

Cognitive Abilities Test (CogAT)

The Cognitive Abilities Test (CogAT), is a norm based intelligence test assessing the student's aptitude in reasoning and problem solving by using verbal (word), quantitative (number), and nonverbal (picture-figure-spatial relationship) symbols. These abilities are important to learning and are, in part, developed skills, though innate ability does play a role. The test appraises the level and pattern of cognitive development of students in grades K-12. The development of these abilities, which starts at birth and continues through early adulthood, is influenced by experiences both in and out of school. An individual's score on the CogAT primarily reflects his or her ability to discover relationships and to demonstrate flexibility in thinking at this stage in their cognitive development.

Verbal Score

The verbal score reveals the student's ability to perceive the meaning of and relationships between words and word combinations. Since the evaluation of verbal reasoning depends on effective reading, the reasoning ability of poor readers may not be fully revealed. Students are tested in this area by performing sentence completion, solving verbal analogies, and figuring out the relationships between the meanings of words.

Quantitative Score

The quantitative score reveals the student's ability to comprehend and employ numbers that permit him to understand relationships, computational rules, and problem-solving techniques. This ability is tested through asking the student to build and solve equations, recognize number series, and demonstrate an understanding of the relationship between numbers and their values.

Nonverbal Score

The nonverbal score indicates the student's ability to spatially manipulate and reason with geometric patterns and figures. Since a school setting involves mostly verbal communication, this score is not always an accurate indicator of academic success, but it does give a good indication of reasoning ability in poor readers. Students who score well in this area learn best through visuals--pictures, objects, models--simulations, and hands-on activities. Nonverbal abilities are determined from a student's ability to solve figure analogies, classify designs, and exercise skill in recognizing figures in dimension.

The three scores that are generally reported on the CogAT are **Standard Age Score (SAS)**, **Stanine** and **Percentile Rank**. Although related, each has subtle differences in their interpretation. These scores are all based on student performance across the nation. A raw score, number of points earned from correct answers on a properly scored test, should not be used directly in interpretation.

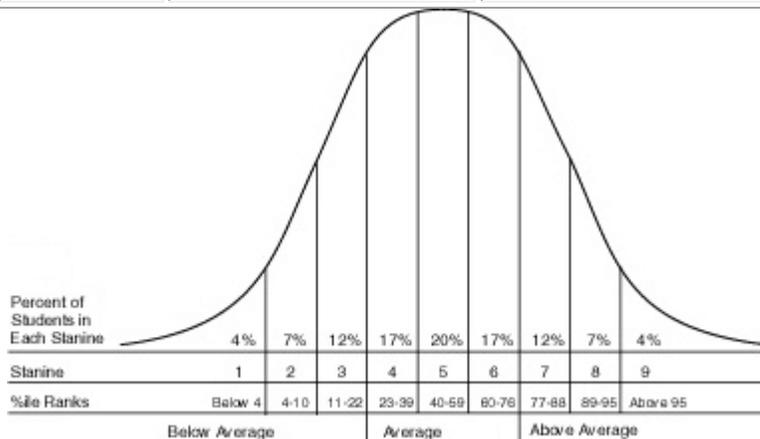
The **Standard Age** scale ranges from a low of 50 to a high of 150. In all age groups, the mean, or average, SAS is 100. When using Standard Age scores to determine the level of a student's cognitive skills, it is useful to think of them as clusters of scores as follows:

Very High	SAS 132-152
Above Average	SAS 112-131
Average	SAS 88-111
Below Average	SAS 72-87
Very Low	SAS 50-71

A **Percentile Rank** is a score ranging from 1-99 that indicates what percentage of grade-mates or age-mates a child out performed on a particular sub-test. A student scoring at the 40th percentile means they have scored better than 40% of grade level students who initially took the test nationwide. A percentile can also be found when comparing ages of children.

Stanine scores range from a low of 1 to a high of 9. Stanines are groupings of percentile ranks. A higher stanine equates with a higher level of cognitive abilities development. A comparison of Stanines and percentile Ranks are summarized in the table below:

Stanine	Percentile Rank	Description	% of Cases
9	96-99	Very High	4%
8	89-95	Above Average	7%
7	77-88	Above Average	12%
6	60-76	Average	17%
5	40-59	Average	20%
4	23-39	Average	17%
3	11-22	Below Average	12%
2	4-10	Below Average	7%
1	1-3	Very Low	4%



Differences in percentile scores can lead to over interpretation of small differences in scores between individual students or among scores for the same student. For example, there will be no observable differences in the classroom between a student who has a Percentile Rank of 45 and one with a Percentile Rank of 55. They would both exhibit average levels of development in a particular area. On the other hand, you would see observable differences in the classroom for students with more than one stanine difference in their scores. Three different students with Stanines of 9, 6, and 4 will show clear differences in the ways they approach learning and problem solving tasks, in the ways they interact with different instructional strategies and learning environments, in the rate in which they learn, and in the amounts and kinds of help they need to learn successfully.

[Adapted from "Interpreting Cognitive Abilities Test Scores" Riverside Publishing]