples _____ on trees.
Answer Options: fall grow show bloom spread

Pupils are required to select the one word from the five options presented that sensibly fills a gap in the sentence.

Verbal Reasoning: Verbal Analogies

For each question there are three words in dark type. The first two words go together. The third word goes together with one of the answer choices. Choose the word from the answer choices that goes with the third word. Look at the example.

new → old : wet → ?
Answer Options: rain drip hot sun dry

Pupils have to work out the relationship between the given pair of words, and then choose the option to complete the analogy for the given single word.

Quantitative Reasoning: Number Analogies

The question starts with two numbers that are linked together in some way. Next there are two more numbers that are linked in exactly the same way. You have to work out how the numbers are linked and then finish off the third pair. Look at the example.

[2 → 3] [9 → 10] [6 → ?]
Answer Options: 3 4 5 6 7

Pupils work out how the two given pairs of numbers are related and then choose the third number that has the same relationship from among the five options presented.

Quantitative Reasoning: Number Series

Each question shows a series of numbers. You have to work out the rule or rules used to arrange the numbers. Then decide what number should come next in the series. Look at the example.

15 14 13 12 ?
Answer Options: 9 10 11 13 14

From among the five options, pupils choose the number that continues the given sequence.

Quantitative Reasoning: Equation Building

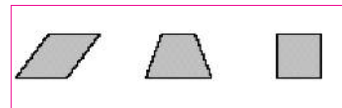
For each question you are given some numbers and signs. By combining all of the numbers and signs, you can make different equations or number sentences. Choose the answer that is a solution to an equation that can be made by combining the numbers and signs you are given. Look at the example below.

2 3 4 + —
Answer Options: 0 2 4 5 7

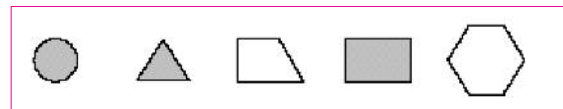
Pupils have to combine the given numbers and arithmetical signs to give a number sentence that has one of the options as its answer. Only one of the responses is possible.

Non-Verbal Reasoning: Figure Classification

In each question the first three figures are similar in some way. Decide how they are the same. Then choose the figure from the answer choices that goes with them. Look at the example below.



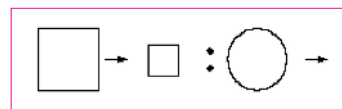
Answer Options:



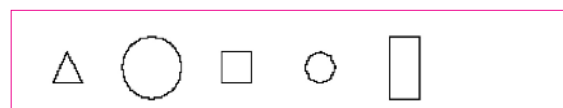
Pupils identify the common characteristics of the three given figures and choose the option from the five presented that shares the characteristics.

Non-Verbal Reasoning: Figure Analogies

In each question there are three figures. The first two figures go together. The third figure goes with one of the answer choices. Choose the answer choice that goes with the third figure. Look at the example below.



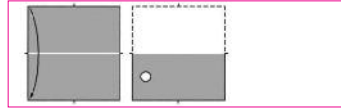
Answer Options:



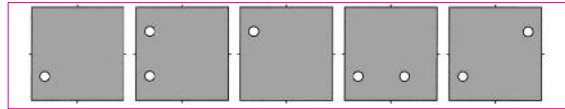
Pupils identify the relationship between two figures and find the option that has the same relationship to the third figure given.

Non-Verbal Reasoning: Figure Analysis

The first line below shows how a square piece of dark paper is folded and where holes are punched in it. You must select an image from the answer options which shows how the paper will look when it is unfolded.



Answer Options:



Using CAT scores in schools

The main uses of *CAT* scores are:

- to identify an individual pupil's cognitive strengths and weaknesses in order to inform teaching and learning;
- to compare the performance of groups of pupils, in order to identify needs and to target resources better;
- to identify pupils, or groups of pupils, who may be underachieving;
- to monitor trends or changes in the ability profile of the intake over time;
- to inform target setting with regard to national tests and public examinations;
- to set a baseline against which to assess the 'value added' by the school.

The *Getting the Best from CAT* book gives more information for each of these issues.

CAT scores provide a useful source of information about pupils' reasoning abilities, almost independent of their classroom experience and learning to date. (No test can ever be completely independent of a child's experience prior to taking it: reasoning ability can be influenced by the child's educational activities, for instance.)

Because of this near-independence, *CAT* scores make a better basis for predicting children's future attainment than do any attainment tests already taken. Thus *CAT* scores can be used to indicate likely performance in end-of-key-stage tests at KS2 and KS3, GCSE subjects, Scottish Standard Grade examinations, and AS and A level examinations. Such indicators are provided as part of the suite of reports generated from pupils' *CAT* performances.

Schools may also find *CAT* scores useful in describing the overall calibre of groups of pupils: whole intakes to a school; classes within a school; ethnic groups of pupils; girls and boys. It may happen, for instance, that one year's intake has a much higher average *CAT* score than previous years'. This would lead to higher expectations of the group's GCSE performances.

Indeed, in a detailed way, *CAT* scores can be used for target setting for individual pupils in their next series of public examinations. Tables of indicators can be used to show each pupil what is possible for those with similar *CAT* scores to his or hers, and a target agreed that incorporates the indicated average performance plus an element of challenge.

The progress of groups of pupils – teaching groups, ethnic groups, boys and girls – can similarly be monitored against the stable baseline of their reasoning ability, as shown by their *CAT* scores.

Retrospective analysis between actual attainment in public examinations and indicated attainment based on *CAT* scores, will enable a measure of the school's value-added performance to be obtained. If a group of pupils consistently do better than their indicated attainment based on *CAT* scores, for instance, then the school might reasonably be held to be “adding more value” than average to their pupils' attainment.

Understanding the scores from the CAT

Raw score

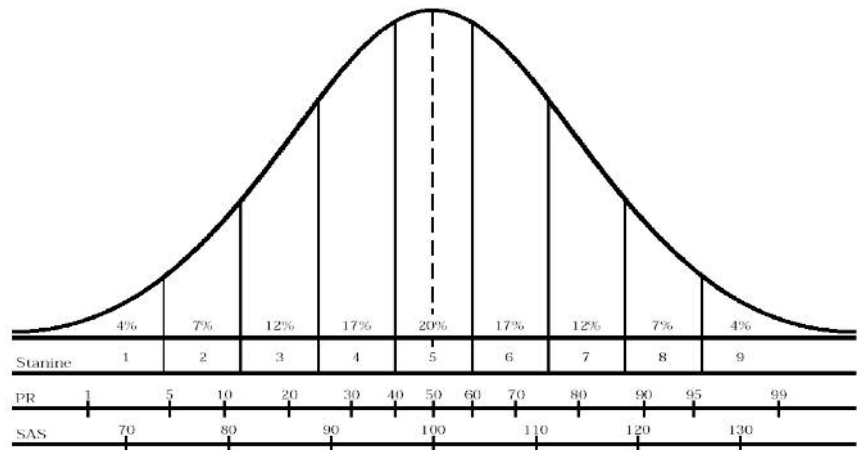
The raw score is simply the total number of correct answers obtained by the pupil. The raw score is calculated for each battery. These scores can be converted to three types of normative scores called standard age scores (SAS), stanines and percentiles. These are described below.

Standard age score (SAS)

One way to make a raw score more readily understandable would be to convert it to a percentage: for example, ‘33 out of 50’ becomes 66 per cent. However, the percentage on its own does not tell us the average score of all the pupils or how ‘spread out’ the scores are, whereas standard age scores do relate to these statistics.

In order to provide a standard age (or standard score) scale, some tests are standardised so that the average standard age score for any age group is always 100: this makes it easy to tell whether a pupil is above or below the national average. The spread of scores (the ‘standard deviation’) is also set to plus or minus 15 points, so that for any age group about two-thirds of the pupils in the national sample will have a standardised score of between 85 and 115. *CAT* was nationally standardized in October/November 2000 with a representative sample of 16,000 pupils from 556 schools in England, Scotland, Wales and Northern Ireland. Full details on the development process and the standardisation are contained in the *CAT* Technical Manual, pages 6 to 9. Raw scores are converted to standard age scores that allow you to compare the level of cognitive development of an individual with the levels of other pupils in the same age group. The properties of standard age scores mean that approximately two-thirds of pupils in the age group score between 85 and 115, approximately 95 per cent score between 70 and 130, and over 99 per cent score between 60 and 140. Figure 1.1 shows the frequency distribution, known as the normal distribution, for standard age scores, stanines and percentiles.

Figure 1.1: The normal curve of distribution showing the relationships of stanines, national percentile ranks (PR) and standard age scores (SAS)



Standard age scores have three particular benefits, as described below.

- *They place a pupil's performance on a readily understandable scale.* As we have seen above, standard age scores allow a pupil's performance to be readily interpreted. It is immediately deducible from the score itself that a verbal reasoning score of 95 indicates a level of performance just below the national average, but well within the average range.
- *An allowance can be made for the different ages of the pupils.* In a typical class the oldest pupils are very nearly 12 months older than the youngest. Almost invariably, older pupils achieve slightly higher raw scores in tests and examinations than younger pupils. However, standard age scores are derived in such a way that the ages of the pupils are taken into account by comparing a pupil only with others of the same age. An older pupil may in fact gain a higher raw score than a younger pupil, but have a lower standardised score. This is because the older pupil is being compared with other older pupils in the norm group. Pupils of different ages who gain the same standard age score have done equally well, with each being judged in relation to their standing among pupils of their own age.
- *Scores from different tests can be meaningfully added or compared.* Standardised scores for most tests cover the same range, from 60- to 140+. Hence a pupil's standing in, say, mathematics and English can be compared directly using standardised scores. It is not meaningful to add together raw scores from tests of different length or difficulty. However, should you wish to add standardised scores from more than one test – for example, in order to obtain a single overall measure of attainment – they can be meaningfully combined.

Stanines

Standard scores run from 60- to 140+ and give differentiated, finely-graded information on the performance of each pupil. However, sometimes a shorthand summary is more useful. Stanines, short for 'standard nines', are just nine summary score bands calculated directly from the standard scores, as shown in Table 1.1. Based on the national standardisation, we can say what proportion of pupils are expected within each stanine, and these are also given in the table. The broad nature of stanines minimises over-interpretation of small, insignificant differences among test scores. Stanines are therefore particularly useful in reporting test information to pupils and to parents, as they are relatively easy to understand and interpret.

Description	Stanine	% of pupils	Corresponding percentiles (NPR)	Corresponding SAS
Very high	9	4	97 and above	127 and above
Above average	8	7	90-96	119-126
	7	12	78-89	112-118
Average	6	17	59-77	104-111
	5	20	41-58	97-103
	4	17	23-40	89-96
Below average	3	12	12-22	82-88
	2	7	5-11	74-81
Very low	1	4	4 and below	73 and below

Table 1.1: Stanines score bands for CAT

National percentile rank (NPR)

This indicates the percentage of pupils in the national sample who obtain a standard age score at or below a particular score. For example, a pupil with a standard age score of 108 has a National Percentile Rank (NPR) of 70: he or she has performed as well as, or better than, 70 per cent of pupils of his or her age group. An NPR of 50 is average for an age group.

This is a brief summary and a fuller description, together with a lot more about using CAT scores can be found in the book *Getting the Best from CAT* by Dr Steve Strand, which is available at www.gl-assessment.co.uk/cat. The website also contains information on the test performance indicators as well as case studies and other supporting materials.

References

Strand, S. (2003). *Getting the Best from CAT: A practical guide for secondary schools*. London, UK: GL Assessment.

Smith, P., Fernandes, C., & Strand, S. (2003). *Cognitive Abilities Test 3: Technical Manual*. London, UK: GL Assessment.