

New Jersey

ASSESSMENT OF SKILLS AND KNOWLEDGE



2015

Score Interpretation Manual

SCIENCE

Grades 4 and 8



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2015 NJ ASK

New Jersey Assessment of Skills and Knowledge

Score Interpretation Manual

SCIENCE
Grades 4 and 8

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PART I: INTRODUCTION AND OVERVIEW OF THE ASSESSMENT PROGRAM

A. How to Use This Booklet

This Score Interpretation Manual provides a broad range of detailed information about how to interpret and use results of the spring 2015 administration of the New Jersey Assessment of Skills and Knowledge in Science for grades 4 and 8 (NJ ASK). It is organized as a resource for administrators and other school personnel who need to understand and discuss the score reports with others, such as parents/guardians, districts, or the media.

This manual is divided into the following parts:

Part I: Introduction and Overview of Assessment Program. This introductory section provides a description of the New Jersey assessment program in general, as well as a summary of the reporting process and the Science content area test, administered in grades 4 and 8 only.

Part II: Information for School Administrators. This Score Interpretation Manual is primarily addressed to school administrators who are charged with understanding, using, and explaining the series of reports generated to communicate test results. Consequently, the information contained in Part II is detailed and technical.

- A. *Determining the Proficiency Levels*—addresses the procedures used to determine performance level descriptors (PLDs) and the associated score ranges for each of the proficiency levels.
- B. *Descriptions of the Scale Scores*—discusses the meaning and derivation of NJ ASK scale scores.
- C. *Rescores*—describes automatic rescoring process serving as additional check on scoring.
- D. *Interpreting and Using Test Information*—provides information about assisting students who score below the minimum level of proficiency on one or more content area tests and suggestions for evaluating programs for potential curricular improvement.
- E. *Communicating Test Information*—provides guidelines for communicating test results and publicly releasing test information.

Part III: Reports. Information provided in this section includes a definition of terms as used on the score reports, examples of each report made available to school districts, and explanations of the information included therein, using fictional data.

Part IV: State Summary. This section features information regarding the State Summary, a public posting that provides exhaustive sets of assessment summary data and related information at a number of levels ranging from individual schools to the State.

Part V: Frequently Asked Questions. In addition to school administrators, other individuals who are curious about interpreting and using NJ ASK test results may well be interested in consulting this Score Interpretation Manual. As such, this part is tailored to the presumed needs and questions of the public and is less detailed, though equally accurate and informative.

Appendix A: Glossary—lists and defines terms that are used in this booklet and on the score reports.

Appendix B: Scoring Rubrics—provides scoring rubrics for Science.

Appendix C: District Factor Groups (DFG)—explains the DFG designations and the underlying demographic variables.

Appendix D: Performance Level Descriptors—provides the full text of the approved PLDs for grades 4 and 8 in Science.

B. Test Security

While this Score Interpretation Manual does not include test material, the importance of keeping such material secure throughout the testing process cannot be overstated. Consequently, test security measures are reprinted here in order to ensure that they are fully understood and appreciated.

The test booklets and their contents are secure materials. They are not to be read or copied, wholly or in part, for any purpose without express written permission from the New Jersey Department of Education. It is the responsibility of the school districts to guarantee the security of the test materials. Security breaches may have financial consequences for the district, professional consequences for staff, and disciplinary consequences for students.

The items and passages contained in the test booklets must remain confidential because some of the items will appear in future versions of the test. This is done to maintain the stability of the test item pool over time from a technical perspective and to enable comparisons to be made from one year to the next.

Examiners, proctors, and other school personnel generally should not have access to and may not discuss or disclose any test items before, during, or after the test administration. All district and school personnel, including personnel not directly involved in administering the test, should be informed of the NJ ASK security procedures prior to the test administration.

C. Reporting Process

The NJ ASK program provides a variety of reports to help school personnel identify the needs of each student tested and to support the evaluation of school and district programs. This manual aims to assist in the analysis, interpretation, and use of these different types of reports. The data contained therein can help identify the types of instruction needed in the coming year for students whose results indicate the need for instructional intervention. In addition, these data will help both school and district personnel to identify and address curricular strengths and needs.

Reporting (early August through early September). All aggregate reports are provided to the home/sending districts electronically by Measurement Incorporated (MI) via controlled secure web access. Out-of-residence or out-of-district students appear only on aggregate reports for their home/sending schools or districts. They do not appear on aggregate reports for their receiving schools. Using district specific passwords, district offices will download and distribute their own district and school reports. Schools can download reports specific to their school only. Individual Student Reports (ISRs) and Student Stickers are sent in hard copy to sending and receiving districts.

Sets of files, password protected to ensure student confidentiality, are posted and made available to schools, districts, county offices (summary data only) and the Office of Assessments for download at www.measinc.com/njask, providing access to a variety of reports containing test results. These files, which are accessible to districts through the end of the calendar year, include individual student results and summary data at a range of levels. Districts will subsequently receive a set of Individual Student Reports (ISRs) and Student Stickers for each school in paper form. All reports contain final results, including those produced through rescored papers. The data are used by the Office of Title I for the analysis of school results relative to annual performance targets and by the Regional Academic Centers (RACs) to determine school technical assistance needs in terms of their performance status.

Districts are required to report test results to their boards of education and to the public within 30 days of receiving test reports. Parts II and III of this manual provide specific guidance and requirements regarding the use of the test information and the public release of test results.

State Summary. A State Summary, which consists of material in narrative, graphic, tabular and data formats, will be posted on the NJ DOE Web site in mid-fall. The State Summary data files, available to the public in text and Excel formats, contain the same types of test information found in the Performance by Demographic Group reports at the state, district, DFG, and school levels. The state summary data files differ in organization and layout from the reports that are provided to school districts, and they exclude results that facilitate the detection of individual student performance.

Table 1 lists reports distributed or available *specifically to districts* during reporting. Table 2 summarizes critical events for the recipients of the score reports. This summary is a suggested reporting process; districts may have to modify the assignment of these tasks because of staffing or organizational characteristics.

Table 1: NJ ASK Score Reports

- | | |
|--|---|
| <ul style="list-style-type: none"> • Student Sticker (1 per student) • Individual Student Report (ISR) (2 per student) • All Sections Roster • Student Roster–Science • Performance by Demographic Group–School | <ul style="list-style-type: none"> • Performance by Demographic Group–District • Cluster Means Report • District Data File • Performance by Demographic Group–DFG • Performance by Demographic Group–Statewide |
|--|---|

Table 2: Suggested NJ ASK Report Delivery Responsibilities

Districts

- Receive Student Stickers and ISRs.
- Deliver Student Stickers and ISRs to schools.
- Ensure that ISRs are sent to students’ homes with accompanying parent letters (see sample in Section II.E of this manual).
- Review reports to determine program needs.
- Prepare public reports.
- Release information to the public.
- Download and save: *
 - All Sections Rosters
 - Student Rosters
 - Performance by Demographic Group–School, District, Statewide, and DFG
 - Cluster Means Reports
 - District Data Files

Schools

- Receive Student Stickers and ISRs.
- Deliver ISRs to teachers.
- Retain and review ISRs.
- Prepare parent letters.
- Review reports to determine program needs.
- File ISRs.
- Attach Student Stickers to cumulative folders.
- Download and save: *
 - All Sections Rosters
 - Student Rosters
 - Performance by Demographic Group–School
 - Cluster Means Reports

Teachers

- Receive ISRs.
- Review ISRs to determine instructional needs.
- Discuss with students and families, as appropriate.

* *Please remember to download and save these files from www.measinc.com/njask as soon as they become available; if you do not do so and need to subsequently order a CD from MI, you will incur a \$500 charge.*

D. History of the Statewide Assessment Program

New Jersey's state constitution authorizes "a thorough and efficient system of free public schools." In 1975, the New Jersey Legislature passed the Public School Education Act "to provide to all children in New Jersey, regardless of socioeconomic status or geographic location, the educational opportunity which will prepare them to function politically, economically and socially in a democratic society." An amendment to that act was signed in 1976, establishing uniform standards of minimum achievement in basic communication and computation skills. This amendment is the legal basis for the use of a test as a graduation requirement in New Jersey.

Beginning in 1981–1982, ninth-grade students were required to pass the Minimum Basic Skills Test (reading and mathematics) as one of the requirements for a high school diploma. Students who did not pass both parts of the test had to be retested on those parts.

In 1983, the grade 9 High School Proficiency Test (HSPT9), a more difficult test in reading, mathematics, and writing, was adopted to measure the basic skills achievements of ninth-grade students. The test was first administered as a graduation requirement in 1985–1986. In 1988, the New Jersey Legislature passed a law that moved the High School Proficiency Test from the ninth grade to the eleventh grade and added an early benchmark assessment with the grade 8 Early Warning Test (EWT). The grade 11 High School Proficiency Test (HSPT11) was to serve as a graduation requirement for all New Jersey public school students who entered the ninth grade on or after September 1, 1991.

In 1992, the New Jersey State Department of Education mandated the establishment and administration of a statewide fourth-grade test in N.J.A.C. 6:8-4.6(a)1. The elementary-level test was seen as a way to increase the effectiveness of instruction in New Jersey's elementary schools by providing an accurate measure of how elementary school students are progressing towards acquiring the knowledge and skills needed to graduate from high school and function politically, economically, and socially in a democratic society. The test also serves as a way to monitor school districts and schools to ensure that they are adequately educating their students.

In 1995, the state began the development of a fourth-grade assessment, to be aligned to new educational content standard intended to define the State's expectations for student learning. These standards, the New Jersey Core Curriculum Content Standards (NJ CCCS), were adopted in 1996 by the New Jersey State Board of Education. Along with their Cumulative Progress Indicators (CPIs), the NJ CCCS define expected achievement in nine core content areas:

- visual and performing arts
- comprehensive health and physical education
- Language Arts Literacy
- mathematics
- science
- social studies
- world languages
- technology
- career education and consumer, family and life skills

The NJ CCCS informed the development of three statewide assessments: (1) the fourth-grade Elementary School Proficiency Assessment (ESPA), which was administered from 1997–2002; (2) the Grade Eight Proficiency Assessment (GEPA), which replaced the EWT in 1998; and (3) the High School Proficiency Assessment (HSPA), which replaced the HSPT11 as the state’s graduation test in 2002 following three years of field testing.

State regulations (N.J.A.C. 6A8-2.1(a)5i) stipulate that the NJ CCCS must be reviewed for possible revision every five years. Thus, the NJ CCCS constitute a dynamic entity, not a fixed, final set of standards. Similarly, New Jersey’s assessments reflect continuous refinements and evolving understandings of the NJ CCCS, while using assessment instruments that are highly standardized for the purposes of ensuring validity, reliability, and comparability. Revisions to the NJ CCCS were completed in 2004.

The Elementary School Proficiency Assessment (ESPA) test specifications were aligned with the NJ CCCS. In May 1997, and again in May 1998, a field test of the ESPA in Language Arts Literacy (Reading and Writing), Mathematics, and Science was administered to all fourth-grade students in New Jersey. In May 1999, the ESPA was administered for the first time as an operational assessment.

National trends in support of standards-based education and educational accountability led to the passage of the No Child Left Behind Act of 2001 (NCLB). NCLB required that every state establish standardized assessments in reading and mathematics, annually in grades 3 through 8 and once in high school, no later than 2005–2006, and in science at three benchmark grade levels no later than 2007–2008. As a result of these requirements, New Jersey established additional statewide assessments in grade 3 (starting in 2003) and in grades 5 through 7 (starting in 2006).

In response to NCLB requirements and to New Jersey’s own expectations that children be reading on grade level by the end of third grade, New Jersey revised its elementary assessment to develop a comprehensive, multi-grade testing program. In 2003, the New Jersey Assessment of Skills and Knowledge (NJ ASK 4) replaced the ESPA. From Spring 2004 through Spring 2008, all third and fourth graders took the New Jersey Assessment of Skills and Knowledge (NJ ASK 3&4) in Language Arts Literacy, Mathematics, and Science (grade 4 only).

In 2008, new tests in Language Arts Literacy and Mathematics were introduced under the umbrella name “NJ ASK” at grades 5–7; the grade 8 test, the GEPA, was also replaced with NJ ASK 8. In 2009, new tests in Language Arts Literacy and Mathematics were introduced at grades 3–4. The new NJ ASK tests had modified designs, consisting of greater numbers of items, thereby increasing the amount of information contained in the results. New Spanish language versions of the NJ ASK were also introduced in grades 5–8 in 2008 and in grades 3–4 in 2009. The NJ ASK tests in science, administered in grades 4 and 8, remained the same. As of 2010, the collection of assessments was referred to as the NJ ASK 3–8.

On June 16, 2010, the New Jersey State Board of Education adopted the Common Core State Standards (CCSS) in English Language Arts (ELA) and mathematics. In the 2012–2013 school year, New Jersey implemented the CCSS for grades 3–5 mathematics and grades 3–8 ELA; in the 2013–2014 school year, New Jersey implemented the CCSS for grades 6–8 mathematics. As such, the 2014 NJ ASK (grades 3–8 mathematics and ELA) measured the CCSS, *not* the NJ CCCS.

In keeping with the move toward the CCSS, New Jersey students in grades 3–8 were, beginning in the 2014–2015 school year, administered the Partnership for Assessment of Readiness for

College and Careers (PARCC) assessments in English Language Arts and Mathematics. The NJ ASK in Science, which is still based on the NJ CCCS, was administered to New Jersey 4th and 8th graders in the 2014–2015 school year.

E. Overview of NJ ASK Science Test Content

The NJ ASK was initially designed to provide information about each student’s achievement in the areas required by the NJ CCCS; the grades 4 and 8 Science tests are still aligned with the NJ CCCS. Information pertaining to the NJ CCCS in Science may be found at <http://www.state.nj.us/education/cccs/>

Table 3 illustrates the spring 2015 test dates and the approximate testing times for NJ ASK.

Table 3: Test Dates and Approximate Testing Times, Spring 2015			
Grade	Test Dates		Testing¹ Time (minutes)
	Regular Testing	Make-up Testing	
4	5/27/15	5/28/15	60
8	5/27/15	5/28/15	120

The 2015 Science tests consist of multiple-choice and constructed-response items. The Science tests, applicable to grades 4 and 8 only, were administered during a single day.

The Science test measures fourth and eighth grade students’ ability to recall information and to solve problems by applying science concepts. The Science test assesses knowledge and application skills in three clusters; each cluster contains multiple-choice items and constructed-response items. The NJ CCCS numbers corresponding to the three clusters are indicated in parentheses.

- **Life Science** (5.5, 5.10)
 - Matter, Energy, and Organization in Living Systems
 - Diversity and Biological Evolution
 - Reproduction and Heredity
 - Natural Systems and Interactions
 - Human Interactions and Impact
- **Physical Science** (5.6, 5.7)
 - Structure and Properties of Matter
 - Chemical Reactions
 - Motion and Forces
 - Energy Transformations
- **Earth Science** (5.8, 5.9)
 - Earth’s Properties and Materials
 - Atmosphere and Weather
 - Processes that Shape the Earth
 - How We Study the Earth
 - Earth, Moon, Sun System
 - Solar System
 - Stars
 - Galaxies and Universe

¹ Does not include administrative time

Science items are also classified and reported as either of the following:

- Knowledge (Comprehension and Science, Society/Technology), or
- Application (Habits of Mind/Inquiry and Mathematics).

The cluster point breakdown for the grades 4 and 8 science tests appear in Table 4.

Table 4: Total Points Possible on NJ ASK, by Science Content Area Cluster and Grade		
Grade	4	8
<u>Cluster</u>		
Life Science	15	20
Physical Science	12	17
Earth Science	12	17
<i>Knowledge</i>	4	6
<i>Application</i>	35	48
Total Points Possible	39	54
Multiple-Choice	33	48
Constructed-Response ²	6	6

² Three points each

PART II: INFORMATION FOR SCHOOL ADMINISTRATORS

One of the primary purposes of the NJ ASK is to identify areas of curricular strength and weakness by examining the extent to which students meet the established performance expectations for each content area. Based on test results, a student's performance is categorized as being Partially Proficient, Proficient, or Advanced Proficient. Performance Level Descriptors (PLDs) translate these performance standards into words. They describe in qualitative and broad terms what it means to attain the levels, Proficient and Advanced Proficient, in each content area. The PLDs are stated in Appendix D.

The PLDs and their relationship to specific scale scores are established through a standard setting process that is driven primarily by the work of New Jersey educators. In the standard setting year of a test (typically the first year), standard setting committees are put together consisting of New Jersey teachers nominated by their districts. The committees meet for several days in structured sessions facilitated by the test contractor, in conjunction with NJ DOE. Following standard industry-wide procedures, the committees determine the raw scores that identify a marginally proficient student (that is, the raw score that would convert to a scale score of 200) and a marginally advanced proficient student (the raw score that would convert to a scale score of 250). They establish these cut scores on the basis of the material on the tests, the published state curriculum standards, and their experience and expertise in working with students.

Using the proficient and advanced proficient cut scores and the statistics generated from the raw scores of all the students in the state, statisticians from the contractor then mathematically generate the rest of the distribution of scale scores. After a review by NJ DOE officials, and with the approval of the State Board of Education, the final cut scores are set.

In the years that follow, the scale scores are derived from an equating process through which the scale is made to consistently reflect the same levels of achievement as in the standard setting year.

A. Determining the Proficiency Levels for the NJ ASK

New Jersey Department of Education (NJ DOE) staff, working with staff from Measurement Incorporated (MI), developed initial draft PLDs. On May 30, 2008, NJ DOE and MI staff presented draft PLDs for grades 5–8 to committees of New Jersey educators meeting in Princeton for further review and revision. Likewise, on May 28, 2009, New Jersey educators met to review and revise draft PLDs for grades 3 and 4. At these one-day meetings, participants made numerous suggestions for revisions, which NJ DOE staff collected and integrated into final PLDs. These final PLDs serve as descriptive benchmarks for subsequent standard setting committees, also comprising New Jersey educators, which establish the Proficient and Advanced Proficient performance cutoff scores for the base year, the year to which subsequent administrations are ultimately equated, in each of the content areas. Districts may find the PLDs useful for relating test scores to curriculum content when interpreting test results.

The final NJ ASK Performance Level Descriptors for Science are attached as Appendix D and are available on the NJ DOE Web site, at www.nj.gov/education/assessment/descriptors/.

B. Descriptions of the NJ ASK Scale Scores

The NJ ASK reports both raw and scale scores. A raw score is the total number of points a student earns on a test. A scale score is simply a conversion of that raw score, using a predetermined mathematical algorithm, to permit legitimate and meaningful comparisons over time and across grades and content areas.

The total scores in Science are reported as scale scores with a range of 100 to 300. The scale score for Science is a total score based on a combination of correct answers to multiple-choice items and the number of points received for constructed-response items.

Standard setting for grade 8 Science was conducted in 2000 and for grade 4 Science in 2005; raw cut scores were adopted at that time, and each subsequent test has been equated to that base year. The conversion algorithm ensures that the raw cut score for Proficient performance translates to a scale score of 200 and that the raw cut score for Advanced Proficient performance translates to a scale score of 250. The score ranges for the proficiency levels are as follows:

Advanced Proficient	250–300
Proficient	200–249
Partially Proficient	100–199

Partially Proficient is considered to be below the state minimum level of proficiency. Students at this proficiency level may need additional instructional support, which could be in the form of individual or programmatic intervention.

C. Rescoring and Record Changes

Automatic rescoring. As part of the scoring process, rescoring is conducted automatically for any student who scores one raw score point below the proficient cut score. MI reviews writing and constructed-response items and verifies the original scores or makes changes, if warranted. *Scores are never lowered during the automatic rescoring process.* Districts do not need to request these rescoring.

Districts (not schools, parents, or students) may request that MI rescore a student's responses on behalf of students scoring outside of the automatically eligible range for a fee of \$300 per student per content area. Districts must submit a purchase order to MI. If no score increase results, the district is responsible for paying for the cost. However, if a score increase results from the rescoring process, MI returns the district's purchase order.

Record changes. A record change period allows the districts an opportunity to correct inaccurate student demographic information that the district provided for the assessment. Record changes are completed before reporting. Corrections to the student information are reflected in the reports.

D. Interpreting and Using Test Information

The raw scores and scale scores provide different sets of information that may be used for program-level and student-level evaluation. Equated across years that pass between standard

settings, and only across those years, scale scores provide the opportunity to gauge long-term trends *within content areas and grade levels*. As such, they provide the best generalized information about overall performance.

Organized into clusters within content areas, raw scores permit a more targeted view of performance. While they provide more specific information, they do not accommodate cross-year comparisons. Nor do they permit cross-cluster comparisons. When comparisons of cluster results are made, they must be within-year and within-cluster.

Student-Level Evaluation

Scale scores. Individual Student Reports are provided to districts to help them evaluate student instructional needs. To an extent, students' proficiency levels can inform school and district decisions regarding instructional support.

- Scores indicative of Advanced Proficient performance reflect performance that has clearly met or exceeded state standards. It is rare for students falling in this range to be in need of instructional intervention.
- Scores indicative of Proficient performance reflect performance that generally has met the state standards. It is typically true that students falling in this range are not in need of instructional intervention, but one may wish to look more closely at students whose scores approach the lower end of this distribution to confirm that instructional intervention is in fact not needed.
- Scores indicative of Partially Proficient performance reflect performance that has not met the state standards. Students falling into this range are most likely to be in need of instructional support, particularly those lower in the range.

The issue of scale score reliability comes into play here. If it were possible to test a student a very large number of times, and if no learning were to take place between test administrations, some variability would nevertheless occur in the student's scale scores. That variability relates to the concept of test-retest reliability. Although the NJ ASK is designed to optimize scale score test-retest reliability, it is not possible to produce a test with scores that are 100% reliable. A student's NJ ASK score, therefore, should be considered an estimate of student performance level.

The accuracy of a score is also affected somewhat by its location on the scale. Scores on the NJ ASK tend to be more precise in the general area of the proficient cut score and less precise at the extremes, so the accuracy of score differences in the vicinity of 200 tends to be greater than in the lower part of the partially proficient range or the advanced proficient range. This point is of particular significance for the use of scale scores to identify students for placement into advanced or honors classes, as more latitude and flexibility is called for in interpreting scores in that part of the score distribution.

As one encounters scores that fall lower in the partially proficient range, one faces an increasing need for a more thorough diagnosis of potential achievement deficits, as one often encounters not only less precision in the scores, but also a paucity of information regarding the specific nature of student needs, given the likely prevalence of incorrect responses across skill areas.

In all cases, however, some amount of additional assessment, formal or informal, must be conducted when formulating an instructional plan. Further examination of a student's knowledge and skill should include the student's whole profile. Decisions about appropriate instructional placement should be based on an examination of a student's classroom test results, grades, anecdotal records, portfolios, checklists, school-level results, and other measures of performance.

Raw scores. NJ ASK Score Reports include information specific to content clusters within each content area. While they do not provide information at a skill-specific level, cluster-level data can provide some general clues regarding student knowledge and skill. In using cluster data to evaluate individual student performance, one must keep the following limitations in mind.

Cluster difficulty. As indicated above, inasmuch as the NJ ASK is equated at the test level only, it is inappropriate to compare cluster means or raw scores across years. Since the same cluster may vary in difficulty level from year to year, cluster performance should not be directly compared across multiple test administrations.

Additionally, in any given year, not all clusters can be assumed to be equally difficult; consequently, comparing the score in one cluster to the score in another cluster is not meaningful. For each year, a useful benchmark is provided by each cluster's just proficient mean (JPM), the mean score in that cluster obtained by students statewide with scale scores of 200. The JPM provides an index to which all students' scores in that same cluster can be compared, as it allows one to view how a student performs relative to the profile of the borderline proficient student.

Cluster reliability. All other factors being equal, the reliability (stability) of scores decreases as the number of items decreases. Consequently, the reliability of cluster scores is generally lower than the reliability of the test as a whole, and among clusters, reliability is generally lower in clusters that have smaller numbers of items. Put differently, equal differences in cluster scores are commonly less interpretable for clusters that contain fewer items.

While the interpretation of scores is dependent upon the amount of potential error one is willing to tolerate, a general rule is that conclusions regarding the relative performance of individual students are risky when based upon cluster differences of one or two points, particularly for clusters containing few items. As in shades of grey, the greater the differences in the cluster performance of individual students, the more likely they are significant.

Program-Level Evaluation

Scale scores. Performance by Demographic Group Reports, containing school-level and district-level information, are provided to districts to help them evaluate the effectiveness of the instructional program for the full district or school population, as well as for program and demographic groups. The data facilitate cross-group as well as cross-year comparisons. Additionally, comparisons of performance, within and across years, can be drawn among different schools within the district and between school or district performance and the performance of the state or the district factor group (DFG), the latter comprised of districts at approximately the same socioeconomic level.

Group-level scale score data, whether percentages of students falling into various proficiency ranges or mean scale scores, are well suited to graphic representation, which often makes trends and differences more evident. Scale scores may be readily used for statistical analysis to study the effectiveness of instructional programs and methodologies. When comparing groups statistically, as the performance levels between groups become increasingly different, and as the performance levels of individuals within each of the groups become increasingly similar, the results of the group comparisons become increasingly significant. The important caveat to keep in mind is that, all things being equal, the larger the group, the more significant the results.

Raw scores. As in the interpretation of student-level raw score data, group-level raw scores cannot be compared from year to year or from cluster to cluster. In group-level data, however, there is less of the random error that impairs the interpretation of individual-level results. In general, the larger the group, the more this error is reduced, as the errors in individual scores tend to balance out.

While fairly large differences are needed to draw inferences at the individual level regarding cluster performance, smaller differences at the group-level may be meaningful and may provide useful information for establishing instructional priorities. As a result, where a relatively small difference in cluster scores may be meaningless when comparing the performance of two students, or when comparing one student against the just proficient mean, it may be significant when comparing *groups* or when making a comparison between a *group* and the just proficient mean. The data in the Cluster Means Report can, therefore, provide meaningful comparisons of cluster performance among schools and between schools or districts and the DFG or the state, including the just proficient mean.

Suggested Procedures for Interpreting School and District Reports

An analysis and interpretation of School and District Reports can help identify areas of curriculum that may need modification in order to help students meet the appropriate curriculum content standards. The New Jersey Core Content Curriculum Standards hold for Science grades 4 and 8.

The procedure suggested below is intended to serve as a guide in the use of test results for the design of curriculum.

Establishing interpretation committees. Interpretation committees should be established for each content-area test. Committees may be district-wide or they may be created at the school level. Committee members should:

- be familiar with the appropriate curriculum in grades K–12
- be responsible for instruction in grades K–12
- be familiar with special programs in the particular discipline (remedial, advanced placement, etc.)
- represent Science
- represent schools or districts responsible for instruction in grades K–12
- represent staff responsible for remediation in grades 1 through 12. In districts that do not span the complete K–12 range, an effort should be made to involve staff from the upper-graded districts that accept your students.

The committees should include representation from programs of grades K–12 because the skills assessed are not limited to those taught in just grades 3 through 8. Staff from disciplines other than Science should be involved because the assessed skills have applications in a variety of content areas. In addition, the composition of the committees should foster articulation and collaboration among schools and across grade levels.

District-level committees should include staff who are involved in interpreting the school reports, educators who provide the students’ instructional program, as well as the chief school administrator and other appropriate central office staff.

Suggested interpretation procedure. Using the interpretation procedure described below, committees should focus on performance relative to the district’s expectations and identify factors that have contributed to less than satisfactory performance (as defined by the district), overall and on each cluster. In general, committees should analyze the means (overall and for each cluster), comparing the cluster means first to determine those for which overall student performance was poorest or those that are viewed as falling below local expectations. The following specific steps are recommended.

1. Orient the committees to their task by reviewing the following:
 - the procedure that will be used to analyze the reports, including information about the types of analyses that are to be done;
 - the format and content of the reports to ensure that all members understand the reports (using the information in this booklet as a primary source);
 - the limitations of the test data, to ensure that appropriate interpretations are made of the results; and
 - the schedule for completing the task.
2. The committees may begin by comparing:
 - this year’s school cluster means with this year’s district cluster means;
 - this year’s district cluster means with DFG cluster means; and
 - this year’s school and district cluster means with this year’s Just Proficient Means.

3. Using all of the available information, the committees may determine, for each cluster, if there is a level of performance that is minimally acceptable for the school or district.
4. If minimum performance standards are established for the clusters, the committees should use them to create a list of clusters on which the performance of the target group was significantly below or above the performance of the comparison group.
5. For each cluster included on the lists that result from Number 4 above, the committees should identify which differences seem to result from local actions or circumstances.
6. The committees can then develop a summary of the overall performance of the target group, including statements of strengths and needs, if any have been identified, along with a description of plans for addressing the needs.

Program evaluation based on cluster analysis may indicate the need to:

- More closely align the skills taught in school with the current Core Curriculum Content Standards;
- Provide instruction on the skills covered in those clusters for which student performance was low relative to district expectations;
- Examine test item format and compare it with teacher-designed test items used to assess ongoing instruction and use various test item formats as part of the ongoing evaluation, and
- Share the analysis and recommendations with all staff, regardless of content area.

In summary, the performance analysis should be focused primarily on the information the results provide about the strengths and needs of your programs. Districts should be looking at how and when the assessed skills are presented in the curricular scope and sequence. Skills should be reviewed and reinforced across several grade levels and in all content areas, including those other than Science. While articulation and collaboration may be easier to achieve in K–12 districts, they must also be initiated in attending and regional districts.

Making Group Comparisons

The school and district reports allow for a relatively large number of group comparisons; the most meaningful comparisons are those made of similar groups on similar tasks. Consequently, committees are advised:

- (1) whenever possible, to compare groups with similar characteristics;
- (2) to compare performance on similar tasks (for example, the same cluster within the same content area); and
- (3) not to compare cluster scores from year to year.

Narrative Reports

Some districts develop narrative reports to accompany their school and district report interpretations. Although such reports are optional, a narrative summary could be valuable when used as the basis for your testing report to your board of education and to the public. Any such reports should also be shared and discussed with the appropriate district personnel. Guidelines for communicating test information to parents/guardians, districts, and the media appear in a subsequent section of this manual; below, however, we offer a sample report outline, should a district opt to develop a written narrative.

- I. Background Information
 - A. Briefly describe the nature and purpose of the NJ ASK.
 - B. Discuss the population of students who did and did not participate in the test.
- II. Cluster or Skill Narratives
 - A. Summarize strengths, weaknesses, and other comments from the completed interpretations.
 - B. Complete these summaries for each content area.
- III. Summative Narratives
 - A. Synthesize cluster narratives for each content area. Include statements about general strengths and identified needs.
 - B. Compare NJ ASK results to other local test results in an effort to identify possible trends in student performance.
- IV. Recommendations
 - A. Prepare a list of recommendations that includes a statement of the needs and possible plans to address them.
 - B. Develop a list of short- and long-range objectives for a total skills program (developmental and preventive/remedial).

NOTE: *Staff familiar with the test results and the interpretation process should be present when test results are presented to the public to answer questions and avoid misunderstandings or misinterpretations.*

Protecting Student Confidentiality

A number of federal laws protect student confidentiality in the reporting of data to the public.

- The 1974 Family Educational Rights and Privacy Act, administered by the U.S. Department of Education (USDOE), limits the release of student information.
- The Individuals with Disabilities Education Act (amended 2004), also administered by the USDOE, limits the reporting of information specific to students with disabilities.
- The 1994 Richard B. Russell National School Lunch Program Act, administered by the U.S. Department of Agriculture, limits the use of free and reduced lunch student information in the reporting of data.

In the reporting of group assessment summary data, the intent is to protect student privacy through procedures that systematically prevent members of the public from discerning student identity. While confidentiality policy decisions related to reporting are largely left to states (for state reports) and to school districts (for school and district reports), complaints pertaining to the release of information are investigated by the USDOE, which has the power to withhold funding where privacy violations are found to exist. Additional penalties (including fines and/or imprisonment) for privacy violations in the release of economic status information may be assessed under the National School Lunch Program Act.

Guidelines provided by the Federal government state that in the reporting of assessment results, suppression of numbers should occur in categories where the counts are low, making it otherwise possible to infer the results of individuals. Additionally, data should be suppressed in any category where it is possible to infer individual results through subtraction or other simple mathematical deductions.

In practice, it is common to suppress numbers where a group size is equal to ten or less and to suppress totals when it is possible to calculate back to the results of two students. Precautions are also taken when it is possible to infer individual information because all the students in a district, school, or a population group fall into a category or level that has negative connotations associated with it. Suppressed numbers in reports are often replaced by asterisks (or comparable symbols) or by statements such as “greater than” (or “less than”) some percentage. Where any of these devices are used, there should also be some statement that the numbers are suppressed to protect student privacy. District policies regarding data suppression should be written and made available to the public.

E. Communicating Test Information

Analysis and interpretation of the NJ ASK reports are required by the New Jersey Administrative Code (N.J.A.C. 6A:8-4.3(a)). Within 30 days of receipt of the reports, an analysis must be completed by the district and the summary report made available to the public.

Appropriate confidentiality safeguards must be implemented to protect individual students. Individual student data must never be released to the public.

This section provides guidelines communicating test results to parents/guardians, the district, the state, and the media. **Individual and roster reports should not be released to the public because they list students’ names and are, therefore, not in the public domain.**

To the Parent/Guardian

To help explain to parents and guardians both the purpose of the NJ ASK and the information provided on the Individual Student Report, a sample form letter to the parent/guardian of a grade 6 student is included (Figure 1) that can be adapted, signed, photocopied, and sent home with each student along with his/her Individual Student Report.

To the District

Districts are required to make available to the public “the number of pupils tested and the percentage of pupils at or above the established levels of pupil proficiency.” When the number of students is large enough (more than 10 students), the results may be considered sufficiently meaningful to report. The Performance by Demographic Group reports contain information that can be used to prepare a public statement.

To the Media

Release information to the media only after having prepared to answer questions either in person or on the telephone. Be sure to analyze the data beforehand; understand and be able to clearly explain the various types of scores. It is recommended that any comparison among schools/districts be avoided.

Figure 1—Sample Parent/Guardian Form Letter—NJ ASK

Test Title: New Jersey Assessment of Skills and Knowledge
Test Dates: May 27 (regular) May 28 (make up)
Test Report: Individual Student Report

Dear Parent/Guardian:

Your child’s Individual Student Report for the 2015 New Jersey Assessment of Skills and Knowledge (NJ ASK) is attached. This report presents your child’s Science scores on this test. The NJ ASK Science scores are reported as scale scores with a range of 100 to 300. Scores at or above 250 indicate “Advanced Proficient” performance. Scores from 200 to 249 indicate “Proficient” performance. If your child is in the “Advanced Proficient” or “Proficient” level, he/she has met the state standards for Science. Scores below 200 indicate your child performed at the “Partially Proficient” level and has not met the state minimum level of proficiency, based on this test administration, and may need some type of additional instructional support.

This report is available only to parents, guardians, and authorized school officials. If you have any questions about the report, you should contact your child’s teacher or principal. They can help you interpret the information on the score report and can explain what the instructional staff is doing—and what you can do—to help your child master the skills measured on the test.

PART III: REPORTS

Assessment results are most useful when they are reported in a way that allows educators to focus on pertinent information. The NJ ASK reports are designed to communicate results in ways that provide information to educators and parents for program and individual student planning.

Figures 2–7 show examples of the various reports slightly reduced in size. All names and data are fictional.

While the reports are produced in pdf format, individual student information is also made available in two Excel files and one text file, as described later in this section, permitting the manipulation of student data.

A. Terms and Definitions

The following terms and definitions apply across all NJ ASK score reports. Appendix A: Glossary provides additional definitions and explanations of codes.

- **APA:** indicates whether a student takes the Alternate Proficiency Assessment in a particular content area and is thus exempt from taking the NJ ASK in that content area. On the Performance by Demographic Group report, these students are grouped in the “APA Students” column.
- **Enrolled or Students Processed:** number of unique students for whom used test booklets (grade 4) or answer folders (grade 8) were returned, plus the number of students added during the record change period. It includes students who took any form, including the braille, large print, Spanish and alternate form. It equals the sum of the APA Students, Not Present, Voids, and Valid Scale Scores columns on the Performance by Demographic Group report.
- **Not Present:** indicates that a student did not participate in a particular content area of the NJ ASK, and was not coded APA, void, or medical emergency. On the Performance by Demographic Group report, these students are grouped in the “Not Present” column.
- **Scale Score:** a transformation of the raw score attained in any tested content area, by a student who participated in the test and who was not coded “void.” On the Performance by Demographic Group report, all students who received a scale score are grouped in the “Valid Scale Scores” column. This column includes students who took any form, including the braille, large print, Spanish and alternate form.
- **Void:** indicates that a student was coded void. See Appendix A for specific codes. On the Performance by Demographic Group report, these students are grouped together in the “Voids” column, along with students with a medical emergency.

B. Student-Level

The Individual Student Reports (ISRs) and Student Rosters described in this section provide data that may be used to help identify student strengths and needs. As discussed earlier, the NJ ASK divides students into three performance levels: Partially Proficient, Proficient, and Advanced Proficient. Students whose scores indicate Advanced Proficient performance have clearly met and exceeded the state standards. Students whose scores indicate Proficient performance have also met the state standards, while students whose scores indicate Partially Proficient performance have not met the state standards and may need additional targeted instructional support.

Student Stickers

The Student Stickers (Figure 2) are sorted and printed by grade and alphabetically by last name; stickers for students who are designated Out-of-District or Out-of-Residence (see below), however, appear at the end of each grade. For these students, one sticker is sent to both the local and the attending school. It is a peel-off label, designed to be easily attached to the student's permanent record. For all other students, one sticker is provided to the school.

Figure 2—Sample Student Sticker

New Jersey Assessment of Skills and Knowledge (NJ ASK) Science		
Test Date: MAY 2015		
County: 88 ANY COUNTY		
District: 7777 ANY DISTRICT		
School: 666 ANOTHER SCHOOL		
<hr/>		
Student Name: DESOUZA, BRIAN		
NJ ASK ID No.: 4190007178		SID: 0000028030
Grade: 4	LEP:	District / School ID No.: 201057
DOB: 03/08/02	SE:	
Sex: M	APA:	
<hr/>		
Science:	250	ADVANCED PROFICIENT

Each sticker is divided into three sections:

1. The top section includes the names and codes of the county, district, and school. Some students will be classified as Out-of-Residence or Out-of-District placements; these students are affiliated with two different schools, a local and attending school. The local school is the one in which the student is registered (either his/her local or choice school); the attending school is the one that administers the test to the student. For these student stickers, the top section provides county, district, and school names for *both* the local and the attending school/district.

2. The middle section contains student-specific identifying information, including Name, NJ ASK ID number, Student ID (SID), Grade, Date of Birth, Sex, LEP status, SE status, APA classification, and District/School ID Number.
3. The bottom section displays the student’s scale score and associated proficiency level in each of the content areas. If a student did not receive a scale score, the reason will be noted here. (For a description of reason codes, please see Appendix A.)

Individual Student Report (ISR)

The ISR, a sample of which is depicted in Figure 3, is a two-sided report, produced in grade and alphabetical sequence for students within a school. ISRs for students who are designated Out-of-District or Out-of-Residence, however, appear at the end of each grade. For these students, two ISRs are sent to both the local and the attending school. An ISR is produced for every student record; Figure 4 shows a sample 2015 ISR. Two ISRs are printed and shipped to the home/local district for each student record: one for the student’s permanent folder after the results are analyzed, and the other for the student’s parent/guardian to be shared in a manner determined by the local district. If a student takes the Spanish version of the NJ ASK, four copies will be provided: two in English and two in Spanish. (See section II.E for suggestions about communicating test results to parents/guardians.)

The ISR presents a student’s scale score, indicating his or her performance in Science and the extent to which the student meets or does not meet the State proficiency standards. Raw scores are provided for each cluster to identify particular areas of strength or areas in which the student needs improvement. When applicable, the ISR will also indicate why a student does not receive a scale score. For a description of reason codes in such cases, please see Appendix A.

Below the ISR header—which indicates test and report print date, county, district, and school—the substance of the report is divided into three sections: Student Information, Your Child’s Scores, and Your Child’s Cluster Points. These sections are delineated in red in Figure 3 and are described below.

1. The first section, Student Information, includes:
 - Student name
 - State Student ID
 - Local District/School ID
 - Test Booklet Number
 - Grade
 - Date of Birth
2. The second section, Your Child’s Scores, provides your child’s raw score, scale score, and associated proficiency level, along with a brief explanatory note clarifying the relationship between scale score and proficiency level.
3. Finally, the third section of the ISR, Your Child’s Cluster Points, provides a cluster-level view of a student’s performance in Science. All Science test items are classified as reflecting Life, Physical, or Earth Science content and as representing either Science Knowledge or

Application. The cluster points indicate, for each classification (i.e., cluster), the number of points the student earned out of the number of points possible, as well as the Just Proficient Mean (JPM—see explanation below). In Figure 3, for example, the fictitious ISR indicates that a student earned 8 out of 10 points in *Earth Science*, which cluster shows a JPM of 5.9.

The JPM is the average (i.e., mean) number of raw score points earned on any given cluster by a student with a scale score of 200 (the lowest Proficient scale score). Calculated at the cluster level, the set of JPMs represents a profile of the typical student whose Science scale score is just barely proficient. Keep in mind that the JPM is an average. Two students who get a score of 200 on the test could have different cluster scores, as one student might score a bit higher on one cluster and a bit lower on another cluster, even if the total of all the cluster scores equals the same number and produces the same scale score. The set of JPMs, therefore, represents an estimate of how borderline proficient students typically perform on each of the clusters; it is not a collection of proficiency requirements. On the NJ ASK, students are not identified as proficient or not proficient in specific clusters.

The JPM is not provided for any form of the test that differs in content from the operational (regular) form of the test. Examples may include an alternate form of a science test that is administered because of a problem of some sort that occurred in the administration of the operational form. Where a difference in content exists between the operational form and the administered form, the just proficient mean is not applicable.

As noted earlier in this report, content cluster data can provide some general clues regarding student knowledge and skill. However, it bears repeating here that comparison of cluster means or raw scores across years or across clusters is neither appropriate nor meaningful. Furthermore, the reliability (stability) of cluster scores is generally lower than the reliability of the test as a whole, due to the relatively small number of items in a cluster.

Finally, the back of the ISR provides a brief description of the NJ ASK Science as well as some instructions as to how to interpret the report.

Figure 3—Sample Individual Student Report (Front)

TEST DATE: MAY 2015 REPORT PRINTED: 8/10/2015		New Jersey Assessment of Skills and Knowledge (NJ ASK) Science Individual Student Report																										
COUNTY: 88 ANY COUNTY DISTRICT: 7777 ANY DISTRICT SCHOOL: 333 ANOTHER SCHOOL																												
1 Student Information		2 Your Child's Scores																										
Student Name: DELVECCHIO, VINCENZA State Student ID: 0000023285 Local District/School ID No: 12368 Grade: 4 Test Booklet Number: 2298 Date of Birth: 05/19/02 • Your child has Special Education (SE) code 11.		<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Raw Score</th> <th>Scale Score</th> <th>Proficiency Level</th> <th>Pass</th> </tr> </thead> <tbody> <tr> <td>31.0</td> <td>273</td> <td>ADVANCED PROFICIENT</td> <td>YES</td> </tr> </tbody> </table> <p style="font-size: small; text-align: center;">Partially Proficient / Not Pass: Scale Score BELOW 200 Proficient / Pass: Scale Score AT OR ABOVE 200 but BELOW 250 Advanced Proficient / Pass: Scale Score AT OR ABOVE 250</p>			Raw Score	Scale Score	Proficiency Level	Pass	31.0	273	ADVANCED PROFICIENT	YES																
Raw Score	Scale Score	Proficiency Level	Pass																									
31.0	273	ADVANCED PROFICIENT	YES																									
<p>The NJ ASK Science is a standardized test that allows you to compare your child's performance against grade level standards. The NJ ASK Science is only one measure of your child's academic performance. Other academic measures should be used in conjunction with the NJ ASK Science score to make a determination of your child's overall academic performance (e.g., student grades, student progress reports and/or student classroom work).</p> <p>For more information about NJ ASK Science, please visit the NJDOE website at http://www.state.nj.us/education/archive/assessment/ms/NJASKUpdate.pdf (pages 35-43) and http://www.state.nj.us/education/assessment/njask/, as well as the Measurement Inc. website at www.measinc.com/nj.</p>		3 Your Child's Cluster Points		<p>"Just Proficient Mean" can be helpful to you in understanding where your child's performance may not be meeting expectations. The numbers in this column indicate the average points earned by students who scored 200. A score of 200 is the minimum score required for a student to be deemed "proficient" in the subject.</p> <p><i>Just Proficient Means are shown for students who took the regular form of the test or a form with the exact same set of items.</i></p>																								
		<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Cluster</th> <th>Points</th> <th>Just Proficient Mean</th> </tr> </thead> <tbody> <tr> <td>Life Science</td> <td>14.0 out of 17.0</td> <td>8.5</td> </tr> <tr> <td>Physical Science</td> <td>9.0 out of 12.0</td> <td>6.5</td> </tr> <tr> <td>Earth Science</td> <td>8.0 out of 10.0</td> <td>5.9</td> </tr> <tr> <td colspan="3" style="border-top: 1px dashed black;"> </td> </tr> <tr> <td>Knowledge</td> <td>3.0 out of 5.0</td> <td>2.2</td> </tr> <tr> <td>Application</td> <td>28.0 out of 34.0</td> <td>17.9</td> </tr> <tr> <td>Total Points</td> <td>31.0 out of 39.0</td> <td>21.0</td> </tr> </tbody> </table>		Cluster	Points	Just Proficient Mean	Life Science	14.0 out of 17.0	8.5	Physical Science	9.0 out of 12.0	6.5	Earth Science	8.0 out of 10.0	5.9				Knowledge	3.0 out of 5.0	2.2	Application	28.0 out of 34.0	17.9	Total Points	31.0 out of 39.0	21.0	
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Knowledge	3.0 out of 5.0	2.2																										
Application	28.0 out of 34.0	17.9																										
Total Points	31.0 out of 39.0	21.0																										

88-7777-333

Figure 3—Sample Individual Student Report (Back)

<p>New Jersey Assessment of Skills and Knowledge (NJ ASK) Science 4 and 8</p>	<p>Your child's NJ ASK Science scores are presented in the Your Child's Scores box in the top half of the report. Your child's raw score, the combined total points for the correctly answered multiple choice items and the open ended items, is printed in the column labeled Raw Score. To the right of the raw score is a column labeled Scale Score; this shows the scale score that ranges from 100 to 300. To the right of the scale score is a column labeled Proficiency Level. If the scale score is below 200, your child is "Partially Proficient." If the scale score is 200 to 249, your child is "Proficient." If the scale score is 250 to 300, your child is "Advanced Proficient." Scores below 200 indicate a likely need for additional instructional assistance.</p>
<p>The New Jersey Assessment of Skills and Knowledge (NJ ASK) Science is the state test for science in grades 4 and 8. The test measures how well your child is achieving the state's core standards in Science. This assessment continues to measure the New Jersey Core Curriculum Content Standards. The score categories and the content of the test remain the same. Science items measure students' knowledge and skills in three areas: life sciences, physical sciences, and earth sciences.</p>	<p>Additional information to assist in identifying your child's strengths and weaknesses is presented at the bottom half of the report. Your Child's Cluster Points show how your child performed on the multiple choice and open-ended items in each cluster.</p>
<p>The NJ ASK Science has two types of questions. The first type, the multiple choice question, requires students to choose one correct answer from among four choices. Multiple-choice questions add much to the reliability, or consistency, of the test because many good questions that focus on a broad range of skills can be answered in a short span of time. Also, these questions are objective and do not require scoring by trained professionals.</p>	<p>For each cluster, the column labeled Points presents the number of points your child achieved. The column labeled Just Proficient Mean (JPM) is a yardstick against which you can measure your child's performance for each cluster or performance assessment task. Each JPM is the average raw cluster score for all students in the state whose scale score is 200. If your child scored at or above the JPM, this cluster is an area of possible strength. If your child scored below the JPM, your child is likely to need additional help in this cluster.</p>
<p>The second type of question, the open-ended question, requires students to write a response. The advantage to this type of question is that it allows students to express, in their own words, what they know. Students may also present their response using diagrams, graphics, and/or pictures.</p>	<p>A notation may appear if, for some reason, your child's test document was not scored. No data will appear under Proficiency Level and Points. Instead, the report will indicate one of the following: Not Present, APA, Medical Emergency, or Void. A void may be assigned to your child for one of the following reasons:</p>
<p>HOW TO READ THIS REPORT</p>	<p>Void 1 - Became ill during testing. Void 2 - Refused to test or engaged in behavior inappropriate for testing. Void 3 - Should not have taken NJ ASK Science, or there was some other testing irregularity. Void 4 - Responded to at least one but fewer than 20% of the items. Void 5 - Security breach or severe test irregularity. Void 6 - Withdrew during test administration without completing the required testing.</p>
<p>The Individual Student Report presents your child's NJ ASK Science scores. This report is available only to parents, guardians, students, and authorized school officials. If you have any questions about this report, you should contact your child's guidance counselor or principal.</p>	<p>20141117</p>
<p>Your child's name, birth date, and other personal information are at the top of the report. An asterisk (*) may appear in the name, birth date, or local district/school ID number if the bubbles for more than one letter or number were filled in the same column on the test document.</p>	
<p>The NJ ASK Science score is reported as a scale score ranging from 100 to 300. The passing score is 200.</p>	

Student Roster

One Science Student Roster is produced and distributed. This report provides a means of reviewing the test results of all students within a given school. The Student Roster lists the names of the students (last name first), arranged by scale score in descending order. Thus, the first students listed on a student roster are those students with the highest scale scores. Students are listed alphabetically by last name when more than one student has achieved the same score. Students whose test booklets (grade 4) or answer folders (grade 8) were voided, students coded APA or LEP-exempt, and students who were reported as “Not Present” or “Medical Emergency” are listed at the end of the roster.

The following information appears at the top of each Student Roster:

- Test date
- Report printed date
- County name and code
- District name and code
- School name and code
- Number of student records processed

Below the school identification information, the Student Rosters provide the following information for each student, as applicable (see Figure 4):

- Student name (last name first)
- NJ ASK ID number and SID
- Date of birth
- Sex
- Limited English Proficient
- Special education status
- Section 504 status
- Accommodations
- Out-of-district status
- Out-of-residence status
- Special form designation
- Scale score
- Raw score points earned, by cluster and in total

Raw score points are reported for each content area cluster. To provide a context for comparison, the headings of the cluster columns indicate both the number of raw score points possible for that cluster and the statewide raw score cluster means associated with a scale score of 200.

The general Science scoring rubric is presented in Appendix B.

Figure 4–Sample Student Roster

**New Jersey Assessment of Skills and Knowledge (NJ ASK) Science
Student Roster
Grade 8**



TEST DATE: MAY 2015
 REPORT PRINTED: 8/10/2015

COUNTY: 88 ANY COUNTY
 DISTRICT: 7777 ANY DISTRICT
 SCHOOL: 666 ANOTHER SCHOOL

STUDENTS PROCESSED: 62

POINTS EARNED BY CLUSTER

STUDENT NAME NJ ASK ID NUMBER / SID	DOB	SEX	LEP	SE	504	ACCOM	OUT OF DIST	OUT OF RES	SPEC FORM	SCALE SCORE	POINTS EARNED BY CLUSTER					TOTAL
											LIFE SCIENCE	PHYSICAL SCIENCE	EARTH SCIENCE	KNOWLEDGE	APPLICATION	
										21.0 ¹	16.0	17.0	5.0	49.0	54.0	
										11.2 ²	9.0	8.5	3.4	25.5	28.7	
MUSETTI, KENNETH 8190004721 / 0000013673	01/17/98	M								253	21.0	9.0	13.0	4.0	39.0	43.0
SHANNON, ELIANA 8190005264 / 0000013189	10/01/98	F	1							253	20.0	12.0	11.0	4.0	39.0	43.0
VERAS, CAROLINA 8190005058 / 0000012677	07/29/98	F	<							253	21.0	14.0	8.0	5.0	38.0	43.0
CHAVEZ, COLTON 8190005330 / 0000001583	09/15/98	M	<							250	19.0	13.0	10.0	5.0	37.0	42.0
WITTIG, MAYRA 8190004945 / 0000012079	01/23/98	F								250	19.0	13.0	10.0	5.0	37.0	42.0
STUDENTY, ERIN 8190004788 / 0000017281	09/22/98	F								245	20.0	12.0	9.0	4.0	37.0	41.0
VALDEZ, REBECCA L 8191035534 / 0000001597	02/21/98	F								245	20.0	11.0	10.0	5.0	36.0	41.0
MARTINEZ, LACARA 8190004861 / 0000018994	02/01/98	F								239	17.0	16.0	6.0	5.0	34.0	39.0
WASHINGTON, STARLET 8190005157 / 0000013099	08/21/98	M	2							239	20.0	10.0	9.0	4.0	35.0	39.0
DZURO, AKWETE 8190005009 / 0000012466	03/12/98	M								235	20.0	10.0	8.0	5.0	33.0	38.0

¹ The numbers in this row are the number of possible raw score points for students who were scored on the full set of regular items.
² The numbers in this row are the statewide raw score means for students whose scale score is 200 and who were scored on the full set of regular items.

88-7777-666
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Alphabetical Student Roster

The Alphabetical Student Roster provides a convenient method for reviewing students' complete test results. The report provides an overview of individual performance for all students in a particular school. Student names are listed in alphabetical order (last name first); out-of-residence and out-of-district students are listed at the end of the roster. Users of this report can quickly determine how a particular 4th or 8th grade student performed in Science.

The Alphabetical Student Roster is available to districts in both Excel and pdf file formats. The two formats contain identical information, but having the data available in Excel allows districts to manipulate the information in the file and to import data into appropriate software products for district use.

The following information appears at the top of the Alphabetical Student Roster:

- Test date
- Report printed date
- County name and code
- District name and code
- School name and code
- Number of student records processed

Below the school identification information, the Alphabetical Student Roster provides the following information for each student, as applicable (see Figure 5):

- Student name (last name first)
- NJ ASK ID number and SID
- Date of birth
- Sex
- Ethnic code(s)
- Limited English Proficient status
- Special education status
- Economically disadvantaged status (reported as free or reduced-price lunch)
- Migrant status
- Out-of-district status
- Out-of-residence status
- Time in district less than 1 year
- Time in school less than 1 year
- Alternate Proficiency Assessment (APA) classification
- Science scale score and proficiency level. If a student did not receive a scale score, the reason will appear in this space. For a description of all codes, please see Appendix A.

Figure 5–Sample Alphabetical Student Roster

New Jersey Assessment of Skills and Knowledge (NJ ASK) Science													Alphabetical Student Roster	
Grade 4														
TEST DATE: MAY 2015														
REPORT PRINTED: 7/9/2015														
COUNTY: 88 ANY COUNTY														
DISTRICT: 7777 ANY DISTRICT														
SCHOOL: 666 ANOTHER SCHOOL														
STUDENTS PROCESSED: 70														
														
STUDENT NAME NJ ASK ID NUMBER / SID	DOB	SEX	ETHNIC CODES	LEP	SE	ED	MI	OUT OF DIST	OUT OF RES	TID <1	TIS <1	APA	SCALE SCORE	PROFICIENCY LEVEL
MAZZATTA, MAGGIE 4190006998 / 0000023242	07/25/02	F	W										296	ADVANCED PROFICIENT
MCCABE, JOAO V 4191047256 / 0000032822	01/17/02	M	W	2		R							191	PARTIALLY PROFICIENT
MERCADO, LESLIEANN P 4190007186 / 0000028025	01/05/02	F	B			R							255	ADVANCED PROFICIENT
MESSNER, ORLANDO 4190006519 / 0000038185	05/06/02	M	B			R							287	ADVANCED PROFICIENT
MODAK, CHARLES M 4190007087 / 0000023255	06/17/02	M	W										226	PROFICIENT
MONTUJO, ROSARIO 4190006899 / 0000038561	02/26/02	M	W	2									231	PROFICIENT
MOURA, SARA M 4190007111 / 0000023252	07/28/02	F	W		14								NOT PRESENT	
NIKOLIC, KEITH D 4190006816 / 0000023246	01/07/02	M	W			F							222	PROFICIENT
NWOGA, BRITTANY T 4190006980 / 0000023240	09/28/02	F	B			F							287	ADVANCED PROFICIENT
POLLOSHKA, CRYSTAL L 4190006859 / 0000023254	07/23/02	F	W										260	ADVANCED PROFICIENT

Student Data Files

For districts or charter schools seeking to work more directly with individual student data, files are made available in text and Excel format. These files show, for each student for whom the district or charter school is accountable, information contained across all of the above rosters and ISRs, as well as additional information not found in the rosters and ISRs.

The text and Excel files contain identical material, as identified in an accompanying file layout. The text files, in fixed-field format, are designed for direct input into local information systems and for import into various software products. The Excel files may be used directly as spreadsheets or imported into any other products that are capable of accepting the information that they contain. When used appropriately, the material in the student data files enables districts to see more detailed information about each student's performance.

In interpreting student performance results, districts are strongly advised to consider tentative any conclusions based upon small numbers of items.

As in years past, information unique to the student data files includes:

- Total multiple-choice and constructed-response scores for each of the science clusters.
- Total number of multiple-choice items *attempted* in science, permitting an estimate of the student's ability to respond in a timely manner.
- Any constructed-response items that could not be scored for a student and the reason(s) why scoring could not occur. These reasons may include: no response (NR), off topic/task (OT), fragment (FR) and not English or, for the Spanish version, neither English nor Spanish (NE). Note that, for any student, blank entries in those locations indicate either *scored* items or constructed response items that did not exist for the test.

For any student, the above can be compared to constructed-response total raw scores to determine the degree to which the raw scores were affected by items that could not be scored.

C. School- and District-Level

Score report information is used for district monitoring and to identify curricular program strengths and needs. With the adoption of the Core Curriculum Content Standards in May 1996, all districts were required to implement standards-based instruction. Test results displayed in school-level and district-level reports can provide meaningful information for educational program reviews. Districts should document when program revisions appear necessary.

Performance by Demographic Group Reports: School, District, DFG, and Statewide

The Performance by Demographic Group (PDG) report summarizes student performance by total students, education program, and student demographic groups: Total, General Education (GE), Special Education (SE), Limited English Proficient status (LEP), Gender (Sex), Migrant status, Ethnicity, and Economic status (disadvantaged vs. not disadvantaged). LEP students are reported in two subgroups: current LEP and former LEP (see Appendix A). The PDG reports provide additional summary views of student performance that can be used to make adjustments to curricula that may better serve these student subgroups.

The PDG is a multiple-page report, one content area per page. Students may receive a scale score in one content area but not in others. The PDG reports are produced at the district, school, state, and district factor group (DFG) levels.

The district level report presents summary data for the district. The school level report shows school data. They are distinguished by report title. If a district has only one school in which the test was administered, the summary data will be identical in both the district report and the school report.

The number of students taking the APA, number of students not present, number of voids (including those coded Medical Emergency), and number of students with valid scale scores should sum to the total number of students enrolled. The percentage of students who fall into each of the three proficiency levels includes only students with valid scale scores. The percentages of students for the three proficiency levels may not total to one hundred due to rounding.

PDGs are content area-specific. School name and code, district name and code, and county name and code all appear at the top of each PDG. For each grade and content area, the PDG provides the following information in tabular form, by demographic group:

- Number of students enrolled
- Number of students taking the APA instead of NJ ASK in this content area
- Number of students not present for the NJ ASK in this content area
- Number of students receiving voids or coded Medical Emergency
- Number of students with valid scale scores for this content area
- Number and percentage of students at each proficiency level
- Scale score mean for this content area

Figure 6—Sample Performance by Demographic Group Report

New Jersey Assessment of Skills and Knowledge (NJ ASK) Science Performance By Demographic Group School - Grade 4												
TEST DATE: MAY 2015 REPORT PRINTED: 8/10/2015 COUNTY: 88 ANY COUNTY DISTRICT: 7777 ANY DISTRICT SCHOOL: 666 ANOTHER SCHOOL												
												
Demographic Group	Enrolled	APA Students ¹	Not Present	Voids ²	Valid Scale Scores	Performance Data for Students with Valid Scale Scores ³						Scale Score Mean
						Partially Proficient Number	Partially Proficient Percent	Proficient Number	Proficient Percent	Advanced Proficient Number	Advanced Proficient Percent	
Total Students ⁴	473	5	130	2	336	51	15.2	151	44.9	134	39.9	235.0
General Education ⁵	367	0	108	2	257	22	8.6	116	45.1	119	46.3	241.5
Special Education	91	5	18	0	68	25	36.8	29	42.6	14	20.6	215.0
Limited English Proficient ⁶	18	0	5	0	13	4	30.8	8	61.5	1	7.7	208.8
Current LEP	16	0	4	0	12	4	33.3	7	58.3	1	8.3	209.5
Former LEP	2	0	1	0	1	0	0.0	1	100.0	0	0.0	200.0
Gender ⁷												
Female	219	1	56	0	162	25	15.4	70	43.2	67	41.4	234.9
Male	252	3	73	2	174	26	14.9	81	46.6	67	38.5	235.1
Ethnicity												
White	262	3	45	2	212	21	9.9	83	39.2	108	50.9	242.4
Black or African American	114	2	34	0	78	23	29.5	46	59.0	9	11.5	216.4
Asian	38	0	18	0	20	2	10.0	8	40.0	10	50.0	238.4
Pacific Islander	12	0	11	0	1	0	0.0	0	0.0	1	100.0	275.0
Hispanic or Latino ⁸	45	0	22	0	23	5	21.7	14	60.9	4	17.4	223.3
Amer. Indian/AK Native	2	0	0	0	2	0	0.0	0	0.0	2	100.0	256.0
Other ⁹	0	0	0	0	0	0	0.0	0	0.0	0	0.0	0.0
Economic Status												
Econ. Disadvantaged	100	2	26	0	72	22	30.6	40	55.6	10	13.9	217.6
Non-Econ. Disadvantaged	373	3	104	2	264	29	11.0	111	42.0	124	47.0	239.8
Migrant Status												
Migrant	1	0	0	0	1	0	0.0	0	0.0	1	100.0	253.0
Non-Migrant	472	5	130	2	335	51	15.2	151	45.1	133	39.7	235.0

¹ These students are required to take the Alternate Proficiency Assessment (APA) instead of NJ ASK.
² Includes students coded Medical Emergency.
³ Percentages may not total 100 due to rounding.
⁴ Students are included in Total Students only once, but they appear in all other categories that apply.
⁵ Includes students coded Former LEP who are not Special Education.
⁶ Includes students coded Current and Former LEP.
⁷ Excludes students who did not have Gender coded.
⁸ Includes Students coded Hispanic and/or Hispanic with other ethnic affiliations.
⁹ Students who did not have Ethnicity coded and students with multiple non-Hispanic Ethnicities coded.

Cluster Means Report

The Cluster Means for Students with Valid Scale Scores reports provide a way to look at the content cluster performance of a particular school as compared to the district, DFG, and state means, as well as to the Just Proficient Mean (the statewide raw score means for students with a scale score of 200). Where the PDGs offer scale score summary information, the Cluster Means reports provide raw score data.

The Cluster Means reports are provided at the school level, by grade and content area. Districts and schools will have access to the Cluster Means reports. The Cluster Means Report consists of multiple pages, one content area per page.

The following information appears at the top of each Cluster Means report:

- School name and code
- District name and code
- County name and code

Cluster Means reports are content area-specific, one content area per page, and provide information for: all students (Total), general education (GE) students, special education (SE) students, and LEP (current and former) students. For each grade and content area, the Cluster Means report provides the following information in tabular form, by content cluster:

- School raw score mean
- District raw score mean
- DFG raw score mean
- State raw score mean
- Total number of raw score points possible
- Just Proficient Mean (state)

The Just Proficient Mean (JPM) for each cluster is the statewide mean cluster score produced by statewide population of students with a scale score of 200 (the lowest Proficient scale score). As described earlier in this section, content cluster data can provide some general clues regarding student knowledge and skill. However, it bears repeating here that:

- Comparisons of cluster means or raw scores across years or across clusters is neither appropriate nor meaningful.
- The reliability (stability) of cluster scores is generally lower than the reliability of the test as a whole, due to the relatively small number of items in a cluster.
- Any given JPM is, in itself, not a proficiency requirement,

In Science, there are three distinct content clusters: Life, Physical, and Earth Science. The total points possible in each of these clusters sums to the total number of points on the test. In addition, items are also separated into two different skill categories, the cluster points for which also sum to the total number of points on the test: Knowledge and Application. Some of the Life Science, Physical Science and Earth Science test items fall under Knowledge, while the others fall under Application.

Figure 7–Sample Cluster Means Reports

**New Jersey Assessment of Skills and Knowledge (NJ ASK) Science
Cluster Means for Students with Valid Scale Scores ¹
Grade 4**



TEST DATE: MAY 2015
REPORT PRINTED: 8/10/2015

COUNTY: 88 ANY COUNTY
DISTRICT: 7777 ANY DISTRICT
SCHOOL: 888 ANOTHER SCHOOL

	SCHOOL MEAN	DISTRICT MEAN	SPECIAL NEEDS MEAN	NON-SPECIAL NEEDS MEAN	DFG A MEAN	STATE MEAN	TOTAL POINTS POSSIBLE	JUST PROFICIENT MEAN ²
Life Science							17	8.5
Total Students ³	6.3	7.1	7.4	9.3	7.4	9.0		
General Education ⁴	6.7	7.3	7.8	9.6	7.8	9.3		
Special Education	5.5	6.7	6.3	8.3	6.3	7.9		
Limited English Proficient ⁵	6.7	6.6	6.8	7.3	6.9	7.1		
Current LEP	5.5	6.4	6.5	6.6	6.6	6.5		
Former LEP	7.0	6.7	7.5	8.2	7.5	7.9		
Physical Science							12	6.5
Total Students ³	5.5	6.4	6.4	7.8	6.4	7.6		
General Education ⁴	5.6	6.6	6.7	8.1	6.7	7.8		
Special Education	5.4	5.8	5.3	6.9	5.3	6.6		
Limited English Proficient ⁵	4.8	5.7	6.0	6.3	6.0	6.1		
Current LEP	5.5	5.6	5.7	5.9	5.7	5.8		
Former LEP	4.7	5.8	6.4	6.9	6.5	6.7		
Earth Science							10	5.9
Total Students ³	5.3	6.0	6.2	8.0	6.2	7.7		
General Education ⁴	5.4	6.4	6.6	8.3	6.5	8.0		
Special Education	5.3	5.3	5.0	6.9	5.0	6.5		
Limited English Proficient ⁵	4.0	5.3	5.7	6.2	5.7	5.9		
Current LEP	4.0	4.8	5.3	5.6	5.4	5.4		
Former LEP	4.0	5.6	6.3	7.1	6.3	6.7		
Knowledge							5	2.2
Total Students ³	2.2	2.9	2.9	3.8	3.0	3.6		
General Education ⁴	2.1	2.9	3.1	3.9	3.1	3.7		
Special Education	2.3	2.7	2.5	3.2	2.6	3.1		
Limited English Proficient ⁵	2.0	2.6	2.8	2.9	2.8	2.8		
Current LEP	2.5	2.7	2.7	2.7	2.7	2.7		
Former LEP	1.9	2.5	2.9	3.1	2.9	3.0		
Application							34	17.9
Total Students ³	14.9	16.6	17.1	21.5	17.1	20.6		
General Education ⁴	15.5	17.5	18.0	22.1	17.9	21.3		
Special Education	13.9	15.2	14.0	18.9	14.1	17.9		
Limited English Proficient ⁵	13.5	14.9	15.7	16.9	15.9	16.3		
Current LEP	12.5	14.1	14.8	15.4	14.9	15.0		
Former LEP	13.8	15.5	17.4	19.0	17.5	18.2		

¹ Excludes students who did not receive a scale score based on the full set of regular items in this content area.
² The numbers in this column are the statewide raw score means for students whose scale score is 200.
³ Students are included in Total Students only once, but they appear in all other categories that apply.
⁴ Includes students coded Former LEP who are not Special Education.
⁵ Includes students coded Current and Former LEP.

PART IV: STATE SUMMARY AND TECHNICAL REPORT

The State Summary, posted in mid-fall, is a comprehensive collection of NJ ASK results at a variety of levels ranging from individual schools to the state as a whole. It presents a wide-ranging picture of NJ ASK performance across three sets of general reports and one large data file in two formats, spreadsheet and text, all designed for use by schools and the general public.

While the State Summary contains a vast amount of information, there are some instances where information is not reported and is replaced, instead, by an asterisk (*). Asterisks appear where the counts of individuals in a group fall between 1 and 10 and are too small for the group data to be meaningful. Asterisks can also be found where the publication of numbers would permit calculations that reveal the performance of individual students. The state summary may be found at: <http://www.nj.gov/education/schools/achievement/>

Excel and Text Data Files

The State Summary data files contain an exhaustive and complete collection of information pertaining to the NJ ASK performance of broad groups of students organized by:

- School
- School district
- District Factor Group (DFG)
- Special Needs District
- Districts not designated as having special needs
- State

The above can be viewed and downloaded in either Excel spreadsheet or fixed field text format. Insofar as the Excel spreadsheet is made up of information in columns with headings, the information it contains is immediately available to be read. The text format is provided for importing the data into school district information systems.

For each tested grade, there is one separate spreadsheet and one separate text file. A layout is provided for the text file. The information in the layout relates to the Excel file, as well. Below is an explanation of the material in the Excel spreadsheets.

Most people use the Excel spreadsheet to check the test results of specific schools. The schools are easy to find. Figure 8 depicts an imaginary section of the spreadsheet that identifies schools.

Figure 8–Sample Excel File 1

	A	B	C	D	E	F
1	County Code	District Code	School Code	County Name	District Name	School Name
2	55	9876		Marble	Granite Town	
3	55	9876	123	Marble	Granite Town	Stony Lane
4	55	9876	456	Marble	Granite Town	Rocky Road
5	FG					

On each spreadsheet page, the sixth column (Column F) contains school names. Immediately to the left of the school name, in Column E, is the name of the school district to which the school belongs. There is also a column immediately to the left of the school district, indicating the county name. Moving farther to the left, there are three columns with code numbers showing each school’s county code, district code, and school code. The codes are identification numbers for the state’s counties, school districts and schools.

For each school district, there is one row in which the school code and school name are blank (see Row 2 in Figure 8, for example); the information in that row relates to the school district as a whole.

In Column A, containing county codes, some rows have letters rather than numbers (see Row 5 in Figure 8, for example). These letters represent collections of students larger than single schools or school districts; all county, district, and school information cells in these rows are left blank. The letters and the collections of students to which they relate include:

- **ST** – Statewide, or all the students in the state.
- **SN** – The combination of all special-needs school districts, as identified through the 1990 *Abbott v Burke* court decision identifying 28, later expanded to 31, districts with special needs for which supplemental state funding was required.
- **NS** – The collection of all *non* special-needs school districts.
- **A, B, CD, DE, FG, GH, I, J, N, R, V** – All of these values, with the exception of **N, R** and **V**, are district factor groups (DFGs) that identify the socioeconomic status of school districts, DFG **J** being the highest and DFG **A**, the lowest.

The remaining values are **V**, vocational school students; **R**, charter school students; and **N**, students in school districts in which a majority of the students are enrolled in private schools.

Not shown in Figure 8 are two columns immediately to the right of the school name column that have information only in rows that contain a school district name. The first of these two columns, Column G identifies the DFG into which the school district falls. The second, Column H, indicates whether this particular school district was identified as a special needs school district. The letter, Y, indicates that it was; blank indicates that it was not.

The spreadsheets are very large with many rows and columns organized into five tabs seen at the bottom of the spreadsheet. By clicking on a tab, one can see test results by various demographic groups. The tabs are listed below:

- **Total and Instructional Groups, made up of the following:**
 - **Total** – Total students
 - **GE** – General Education (i.e. regular) students
 - **SE** – Special Education students
 - **LEPC** – Current Limited English proficient students in a language assistance program.
 - **LEPF** – Former Limited English Proficient students who have left a language assistance program in the current or previous two school years.
 - **LEP** – Limited English proficient, the sum of Current Limited English Proficient (**LEPC**) students plus Former Limited English Proficient (**LEPF**) Students.

- **Gender**
 - **F** – Female
 - **M** – Male

- **Ethnic, consisting of the following racial / ethnic groups:**
 - **W** – White
 - **B** – Black or African American
 - **A** – Asian
 - **P** – Pacific Islander
 - **H** – Hispanic
 - **I** – American Indian or Native American
 - **O** – Missing or multiple codes

- **Economic**
 - **EcDis Y** – Economically disadvantaged
 - **EcDis N** – Not Economically Disadvantaged

- **Migrant**
 - **Migr Y** – Child of migrant worker
 - **Migr N** – Not a child of a migrant worker

For each of the above groups, the state summary provides the following types of information :

- **Enroll** – The number of students enrolled.
- **Not Present** – The number of students not present for testing
- **VOIDS** – The number of students whose tests had to be voided, therefore not scored, because they became ill during testing, or engaged in inappropriate behavior, or did not produce a sufficient number of responses to permit scoring, or there was some other irregular situation. This category also includes those coded for Medical Emergency.
- **APA** – The number of students taking the Alternate Proficiency Assessment due to a cognitive impairment related to a special education status.

- **Valid Scale** – The number of students who took the NJASK, produced tests that could be scored and, therefore, were able to generate valid scale scores.
- **PP** – The percentage of students whose tests could be scored, whose scale scores were lower than 200 and were, therefore, partially proficient, or below the proficient range.
- **P** – The percentage of students whose tests could be scored, whose scale scores were higher than 199, but lower than 250 and were, therefore, in the proficient range.
- **AP** – The percentage of students whose tests could be scored, whose scale scores were higher than 249 and were, therefore, in the advanced proficient range.
- **Mean Scale** – The mean, or average, scale score of the students.

All of the above are combined into headings consisting of combinations of the group tested, the type of information produced and the tested subject. To demonstrate how the information appears, Figure 9 illustrates an imaginary section of the eighth grade State Summary spreadsheet at the Gender tab showing male (**M**) students test information for Science (**Scie**) at a school named Busy Street School.

Figure 9–Sample Excel File 2

F	G	H	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
School Name	DFG	Special Needs	M Enroll Scie	M Not Present Scie	M Voids Scie	M APA Scie	M Valid Scale Scie	M PP Scie	M P Scie	M AP Scie	M Mean Scale Scie
Busy Street	B		160	4	3	2	151	25	45	30	224

A look at the information to the right of the school name indicates the following:

- Busy Street School is a DFG B school.
- The blank space under the heading, Special Needs, shows that it was not a special needs school.
- The male enrollment was 160 students.
- The number of male students who were not present for the test was four.
- Three students’ tests were voided.
- Two students took the APA test instead of the NJ ASK.
- There were valid scale scores for 151 boys. (160 males enrolled, minus 4 not present, minus 3 void, minus 2 APA equals 151 boys with valid scale scores)
- Among the boys with valid scores, 25% were partially proficient.
- There were 45% who were proficient.
- There were 30% who were advanced proficient.
- The mean, or average, Science scale score for males was 224.

The three examples that follow demonstrate how various types of information can be found on the spreadsheets.

- *To find the number of fourth grade students in the state who took the Science test and produced valid scale scores (**Valid Scale**),* bring up the Grade 4 State Summary Excel spreadsheet. Click on the tab at the bottom indicating **Total and Instructional Groups**. Search in the first column for the row that has the value, **ST**, for State. Find the headings for total students (**Total**). Obtain the desired number in the State row under the heading that indicates, **Total Valid Scale Scie**.
- *To find the percentage of seventh grade DFG I Asian students who were partially proficient (**PP**) in Science,* bring up the Grade 8 State Summary Excel spreadsheet. Click on the tab at the bottom indicating **Ethnic**. Search in the first column for the row that has the value, **I**, for DFG I. Scroll to the right to find the headings for Asian (**A**). Obtain the needed percentage in the DFG I row under the heading that indicates **A PP Scie**.
- *To find, for the Trenton School District third graders, the general education, or regular, students' mean, or average, scale score (**Mean Scale**) in Science,* bring up the Grade 4 State Summary Excel spreadsheet. Click on the tab at the bottom indicating **Total and Instructional Groups**. Search in the District Name column (Column E) for the row that has the name, Trenton, with a blank in the column to the immediate right (where a school name would otherwise appear). Scroll to the right to find the headings for general education students (**GE**) in Science (**Scie**). Obtain the number in the Trenton School District row under the heading that indicates **GE Mean Scale Scie**.

Summary Information

Three types of broad summary information are also available in the Executive Summary, Performance by Demographic Group reports, and Graphs by Percent Proficient and Above.

The Executive Summary describes key highlights, by grade, of the State Summary.

The Performance by Demographic Group reports summarize the NJ ASK results, by tested subject and grade, of the State, DFG, and Special Needs/Non-Special Needs status of school districts. They are identical in design to those described in Part III (see Figure 8), but they do not report results at the district or school level. Unlike the information in the Excel spreadsheet and text files, the information in these reports is in .pdf format that can be read by Adobe reader, present on most computers and available as a free download at: <http://get.adobe.com/reader/>.

The Performance by Demographic Group reports contain information regarding the same student groups that are found under the tabs of the Excel spreadsheet or in the text file layout. These groups are listed on the left side of each report. The reports have all the information items that are in the spreadsheet or text file plus one additional piece of information—the number of students falling into the partially proficient, proficient and advanced proficient levels. The spreadsheets and text files have only the percentages of students falling into those levels.

The advantage of the Performance by Demographic Group report design is the presence of information falling on a single page for each grade, by subject. All the relevant information can

be seen at once on a computer screen or printed onto a single sheet of paper. The disadvantage is the fixed format. The data cannot be manipulated, as in the Excel and text files.

The Graphs by Percent Proficient and Above is a collection of graphs and accompanying tables that feature state level trend data, showing year, tested grade level, and subject for all NJ ASK tests since their respective standard setting years. The graphs contain the following information for each grade level and subject:

- Total percentage of students who are either proficient or advanced proficient, *by instructional group* (general education, special education, limited English proficient, current and former, and total students).
- Total percentage of students who are either proficient or advanced proficient, *by gender*.
- Total percentage of students who are either proficient or advanced proficient, *by ethnicity* (four largest groups: White, Black, Hispanic and Asian).
- Total percentage of students who are either proficient or advanced proficient, *special needs districts v. non-special needs districts*.
- Total percentage of students who are either proficient or advanced proficient, *by student economic status, disadvantaged v. non-disadvantaged*.

The State Summary material remains posted indefinitely so that readers can view reports from earlier years. Presently NJ ASK State Summary reports can be accessed as far back as the 2004 test administration.

The Technical Report is posted on the New Jersey Department of Education Web site in mid-winter. A link to this report may be found on the same web page as the state summary (<http://www.nj.gov/education/assessment/es/njask/>)

The Technical Report is a massive document containing a great deal of data related to the tests. While this report is very elaborate, and it contains information beyond the scope of this guide, there are two items in it related to test error that have drawn particular attention from school districts. The first is a table entitled “Summary of Coefficient Alpha and SEM by Grade.” In past editions, it has been labeled “Table 8.1.1.”

In this table, the column farthest to the right is the standard error of measurement (SEM). It typically runs roughly between 2.7 and 3.7 raw score points. The SEM provides an estimated error range. It is approximately the number of raw score points above the student’s actual raw score and the number of points below the student’s actual raw score that his or her “true” raw score could have randomly fallen.

The phrase “could have randomly fallen” can be defined in different ways. A very lenient error range would be one SEM. That range spans about two-thirds or approximately 66% of the variation of scores produced by test error. So, if a test has a one SEM error range of approximately 3 raw score points up or down, then, in a perfectly normal distribution, two-thirds of the time, the raw score could have randomly fallen 3 points higher or 3 raw score points lower than the raw score the student actually received. Now, that means about one-third of the time, the raw score could have randomly fallen beyond a range that extends 3 raw score points up and

3 raw score points down, one-sixth of the time, randomly higher and one-sixth of the time randomly lower than the error range.

In our less than perfect world, where more of the error range falls on one side of the obtained score and less on the other side, the obtained score will end up not quite in the middle. Usually the effect is not so dramatic that the obtained score falls very far from the midpoint. Where this effect is likely to be greatest is at the lower and higher extremes of the distribution.

For some applications, an error range of one SEM can seem pretty crude, inasmuch as it covers only about two-thirds of the random variation in any student's score. Conveniently, one can get an approximation of 95% of all possible errors by doubling the SEM, that is, by looking at an error range equal to 2 SEMs above and 2 SEMs below the raw score that the student actually got. In this more stringent case, for a student whose SEM is equal to 3 raw score points, an error range of 2 SEMs would, in a perfectly normal distribution, be 6 raw score points above and 6 raw score points below the raw score he or she actually achieved, while 2.5% of the random variation would fall still higher, and 2.5% of the time it would fall still lower. The student's "true" score would fall into this broader error range of 2 SEMs about 95% of the time.

As described above, the distribution may be shaped in such a manner that the obtained score does not quite fall quite in the middle of the error range.

What does all of this mean for the scale scores that students receive? The answer can be found in Appendix H of this document. Appendix H converts raw scores to scale scores. Most students take the regular or operational form of the test. There is a breach form that is administered when a problem occurs in the administration of the operational form. There is a Spanish form, a Braille form, and sometimes, when an illustration on the operational form cannot be meaningfully expanded into large print, there is a large print form. In Appendix H, you can find the conversion of raw scores to scale scores at each grade for each of these forms (if they were administered).

For most cases, it is the operational form table in Appendix H that is relevant. Suppose you are looking at the scores attained by the same student above who has an SEM that equals 3 points. If you find the student's scale score, and then look to the left in the same table to find the corresponding raw score, all you need to do is to count 3 raw score points up and 3 raw score points down from the raw score that was achieved, and then look back to the corresponding numbers in scale score column. You will find the error range that holds for scale scores about 66% of the time. If you double the raw score range up and down, in this case, if you go up 6 raw score points and down 6 raw score points and then look at the corresponding scale scores, you will get the error range for scale scores that holds about 95% of the time.

Some other tests use an error range derived directly from scale scores, bypassing raw scores altogether. Doing so is more convenient for the reader, but it can be a bit less accurate. It has been argued by some, however, that the additional inaccuracy is too small to be concerned about. The new PARCC tests provide an error range directly based upon scale scores, eliminating the bother of checking raw scores. It can be found on the individual score reports (ISRs). The error ranges provided on the ISRs for that test are equal to one SEM, that is, they hold true about 66% of the time. The range can, of course, be doubled for those seeking to include a set of possible

scores that hold true about 95% of the time. If, for instance, the range is listed as 3 points (that is, it runs 3 points up and 3 points down), it can be doubled to 6 points up and 6 points down. There is nothing to convert, since it is all scale scores. In one step you can go from an error range that holds true approximately 66% of the time to one that holds true approximately 95% of the time.

There are cases where random error rate of even 5% is too high. For example, the procedures that have been performed by and for the state to detect potential cheating look for cases so extreme that the possibility of erroneously identifying an instance of potential cheating through random error is very small.

For those who examine the test scores and find some error ranges that look large, it should be kept in mind that all of the above apply when one examines the scores attained by an individual student. When one looks at scores achieved by groups of students, the error range rapidly goes down as the groups get larger. Since the No Child Left Behind legislation that drives the testing is focused on the performance of groups of students when determining whether a school is performing as well as required, it deals with group data where the problem of error is much smaller.

The State Summary and Technical Report material remain posted indefinitely so that readers can view reports from earlier years. Presently the NJASK State Summary can be accessed as far back as the 2004 test administration. Technical Reports for each of those years are posted as well.

PART V: FREQUENTLY ASKED QUESTIONS AND ANSWERS (FAQ)

Q: How are the tests designed in the first place?

A: The process begins with the development of test questions that are aligned to curriculum content standards. These questions must pass several rounds of review and subsequent field testing. Through field testing, statistics are generated and test questions are again reviewed to ensure that they relate appropriately to other test questions, are at acceptable difficulty levels, and are not systematically biased with respect to gender or major ethnic group. Throughout all reviews, New Jersey teacher committees are involved, and their approval is required for any question to be used on the NJ ASK. The questions are subsequently placed onto tests in ways that ensure a broad sampling of knowledge and skills at a balance of grade appropriate levels of difficulty.

Q: What is the difference between raw scores and scale scores, and why use scale scores?

A: A total raw score consists of the total of all the points assigned to the test questions for which a student receives credit (i.e., the number of points a student earned on the test as a whole). NJ ASK scale scores are created when raw scores are statistically converted to a scale running from 100 to 300. In any year, a given raw score may be a bit more or a bit less difficult to attain than in another year, because it is not possible to guarantee that each year's test will be at exactly the same difficulty level. However, at any grade level and in any content area, the same scale score represents the same level of performance from year to year, statistically adjusting for slight differences in test difficulty. It is, therefore, possible to say that a scale score of 200 always lies at the beginning of the proficient range, and a scale score of 250 always lies at the beginning of the advanced proficient range. Please see Section II.A of this booklet for a description of how the equating process results in the statistical equivalence of scale scores from year to year.

Q: How do you decide what constitutes “proficient” performance and what constitutes “advanced proficient” performance?

A: This decision is made in year one of a given test through a standard setting process based primarily upon the work of teachers drawn from districts throughout the state. In subsequent years, an equating process is used to ensure that, at each grade level and for each content area, tests are statistically equivalent from year to year.

Q: By participating in standard setting, are the teachers, in effect, determining the difficulty level of the test?

A: The teachers involved in standard setting play the primary role in determining how well a student has to perform to achieve proficient or advanced proficient status, but the difficulty of the test itself is determined by the nature of the test questions. It stands to reason that students at any given proficiency level will achieve higher raw scores on tests with less difficult questions and lower raw scores on tests with more difficult questions. If a test is a relatively easy one, one would expect the teachers engaged in standard setting to compensate by selecting high raw scores as the performance standards for reaching proficient and

advanced proficient status. For a difficult test, the opposite would hold; one would expect the standard setting participants to set the bar at lower raw scores.

Q: Why aren't standards set every year?

A: Once the standards for a test are set, the scores in subsequent years can be statistically equated to adjust for the small differences that may occur in the difficulty levels of the tests. If it turns out that a test is more difficult in one year, the equating process lowers the raw score needed to become proficient and/or advanced proficient. If the test turns out to be less difficult, the equating process moves the required raw score(s) up. Since questions are field tested before being placed on operational tests, it is possible to anticipate difficulty levels, to some extent, in the construction of the tests and to keep them reasonably consistent in terms of difficulty from year to year. As a result, the change in difficulty level—and the resulting shifting of the raw score bar—is typically small.

Q: Why doesn't the NJ ASK report percentiles?

A: Percentile rankings are meaningful on **norm-referenced** assessments, when a student's performance is measured in comparison to the performance of other students. At the present point, the purpose of the NJ ASK is to provide information about student achievement in the areas required by these standards in Science, grades 4 and 8. The NJ ASK is, therefore, a **criterion-referenced** assessment, addressing content standards rather than norms.

Q: Why not simply use a percentage scale where 90% or better equals a grade of A, 80% to 89% equals a grade of B, and so on?

A: Apart from the fact that percentages are based on raw scores, which do not account for variation in the difficulty of questions from test to test, they also use just a small part of the scale to separate the various levels of proficiency. Commonly, scores from 70 to 100 differentiate among levels of satisfactory to excellent performance that are achieved by a majority of students, while scores from 0 to 69 fall into a low achievement range occupied by a minority of students. Test developers are generally more comfortable with questions at a variety of difficulty levels that spread the scores more fully, providing more points to use where the bulk of the students fall, thereby permitting finer distinctions in the way they perform.

Q: Test clusters are pretty general. Why don't the tests provide more specific information?

A: The tests are not long enough to provide detailed diagnostic information. More test items and more time would be needed to generate results at a detailed level of specificity. Additional information regarding cluster scores may be found in section II.D of this booklet.

Q: Why can't we compare cluster scores from year to year?

A: Cluster scores are raw scores, so they are influenced by year-to-year differences in test difficulty level. Unlike total raw scores, they are not converted to a scale. While it is true that, for the test as a whole, year-to-year changes in difficulty level—and, consequently, in total raw score—are generally not dramatic, year-to-year raw score variation at the cluster level can be considerably more pronounced. Year-to-year raw score comparisons can, therefore, be particularly misleading at the cluster level.

Q: How, then, can I interpret cluster scores?

A: For any single year, cluster scores can be compared to the state and DFG cluster means; school cluster means can be compared to district cluster means; school cluster means can be compared to one another. Furthermore, inasmuch as the just proficient mean (JPM) is the mean cluster score of students with a total test scale score of 200, the JPM allows a comparison to the profile of the prototypical student who falls right at the proficient border.

Q: What use does a mean scale score have?

A: Means are more effective for use in certain kinds of statistical analysis. They are also influenced by score changes that occur not only between, but also within, the partially proficient, proficient, and advanced proficient categories. They can, therefore, be used for supplementing the interpretation of results in curriculum planning.

Q: How do we find out more about the performance of the tests themselves?

A: During the winter the NJ ASK Technical Report is produced and posted on the Department of Education Web site (www.state.nj.us/education/). This report examines various statistics related to test item performance, scoring, equating, scaling, reliability and other topics related to test design, administration and reporting.

Q: We are advised not to report the results of small groups because they are statistically unstable and not to report group results that violate student confidentiality. If we don't report the results of small groups, don't we automatically protect confidentiality?

A: Districts are generally advised that results based upon the performance of one to ten students are statistically unstable, and that it is unwise to report results that lack minimal stability. However, districts must also be careful not to report numbers that members of the public might use to infer, through simple calculations, the performance of one or two students. Additional information regarding confidentiality may be found in section II.E of this booklet.

Q: We received roster information for a student whose name we do not recognize. What's going on?

A: Situations of this sort are not common, and naturally errors should be reported to the NJ DOE Office of Assessments and to Measurement Incorporated as soon as possible. But before doing so, it is important to verify that the students are not out-of-district students from your district whom you failed to recognize. In the unlikely event that the students in question were included on the roster erroneously, please keep in mind that such an error probably could have been detected and corrected during record changes.

Q: The numbers for some of the variables in the assessment information do not match their counterparts in other state reports. How can that be?

A: There are two major reasons for differences between the numbers in the assessment reports and those in some other reports produced by the state: changes that occur over the course of the school year and differences in the definitions of the reporting categories.

Student counts vary over time throughout the school term, as the student enrollment changes from one school to another. Likewise, there are changes in student status, most notably in special education classification and economic level. As a result, the counts taken at the time of testing may differ from counts taken at other times of the year.

The primary definitional difference in the data relates to the schools to which students are assigned. Some reports tally the number of students who attend a particular school to produce the school's enrollment. The reports produced by the Office of State Assessments track the attendance of students back to their local schools. Where students are placed in schools that are not local, but that provide needed language assistance or special education services, the state assessment reports consider those students to be still the responsibility of, and, therefore, still counted in the enrollment of their local schools. It should be noted, however, that students who, by choice, attend schools other than their local schools, as, for example, those who attend charter or magnet schools, are not counted as enrolled in their local schools.

APPENDIX A: Glossary

ACCOMMODATIONS: Students with disabilities eligible for special education and related services and those students eligible under Section 504 of the Rehabilitation Act of 1973 may have accommodations and/or modifications during the administration of the statewide assessments. The Individualized Education Program (IEP) or the 504 team makes decisions about accommodations/modifications and documents those decisions in the IEP or the 504 plan. There are four possible codes:

- A = Setting Accommodations
- B = Scheduling Accommodations
- C = Test Materials Modifications
- D = Test Procedure Modifications

ALTERNATE PROFICIENCY ASSESSMENT: The Alternate Proficiency Assessment (APA) is a portfolio assessment designed to measure progress toward achieving New Jersey’s state educational standards for those students with the most significant cognitive disabilities who are unable to participate in general statewide assessment. The APA classification indicates whether a student takes the Alternate Proficiency Assessment in a particular content area and is thus exempt from taking the NJ ASK in that content area. On the Performance by Demographic Group report, these students are grouped in the “APA Students” column.

CLUSTER: A cluster is a group of items that measures similar skills. The skills in a given cluster are typically taught together to allow students to make appropriate connections.

DISTRICT FACTOR GROUP (DFG): The DFG is a measure of the socioeconomic status of the population residing in each district based upon United States Census data. These groups are labeled from A (lowest) to J (highest). Additional DFGs are designated for special groups that are not defined geographically (e.g., charter schools). See Appendix C for details related to current DFG designations.

ECONOMICALLY DISADVANTAGED (ED): An ED student is one who is eligible for free or reduced-price lunch (reported with the values, F, R and blank in the All Sections Roster, but with free and reduced-price status defaulting to economically disadvantaged status in the Performance by Demographic Group Report.)

ETHNICITY: There are six codes for ethnicity categories. The categories are:

- W = White
- B = Black or African-American
- A = Asian
- P = Native Hawaiian or other Pacific Islander
- H = Hispanic
- I = American Indian or Alaska Native

In addition, on Performance by Demographic Group (PDG) reports, “O” is defined as missing or multiple codes.

ENROLLED OR STUDENTS PROCESSED: This is the number of unique students for whom used test booklets (grade 4) or answer folders (grade 8) were returned, plus the number of students added during the record change period. It includes students who took any form, including the braille, large print, Spanish and alternate form. It equals the sum of the APA Students, Not Present, Voids, and Valid Scale Scores columns on the Performance by Demographic Group report.

FORMER LIMITED ENGLISH PROFICIENT (FLEP): A Former Limited English Proficient student is a student who was removed from a language assistance program within the current or previous two school years.

HOMELESS (H): A student who is homeless is defined as a child or youth who lacks a fixed, regular and adequate residence, pursuant to N.J.S.A. 18A:7B-12 and N.J.A.C. 6A:17-2.3.

INDIVIDUALIZED EDUCATION PROGRAM (IEP): The Individualized Education Program (IEP) is a written plan that is developed by members of the local school district child study team, a teacher who has knowledge of the child, and the parent/guardian. It describes how a child currently performs in school, specifies his/her educational needs, includes goals and objectives the parents and staff believe he/she can achieve during the school year, details his/her special education program, specifies why the child is receiving these special education services, and provides an organized way for school staff and parents to conduct an appropriate educational program for the child. The special education and related services are provided for the child after the parent and the school staff determine his/her needs (N.J.A.C. 6:28:3.6).

JUST PROFICIENT MEAN: The Just Proficient Mean is a statewide average (mean) of scores attained on each cluster by all students in the state who attained a scale score of 200. Students who did not receive a scale score based on the full set of regular items, or who took an alternate test form in the content area were excluded from these means.

LIMITED ENGLISH PROFICIENT (LEP): A Limited English Proficient student is a student whose native language is other than English. This student has sufficient difficulty speaking, reading, writing, or understanding the English language, as measured by an English language proficiency test, so as to be denied the opportunity to learn successfully in the classroom where the language of instruction is English. A student who exited a language assistance program before July 1, 2011, may not be coded LEP, current or former.

There are six LEP codes:

< = LEP student entered a language assistance program ON OR AFTER July 1, 2014, and is currently enrolled in the program (see LEP-X).

1 = LEP student entered a language assistance program BETWEEN July 1, 2013, and June 30, 2014, and is currently enrolled in the program.

2 = LEP student entered a language assistance program BETWEEN July 1, 2012, and June 30, 2013, and is currently enrolled in the program.

3 = LEP student entered a language assistance program BEFORE July 1, 2012, and is currently enrolled in the program.

F1 = Former LEP student exited a language assistance program BETWEEN July 1, 2013, and the current test administration dates and is NO longer enrolled in the program.

F2 = Former LEP student exited a language assistance program BETWEEN July 1, 2012, and June 30, 2013, and is NO longer enrolled in the program.

MEDICAL EMERGENCY (ME): A student is identified as having had a medical emergency if a severe medical or psychiatric condition or episode occurred which required medical attention or supervision, during which time the student was not able to participate in the NJ ASK. These students are not classified as Not Present. On the Performance by Demographic Group report, these students are grouped in the “Voids” column.

MIGRANT (M): An eligible migrant student is defined as a student who:

1. is—or whose parent, spouse, or guardian is—a migratory agricultural worker a migratory dairy worker, or a migratory fisher; and
2. has moved from one school district to another in the preceding 36 months, in order to obtain—or accompany such parent, spouse or guardian in order to obtain—temporary or seasonal employment in agricultural or fishing work.

NOT PRESENT: A Not Present designation indicates that a student did not participate in a particular content area of the NJ ASK, and was not coded APA, void, or medical emergency. On the Performance by Demographic Group report, these students are grouped in the “Not Present” column.

OUT-OF-RESIDENCE PLACEMENT (ORP): Out-of-residence students are affiliated with two different schools within the same district, a local and attending school. The local school is the one in which the student is registered because it is his/her home school; the attending school is the one that administers the test to the student.

OUT-OF-DISTRICT PLACEMENT (ODP): Out-of-district students are affiliated with two different schools in different districts, a local and attending school. The local school is the one in which the student is registered because it is his/her home school; the attending school is the one that administers the test to the student.

PERFORMANCE LEVELS: The Proficient and Advanced Proficient performance levels, or cut scores, for the base year in each content area were determined with respect to the Performance Level Descriptors (see below). Student scores that are below the Proficient performance level (i.e., below a scale score of 200) are considered to be below the state minimum level of proficiency. These students may need additional instructional support, which could be in the form of individual or programmatic intervention.

PERFORMANCE LEVEL DESCRIPTORS (PLDs): PLDs describe in qualitative and broad terms what it means to attain (or not attain) the performance levels, Proficient and Advanced Proficient, in each content area. The PLDs are stated in terms of the New Jersey core content curriculum standards for Science.

RAW SCORE: A raw score is the total number of points a student earns on a test.

SCALE SCORE: The scale score in any tested content area is a standard mathematical transformation of the raw score attained in that content area by a student who participated in the test and who was not coded “void.” On the Performance by Demographic Group report, all students who received a scale score are grouped in the “Valid Scale Scores” column. This column includes students who took any form, including the braille, large print, and alternate forms, as well as students who received special scaling due to the invalidation of one or more items.

SPECIAL EDUCATION (SE): There are 16 codes for Special Education classifications:

- 01 Auditorily Impaired
- 02 Autistic
- 03 Cognitively Impaired–Mild
- 04 Cognitively Impaired–Moderate
- 05 Cognitively Impaired–Severe
- 06 Communication Impaired
- 07 Emotionally Impaired
- 08 Multiply Disabled
- 09 Deaf-Blindness
- 10 Orthopedically Impaired
- 11 Other Health Impaired
- 13 Social Maladjustment
- 14 Specific Learning Disability
- 15 Traumatic Brain Injury
- 16 Visually-Impaired
- 17 Eligible for Speech-Language Services
- 99 Unknown or multiple (assigned during data processing)

TEST SPECIFICATIONS: Test specifications for the NJ ASK include the definition of Science clusters that are measured in the assessment, as well as the testing conditions. The clusters and conditions were identified by committees of New Jersey teachers and administrators.

TIME IN DISTRICT (TID < 1): A student coded as TID < 1 has been enrolled in his or her home district for less than one academic year (i.e., the student first enrolled in the district on or after July 1, 2014).

TIME IN SCHOOL (TIS < 1): A student coded as TIS < 1 has been enrolled in his or her home school less than one academic year (i.e., the student first enrolled in the school on or after July 1, 2014).

VALID SCALE SCORES: Valid scale scores appear on aggregate reports and indicate scores attained in any tested content area by participating students whose test booklets (grade 4) or answer folders (grade 8) were not coded “void.”

VOID: One or more content areas can be voided for any of the following reasons:

- 1 = A student became ill during testing.
- 2 = A student refused to test or engaged in behavior inappropriate for testing.
- 3 = A student was tested out of grade level, took the test section twice during this administration, was not a New Jersey public school student, or there was some other testing irregularity.
- 4 = A student responded to at least one but fewer than 20% of the items.
- 5 = A breach of test security occurred, or improper procedures were followed.
- 6 = A student did not complete a test (content area) because he or she withdrew from the district or moved during the administration of the test. (Only the content area that was not completed is voided.)

On the Performance by Demographic Group report, these students are grouped together in the “Voids” column, along with students with a medical emergency.

APPENDIX B: NJ ASK Science Scoring Rubric

Science

The zero-to-three point generic scoring rubric below was created to help readers score open-ended responses consistently. In scoring, the reader should accept the use of appropriate diagrams, charts, formulas, and/or symbols that are part of a correct answer even when the question does not specifically request their use.

3-point response: Student response is reasonably complete, clear and satisfactory.

2-point response: Student response has minor omissions and/or some incorrect or non-relevant information.

1-point response: Student response includes some correct information, but most information included in the response is either incorrect or not relevant.

0-point response: Student attempts the task but the response is incorrect, irrelevant, or inappropriate.

APPENDIX C: District Factor Groups (DFGs)

The District Factor Group (DFG) is an indicator of the socioeconomic status of citizens in each district and has been useful for the comparative reporting of test results from New Jersey's statewide testing programs. The measure was first developed in 1974 using demographic variables from the 1970 United States Census. A revision was made in 1984 to take into account new data from the 1980 United States Census. The DFG designations were updated again in 1992 after the 1990 census. The current DFG designations are based upon the 2000 census, using the following demographic variables.

A. Percentage of adult residents who failed to complete high school

B. Percentage of adult residents who attended college

C. Occupational status of adult household members:

1 = laborers

2 = service workers (except private and protective)

3 = farm workers

4 = operatives and kindred workers

5 = protective service workers

6 = sales workers

7 = clerical and kindred workers

8 = craftsmen, foremen, and kindred workers

9 = quasi-professionals

10 = managers, officials, and proprietors

11 = old and new professionals

D. Population Density:

Persons per square mile

E. Income:

Median family income

F. Unemployment:

Percentage of those in the work force who received some unemployment compensation

G. Poverty:

Percentage of residents below the poverty level

Additional DFGs are defined for special groups whose socioeconomic make-up does not reflect their geographic location:

O. Private schools for the handicapped, Department of Corrections, Department of Children and Families, Department of Human Services, Juvenile Justice Commission (Department of Law and Public Safety), or special education schools operated by state colleges and universities

R. Charter schools

S. Special services district, educational services commission, or state-run school for the handicapped (Marie H. Katzenbach School for the Deaf)

V. Vocational school district

N. School district in which a majority of the students attend private schools

The variables described above were combined using a statistical technique called principal components analysis, which resulted in a single measure of socioeconomic status for each district. Districts were then ranked according to their score on this measure and divided into eight groups based on the score interval in which their scores were located. Eight DFGs have been created based on the 2000 United States Census data. They range from A (lowest socioeconomic districts) to J (highest socioeconomic districts) and are labeled as follows: A, B, CD, DE, FG, GH, I, J. Updating the DFGs has not changed any district's designation as Special Needs or not Special Needs.

Whereas the DFGs based on the 1980 United States Census resulted in 10 groups containing approximately equal numbers of districts, the DFGs based on the 2000 United States Census resulted in eight groups of different sizes depending on their score. The number of districts administering the New Jersey state assessments in each DFG is now as follows:

<u>DFG Number of Districts*</u>	
A	– 40
B	– 66
CD	– 66
DE	– 83
FG	– 89
GH	– 76
I	– 103
J	– 25

Additionally, state assessments are now administered to students enrolled in 78 charter schools, as well as to students in facilities operated by the Department of Law and Public Safety and in facilities serving students with special needs operated by the Department of Education, state institutions of higher education or contracted private organizations.

* Includes all New Jersey public school districts administering the NJ ASK, regardless of school configuration or grade levels served.

APPENDIX D: Performance Level Descriptors

Science

Grade 4

Proficient

A fourth grade student performing at the proficient level demonstrates grade level comprehension of written material (i.e., text, charts, graphs, tables). The proficient student applies the knowledge gained from scientific investigations in developing adept habits of mind. The student often chooses and uses the appropriate tools to make observations and to gather, classify, and present data. The student will use both essential and non-essential information to recognize patterns and relationships between data and designed systems. The student will occasionally use information to make real world connections to classroom activities.

Advanced Proficient

In addition to consistently demonstrating the skills outlined for the proficient student, the advanced proficient student demonstrates a clear and concise communication of ideas using specific scientific terms. The advanced proficient student uses prior scientific knowledge to make judgments and draw conclusions. The student will classify according to a variety of criteria and differentiate between essential and non-essential information. The student will apply the scientific method to analyze information; predict outcomes and trends; and generate numerous solutions to scientific problems. The student will be able to analyze information to make inferences from data collected and analyze systemic relationships.

Science

Grade 8

ASK 8 and Grade Eight Proficiency Assessment (GEPA) (Proficient and Advanced Proficient)

Proficient

The Proficient student can recognize the structural levels of living things. This student knows that some traits of organisms are beneficial and some detrimental. This student can interpret visual and textual data to understand the relationship within a food web and the interdependence of living and nonliving systems.

The proficient student can recognize the effect force has on an object, trace the flow of energy through a system, and use the properties of matter to identify and separate materials. This student can understand different types of energy and use information from data charts to interpret relationships and predict outcomes.

The proficient student can recognize the existence of a relationship between the moon and tides, recognize the different characteristics of the planets in the solar system, and understand the natural forces that change the surface of the Earth, including chemical and physical weathering.

Advanced Proficient

The advanced proficient student can support scientific conclusions with valid contextual and visual data and make predictions based on the interactions of living things. This student is able to use interpretive skills to analyze visual and textual data in order to solve problems dealing with the application of force and energy. The advanced proficient student understands the difference between types of energy waves and can recognize and apply experimental principles and empirical data. The advanced proficient student can recognize the nature of the tides' relationship to Earth, Sun, and Moon; interpret topographical maps; and identify the steps in the process of weathering and erosion.

FOR ASSISTANCE

- If you have questions related to school accountability under Federal ESEA requirements, please contact the *Office of Title 1* at (609) 943-4283. by email at titleone@doe.state.nj.us or on the web at <http://www.state.nj.us/education/title1/>
- If you are a county/district test coordinator, chief school administrator or executive county superintendent and have questions regarding report schedules or distribution, please contact customer service for NJ ASK at Measurement Incorporated (MI) at (866) 783-2280.
- If you have questions regarding the administration of the NJ ASK for grade 4 please contact Mr. Orlando Vadel, NJ ASK 3–5 Program Coordinator, at (609) 341-3456.
- If you have questions regarding the administration of the NJ ASK for grade 8 please contact Dr. Timothy Steele-Dadzie, NJ ASK 6–8 Program Coordinator, at (609) 777-2087.
- If you have questions about score interpretation for NJ ASK, please call Dr. Don White, measurement specialist, New Jersey Department of Education, at (609) 777-2051.

The following Web sites provide additional information relevant to the NJ ASK:

New Jersey Department of Education.....	www.state.nj.us/education/
Office of Assessments.....	www.state.nj.us/education/assessment/
Office of Academic and Professional Standards	www.nj.gov/education/aps
New Jersey Core Curriculum Content Standards	www.state.nj.us/education/cccs/
Common Core State Standards	www.corestandards.org/
New Jersey Regional Achievement Centers.....	www.state.nj.us/education/rac/meet/
National Assessment of Education Progress (NAEP) Frameworks	www.nagb.org/
Measurement Incorporated (NJ ASK 3–8 contractor)	www.measinc.com/njask

