



# Understanding the Individual Student Report for the North Carolina End-of-Grade Science Test Grades 5 and 8

During the final weeks of the school year, your child took the state-required multiple-choice North Carolina End-of-Grade Test of Science. The end-of-grade test of science is administered to students at grades 5 and 8 and is required to comply with the federal *No Child Left Behind Act of 2001*. In addition, the end-of-grade test is used for computing performance composites as required by the state-mandated ABCs Accountability Program. The end-of-grade test of science is a curriculum-based achievement test specifically aligned to the 2004 North Carolina *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students.

Test scores are among the many ways to find out how well your child is doing in school. Test scores allow you to compare your child's performance with that of other students in the same grade at the school and with other students across North Carolina. However, test scores should always be considered along with *all* other available information provided about your child. Scores on these tests are only one of the many indicators of how well your child is achieving.

## *End-of-Grade Testing—Individual Student Report*

The *Individual Student Report* provides information concerning your child's performance on the end-of-grade test of science. A sample individual student report is provided on page four to accompany the following explanations of the items found on the student report:

- A. The number of questions your child answered correctly is called a raw score. A **scale score** is a conversion of your child's raw score to a common scale that allows for a numerical comparison between students. Scaled scores are particularly useful for comparing test scores over time, such as measuring groups of students in a content area.
- B. The **percentile rank** compares your child's performance on the test this year to that of all North Carolina students who took the test in the norming year. The norming year for a test is generally the first year the test was administered. The percentile shows that your child performed at a level equal to or better than the stated percentage of students who took the test during the norming year. For example, if a student scores as well as or better than 83% of the students who took the test in the norming year, the student is in the 83<sup>rd</sup> percentile. The higher the percentile, the better your child performed compared to other students in his or her grade. Percentiles range from 1 to 99.
- C. **Achievement level** shows the level at which your child performed on the test. Achievement levels are predetermined performance standards that allow your child's performance to be compared to grade-level expectations. Four achievement levels (i.e., Levels I, II, III, and IV) are reported in science. The standard for grade-level proficiency is a test score at Achievement Level III or above.
- D. **Achievement levels** show the four achievement levels and their relation to the scale score.
- E. **Student** shows your child's score in relation to the range of possible scores and the achievement levels. Your child's score is represented by a closed diamond (◆). The bar (▬) across the closed diamond represents where your child's true score should be about two-thirds of the time (standard error of measurement). On another day or with a different set of test questions, your child might have obtained a

slightly different score, but the score should still lie within the bar, assuming no additional learning occurred.

- F-H.** Your child's scale score is compared to the average scale scores for the **school** (F), the school **system** (G), and the **state** (H). The average scale scores for F–H are represented as open diamonds (◇). The horizontal line (—) across each open diamond represents the range of scores achieved by about two-thirds of the students in the same grade as your child (one standard deviation). The average scale scores for the school and the school system are based on the spring 2010 test administration. The state average is based on the scores of all North Carolina students who took the test in the norming year.
- I.** The **description of the achievement level** is reported for your child's performance in science. A complete listing of the four achievement levels for science by grade level may be found at <http://www.ncpublicschools.org/accountability/testing/shared/achievelevel/scienceeog>.
- J.** The North Carolina *Standard Course of Study* is the framework that guides classroom instruction and assessment for every student in North Carolina and provides competency goals for each grade and high school course to ensure rigorous student academic performance standards that are uniform across the state. On this student report, the **Subscale Performance** section shows the subscale score for the goals and/or section reported for the end-of-grade test of science. The reporting units for subscales of the end-of-grade test of science at grade 5 are interdependence of plants and animals, landforms, weather and climate, and forces and motion in technological designs. The reporting units for subscales of the end-of-grade test of science at grade 8 are scientific inquiry and technological design, the hydrosphere, chemistry, cell theory, evolution in organisms and landforms, and microbiology. The closed diamond (◆) represents your child's performance at the individual goal level. The bar (▭) represents the standard error of measurement (SEM). The SEM indicates how much your child's score is expected to vary if tested repeatedly with the same test, assuming that no additional instruction is given. The subscale scores do not reflect the number of items aligned to each goal and/or section. All subscale scores have values between 0 and 20. The state average for all subscales is equivalent to 10. Although the tests meet high professional and legal technical standards as a whole, these technical attributes weaken when the test is taken apart into smaller units. In nearly all cases, the number of items on a test form that represents a single subscale is very small. Therefore, it is imperative that the subscale scores be used as only one piece of information used to qualify instructional or placement decisions.

### ***Key Features of the Science Test***

- The end-of-grade science tests are designed to measure student performance on the competencies specified in the goals and objectives of the North Carolina *Standard Course of Study*.
  - The grade 5 end-of-grade science test assesses the 2004 North Carolina *Standard Course of Study* grade 5 science competencies.
  - The grade 8 end-of-grade science test assesses the 2004 North Carolina *Standard Course of Study* grade 8 science competencies.
- The end-of-grade science tests require your child to demonstrate knowledge of important principles and concepts, understand and interpret laboratory activities, and relate scientific information to everyday situations.
- The science tests have a substantial focus on processing information and higher-order thinking.
- Students are allowed to use calculators during the tests.
- Some of the science items are field test items. The field test items do not count toward or against your child's score.
- The 80-item science tests (including field test items) are administered in one day.
- The estimated time for students to complete the science test is 130 minutes. Students who are not finished at the end of the estimated time may be given additional time. However, no administration of the science test at grades 5 and 8 may exceed four hours (240 minutes).

## *How Can I Help My Child with Science?*

- Help your child understand that science involves:
  - Observing what is happening,
  - Classifying or organizing information,
  - Predicting what will happen,
  - Testing predictions under controlled conditions to see if they are correct, and
  - Drawing conclusions.
- Encourage your child to ask questions and to talk about his or her ideas. Keep in mind that children's experiences help them form their ideas—ideas that may, or may not, match current scientific interpretations.
- Help your child to look at things in new ways (e.g., What do you think causes it to rain sideways sometimes?)
- Investigate and experiment with your child to learn science and increase his or her understanding of scientific ideas.
- Encourage your child to gather and organize objects according to their sizes or colors (e.g., leaves, insects).
- Challenge your child to make reasonable predictions.
- Have your child test theories (e.g., Is it the baking soda that makes the pancakes thick?)
- Have your child observe change through measurement:
  - Keep a growth chart,
  - Make a graph of temperature each day, and
  - Modify recipes.
- By “doing science” together, you will demonstrate that learning science is fun.

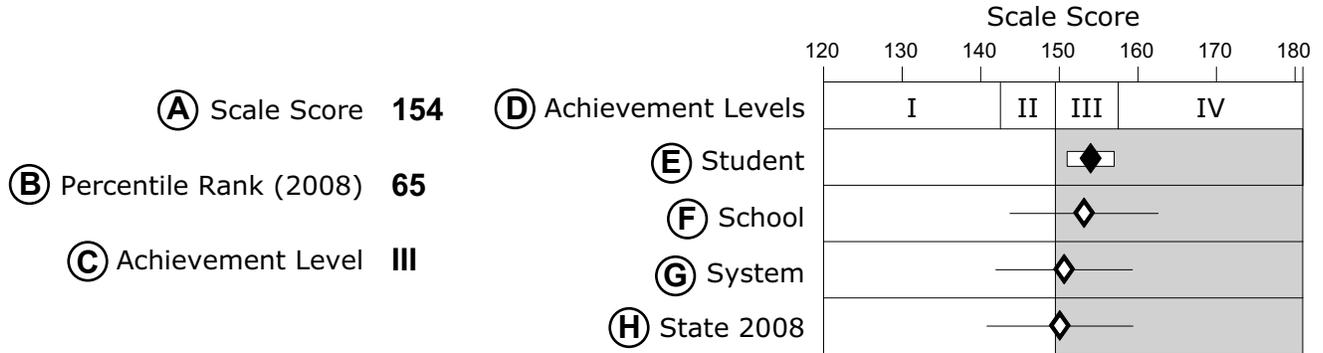
### *Additional Information*

For additional information on the end-of-grade tests, visit the NCDPI Division of Accountability Services/North Carolina Testing Program Web site at <http://www.ncpublicschools.org/accountability/testing/eog/>.

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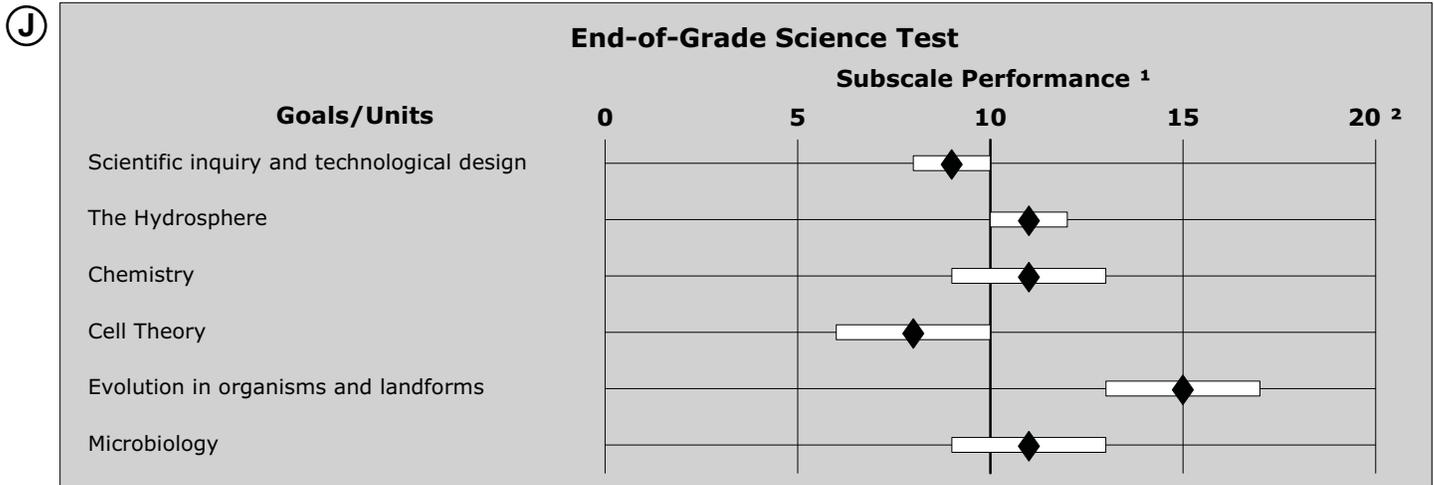
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For a publication explaining the individual student report visit: <http://www.ncpublicschools.org/accountability/testing/shared/abriefs/scienceeog>



**(I)** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level.

Students performing at Achievement Level III demonstrate grade level knowledge and skills. Students demonstrate a proficient level of understanding of principles and methodologies of scientific inquiry and technological design; the distribution, use, properties, quality and stewardship of water systems; the properties of pure substances, the recognition or measurement of chemical changes in matter, and impacts of chemicals on humans; processes that affect biological and geological evolution, and how technologies can be used to monitor changes over time; the structures, functions, and processes of an animal cell, and the variety of single-celled organisms; relationships between micro-organisms and disease, human impacts on disease control, and the applications of biotechnology.



<sup>1</sup> Please note that the subscale scores are less reliable than the scale score because there are fewer questions on which the score is based. Instructional and placement decisions should not be based solely on these subscale scores.

<sup>2</sup> The state average for all subscales is equivalent to 10. The subscale scores do not reflect the number of items aligned to each goal. All subscale scores have values between 0 and 20.