Interpretive Guide to the Score Reports for the North Carolina End-of-Grade Assessments

2018–19

North Carolina Department of Public Instruction

Public Schools of North Carolina
Department of Public Instruction | State Board of Education
Division of Accountability Services/North Carolina Testing Program

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Introduction

WinScan is a software application provided by the North Carolina Department of Public Instruction (NCDPI). This software permits administrators at the district level to produce a variety of score reports on demand, including Individual Student Reports (ISRs), Achievement Level Frequency Reports, Class Roster Reports, Score Frequency Reports, and Goal Summary Reports. The *Interpretive Guide to the Score Reports for the North Carolina End-of-Grade Assessments* is intended to help educators understand these reports and to inform decision making at the student, classroom, school, and district levels. This guide will also help administrators and educators explain assessment results to parents and the general public.

The ISR is designed for parents and teachers; whereas, the WinScan score report interpretive guides are designed for teachers and administrators at the school, district, and state levels. Together, these documents provide guidance in interpreting the many reports that are generated by the WinScan software application.

How to Use This Guide

This guide has been designed to give users quick access to the information needed when interpreting a specific WinScan report. The table of contents and the table of figures can be used to identify a sample report for any type of WinScan report. Users can learn about all of the key features of the sample report by simply matching label numbers in the sample reports to the label numbers in the *Index of Terms by Label Number*.

The WinScan Reports

Each WinScan report has a standard template. Except for the ISRs, the standard templates can be modified through user-defined options. When the standard report templates are combined with different options, assessments, and data filters, over three hundred (300) unique reports can be produced. This guide focuses on the most commonly used reports for EOG assessments. Table 1 shows a list of the reports described in subsequent pages and the audiences for which these reports are intended. The ISRs are designed for students, teachers, students' parents, and school administrators. Class Rosters are designed for teachers and school administrators. Score Frequency Reports, Achievement Level Frequency Reports, and Goal Summary Reports are designed for teachers, school administrators, district administrators, and state administrators.

Table 1. *WinScan Reports and Intended Audience*

Report	Parent	Teacher	Audience Administrators School	Administrators District	State
Individual Student Report	☒	☒	☒		
Class Roster Reports		☒	☒		
Score and Achievement Level Frequency		☒	☒	☒	☒
Goal Summary Reports		☒	☒	☒	☒

The WinScan reporting system can aggregate data at various levels, including class, school, district, and state levels. Table 2 presents the reporting levels of each group-level WinScan report.

Table 2. *Reporting Levels for Group-Level WinScan Reports*

Report	Class	Reporting Level School	District	State
Class Roster Reports	☒	☒		
Score and Achievement Level Frequency Reports	☒	☒	☒	☒
Goal Summary Reports	☒	☒	☒	☒

The WinScan reporting system can also summarize scores across various subgroups including gender (male and female) and ethnicity (American Indian, Asian, Black, Hispanic, Two or More Races, and White). Table 3 presents the standard reporting groups available for each group-level WinScan report. When multiple subgroups are selected, reports are produced for every combination of the chosen subgroups.

Table 3. *Standard Reporting Groups for Group-Level WinScan Reports*

Report	All	Groups Gender	Ethnicity	Gender & Ethnicity
Class Roster Reports	☒	☒	☒	☒
Score and Achievement Level Frequency	☒	☒	☒	☒
Goal Summary Reports	☒	☒	☒	☒

Note: Ethnicity includes the following: American Indian, Asian, Black, Hispanic, Two or More Races, and White.

As can be seen from Tables 2 and 3, users have many options when producing WinScan reports, including many subject areas, four possible reporting levels, and four grouping variables to choose from, resulting in over three hundred unique reports.

North Carolina End-of-Grade Assessments

During the final ten (10) days of a yearlong course, students take the state-required NC EOG assessments of English language arts/reading (ELA/reading), mathematics, and science. The ELA/reading and mathematics assessments are administered to students in grades 3–8 and science assessments are administered to students at grades 5 and 8 as part of the statewide testing program. These curriculum-based achievement tests are specifically aligned to the North Carolina *Standard Course of Study* and include a variety of strategies to measure the achievement of North Carolina students.

Depending on the specific subject assessed, student scores from the EOG assessments are used for computing school and teacher growth as well as proficiency rates, as required by the state accountability system, and for determining long-term goals and measures of interim progress designed to improve educational outcomes for all students and close achievement gaps, as required under the North Carolina Every Student Succeeds Act State Plan.

Individual Student Reports

For students at grades 3–8, The ISR for the EOG provides information concerning performance on the EOG for ELA/reading and mathematics. For students at grades 5 and 8, ISRs are also produced for the EOG science assessments. A sample ISR is provided in Figure 1. Key features are labeled and explained in the *Index of Terms by Label Number*.
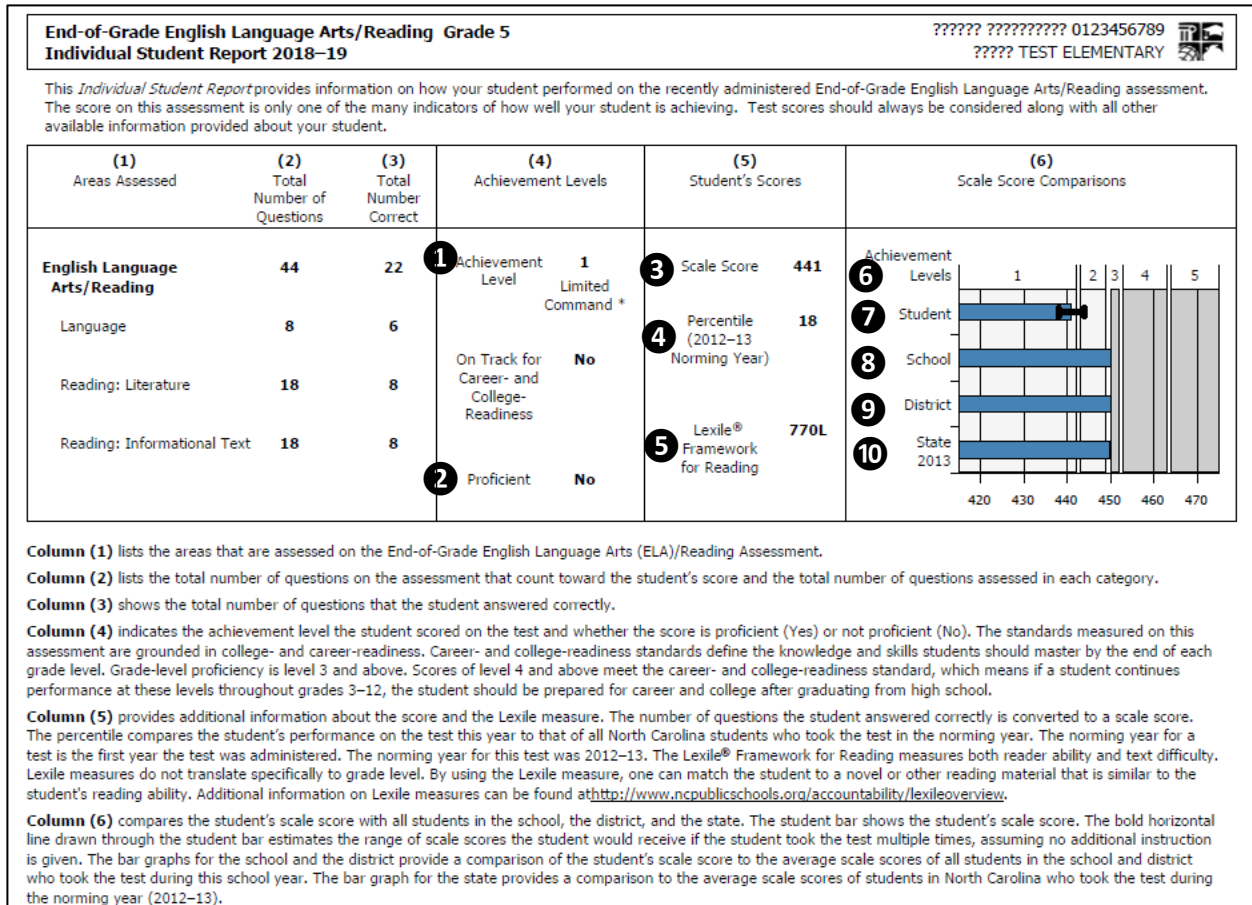

Figure 1. Sample ISR for the End-of-Grade Assessment

Class Roster Reports

The Class Roster Reports take on many different combinations. A class roster report contains the course-specific student scores for each content area independently or course-specific student scores for combinations of content areas. Figure 2 presents a sample Grade 5 ELA/Reading Class Roster Report. This report is produced at the class level and the school level. A Class Roster Report's features and layout do not differ across levels. WinScan produces two types of class rosters for EOG assessments. The *Index of Terms by Label Number* can be used to learn more about each labeled feature of these reports.

PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-GRADE TESTS 2018-2019
Grade 5 ELA/Reading Class Roster

⑪ LEASchCode = ??????????   ⑭ HdrSchoolName = ?????????????
⑫ InstrNameRd = ??????????   ⑮ ClassPeriodRd = ?????????????
⑬ TestDates = Other Spring Administrations 2019

	Student Name	③ Scale Score	⑯ Number Items Attempted	Reading Scores [1] ⑰ 2013 Percentile Rank [2]	① Achievement Level	⑤ Lexile [3]
1	?????? ??????	Absent	0			
2	??????? ?????????	473	52	99	5	1400L
3	???????? ????????????	419 #	0	1	1	255L
4	???????????? ?????????????????	457	52	76	4	1145L
5	??????? ?????????????	441	52	18	1	770L
6	???????? ?????????????	436	52	8	1	655L
7	???????????? ????????????????	Med Except	0			
8	?????????? ????????????	NCEXTEND1	0			
9	???????????? ?????????????????	464	52	94	5	1310L
10	????? ?????????????????	461	52	88	4	1240L
11	???????????? ?????????????????	Invalid Accom	52			
12	?????????? ????	472	52	99	5	1400L
13	?????????? ???	472	52	99	5	1400L
14	??????? ??????????	Read Aloud	52			
15	??????? ????????????	452	52	56	3	1030L
16	?????????? ???????????	Signed/Cued	52			
17	????????? ?????????????	444	52	27	2	840L
18	????????? ?????????????	449	52	44	2	960L
19	?????????? ?????????????	432	52	3	1	560L
20	?????????? ????????????	Transfer	0			
21	?????? ?????????????	428	52	1	1	465L
⑱	Class Mean	450.0				

[1] There are 52 items on the reading test.
[2] The percentile ranks were established from 2013 statewide test data.
[3] For more information on the Lexile Measures, visit http://www.ncpublicschools.org/accountability/lexilequantileinfo
Student assigned lowest possible score because no responses coded

Figure 2. Sample Class Roster Report

Scale Score Frequency Reports

Frequency tables are used to summarize large quantities of scores. The Frequency Reports available in WinScan are used to summarize score information at the class, school, district, and state levels. The WinScan Score Frequency Report presents the frequency, percent, cumulative frequency, and cumulative percent of each scale score at a specific grade. These reports can be created for each EOG. Figure 3 presents a sample Score Frequency Report for a Grade 5 ELA/Reading EOG Assessment. The *Index of Terms by Label Number* can be used to learn more about each labeled feature of this report.

PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-GRADE TESTS 2018-2019
Grade 5 ELA/Reading Scale Score Frequency Report

(11) LEASchCode = ?????????? (14) HdrSchoolName = ?????????????
(12) InstrNameRd = ??????????? (15) ClassPeriodRd = ?????????????
(13) TestDates = Other Spring Administrations 2019

F1

Summary Statistics

| Number of Students with Valid Scores | 14 | | High Score | 473 |
| | | | Low Score | 419 |

(19) Scale Score Mean — 450.00

(17) Local Percentiles / (3) Scale Scores

Local Percentiles	Scale Scores
90	472.0
75	464.0
50 (Median)	450.5
25	436.0
10	428.0

(20) Standard Deviation — 17.43

(21) Mode — 472

F2

(3) Scale Score	(22) Frequency	(23) Cumulative Frequency	(24) Percent	(25) Cumulative Percentile	(1) Achievement Level	(17) 2013 State Percentile Rank	(5) Reported Lexile
473	1	14	7.14	100.00	5	99	1400L
472	2	13	14.29	92.86	5	99	1400L
464	1	11	7.14	78.57	5	94	1310L
461	1	10	7.14	71.43	4	88	1240L
457	1	9	7.14	64.29	4	76	1145L
452	1	8	7.14	57.14	3	56	1030L
449	1	7	7.14	50.00	2	44	960L
444	1	6	7.14	42.86	2	27	840L
441	1	5	7.14	35.71	1	18	770L
436	1	4	7.14	28.57	1	8	655L
432	1	3	7.14	21.43	1	3	560L
428	1	2	7.14	14.29	1	1	465L
419	1	1	7.14	7.14	1	1	255L
Missing	7						

F3

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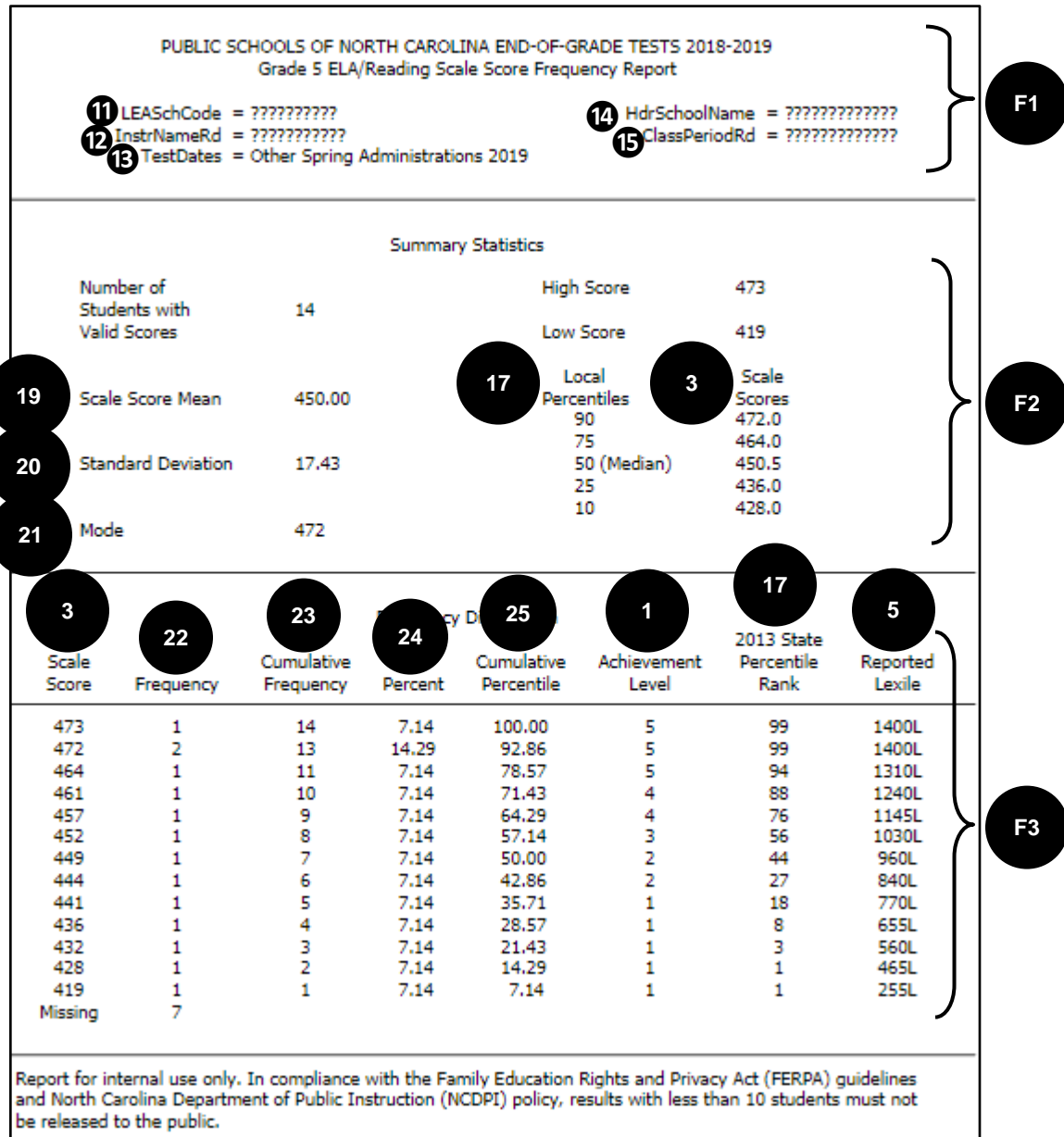
Figure 3. Sample Scale Score Frequency Report

The Score Frequency Report consists of three sections: the header (F1), a summary table of statistics (F2), and a score frequency table (F3).

The first line of the sample Score Frequency Report in the Header of Figure 3 (Section Label F1) describes the type of assessment (EOG) and the school year (2018–19). The second line of the header displays the specific grade, the subject area, and the type of report. The LEASchCode (Label 11) indicates the Local Educational Agency school code, the InstrName (Label 12) indicates the instructor's name, TestDates (Label 13) indicates the time of year in which the exam was administered, the HdrSchoolName (Label 14) indicates the school name, and the ClassPeriod (Label 15) indicates the class period.

Figure 3 includes the summary table (section label F2) of a sample Score Frequency Report for the Grade 5 ELA/Reading EOG assessment. The top row of the summary table indicates that 14 students in this report had valid scores. The highest score was 473 and the lowest score was 419. The arithmetic mean score was 450.00 (Label 19), the standard deviation was 17.43 (Label 20), and the mode was 472 (Label 21). The percentile scores are listed at the far right of the table (Label 17). The scale scores are listed for the 10th, 25th, 50th, 75th, and 90th percentiles (Label 3). In this sample, a scale score of 464.0 corresponds to a percentile of 75. This means that 75 percent of the 14 students earned a score of 464.0 or less.

The frequency table of the Score Frequency Report for the Grade 5 ELA/Reading assessment is presented in Figure 3 (section label F3). The Scale Score column (Label 3) presents every score earned by the 14 students. The Frequency column (Label 22) presents the number of students that earned each scale score. For example, one examinee earned a scale score of 464. A "Missing" label would indicate that an examinee did not receive a score. The Cumulative Frequency column (Label 23) presents the total number of students that earned up to and including a given scale score. This column shows 11 students earned up to and including a scale score of 464. The Percent column (Label 24) presents the percent of students that earned a given scale score (number of students that earned the score divided by total number of observations). This column shows that 7.14 percent of the students earned a score of 464. The Cumulative Percent column (Label 25) displays the percent of students that earned up to and including a given scale score. This column shows 78.57 percent of the students earned up to and including a scale score of 464. The Achievement Level column (Label 4) displays the achievement level associated with each scale score. In this example, a scale score of 464 corresponds to an achievement level of 5.

Achievement Level Frequency Reports

Figure 4 displays a sample Achievement Level Frequency Report for an EOG ELA/Reading Assessment. The first line of the header indicates that the report is for the 2018–19 school year. The second line indicates the subject area and report type.

In this sample, ELA/Reading Achievement Levels column (Label 1) presents every achievement level earned by the students. Students who do not have an achievement level are classified as 'blank.' The Frequency column (Label 22) presents the number of students that earned each achievement level. The total count of students excludes blank scores. The sample shows 2 examinees earned an achievement level of 2. The Percent of Total column (Label 24) presents the percent of students that earned a given score (number of students that earned the score divided by the total number of observations). This column shows that 14.29 percent of students earned an achievement level of 2. The Cumulative Frequency column (Label 23) presents the total number of students that earned up to and include a score in a given row. This column shows 7 students earned up to and including an achievement level of 2. The Cumulative Percent column (Label 25) displays the percent of students that earned up to and including a score in a given row. In the sample shown, 50.00 percent of the students earned up to and including an achievement level of 2. The summary statistics just below the frequency table show 6 of the 14 students were classified as level 4 or 5. This indicates that 42.86 of students met college- and career-readiness standards and 50.00 percent met on-grade-level standards.

PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-GRADE 2018-2019
Achievement Level ELA/Reading Grade 5 Frequency Report

LEASchCode = ??????????   HdrSchoolName = ?????????????
InstrNameRd = ???????????   ClassD⬤Rd = ???⬤??????
TestDates = Other Spring Administratio⬤ ⬤19

(1) **(22)** **(24)** **(23)** **(25)**

ELA/Reading Achievement Levels	Frequency	Percent of Total	Cumulative Frequency	Cumulative Percent
Blank *	7			
1	5	35.71	5	35.71
2	2	14.29	7	50.00
3	1	7.14	8	57.14
4	2	14.29	10	71.43
5	4	28.57	14	100.00
Total	14			

(26)   **(27)**

Met Career- and College-Readiness Standards   Met Grade-Level Standards

Number at Levels 4, 5	6		Number at Levels 3, 4, 5	7
Percent at Levels 4, 5	42.86		Percent at Levels 3, 4, 5	50.00

* 'Blank' are students that did not have an achievement level because they were marked absent,
  a transfer student or used an invalid accommodation.
  The frequency of the 'Blank' category is not included in any calculations.

Report for internal use only. In compliance with the Family Education Rights and Privacy Act (FERPA)
guidelines and North Carolina Department of Public Instruction (NCDPI) policy, results with less than
10 students must not be released to the public.

Figure 4. Sample Achievement Level Frequency Report

Goal Summary Reports

The Goal Summary Report is a grade-specific report that summarizes student performance for each learning goal or essential standard. The Goal Summary Report groups students at the school, district, or state level. Typically, the report reflects scores at the goal level. In EOG mathematics, subscale scores are reported with regard to items designated for calculator active sections versus calculator inactive sections on the goal summary report. In EOG reading, the report contains goal-level score reporting as well as subscale scores reflecting items related to literature versus items related to informational text.

Figure 5 displays a sample Goal Summary Report. Key features are labeled and explained in the *Index of Terms by Label Number*. The standard protocol for reporting subscale scores requires that any goal with fewer than five (5) items does not produce a level of reliability sufficient for score reporting. The Goal Summary Report provides valid data about curriculum implementation only when 1) all forms are administered within the same classroom, school, or LEA, 2) there are at least five (5) students per form, and 3) approximately equal numbers of students have taken each form. It is best to compare a group's weighted mean percent correct with the state weighted mean to determine how far above or below the state weighted mean the group has performed. This comparison is most appropriate because forms are comparable at a total assessment level but not at the goal level.

PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-GRADE TESTS 2018-2019
Science Grade 8 Goal Subscore Summary Report

LEASchCode = ??????????
InstrName = ?????????
TestDates = Year-round schoo

HdrSchoolName = ??????????????
Cla   = ????
(19) (28) (29) (30) (31)

	Scale Score Mean	Number of Valid Scores [1]	Pct of Science Items	Mean Pct Correct	Diff from 2018 State Mean Pct Correct [2]
Science	255.6	14	100.0		
State 2018 [3]	252.3	108124			
State 2017	252.0	115887			
State 2016	251.5	115441			
State 2015	250.9	117183			
State 2014	250.8	112560			
State 2013	250.2	109375			
Physical Science			24-28 %	68.4	9.0
Matter: Properties and Change			14-16 %	66.3	10.6
Energy: Conservation and Transfer			10-12 %	71.4	6.3
Earth Science			24-28 %	68.6	7.0
Earth Systems, Structures, and Processes			13-15 %	69.6	7.3
Earth History			11-13 %	67.3	6.6
Life Science			47-57 %	63.8	-0.7
Structure and Function of Living Organisms			19-23 %	65.6	-0.1
Ecosystems			9-11 %	63.1	-1.9
Evolution and Genetics			11-13 %	57.1	-9.4
Molecular Biology			8-10 %	69.3	12.2

[1] Report for internal use only. In compliance with the Family Education Rights and Privacy Act (FERPA) guidelines and North Carolina Department of Public Instruction (NCDPI) policy, results with less than 10 students must not be released to the public.

[2] The test forms used year to year may be different. Tests are equivalent at the total score level, not at the subscore level.

[3] The goal subscore summary report provides valid data about curriculum implementation when all multiple forms are administered within the same classroom/school/LEA, there are at least five students per form, and approximately equal numbers of students have taken each form. It is best to compare a group's mean percent correct with the state mean to determine how far above or below the state mean the group has performed.

The Grade 8 Essential Standards for Science can be found at:
http://www.ncpublicschools.org/docs/acre/standards/new-standards/science/6-8.pdf

Figure 5. Sample Goal Summary Report

Index of Terms by Label Number

1	**Achievement Level / Ach. Level**—Achievement level shows the level at which a student performed on the assessment. Achievement levels are predetermined performance standards that allow a student's performance to be compared to grade-level expectations. Five achievement levels (i.e., Levels 1, 2, 3, 4, and 5) are reported. Achievement levels of 3, 4, and 5 indicate grade-level proficiency. Achievement levels of 4 and 5 indicate college and career readiness. The achievement level descriptors can be viewed at http://www.ncpublicschools.org/accountability/testing/shared/achievelevel/.
2	**Proficient**—Indicates whether the student meets Grade Level Proficiency Standards with a "Yes" or "No."
3	**Scale Score / Developmental Scale Score**—The number of assessment questions the student answers correctly is called a raw score. The raw score is converted to a developmental scale score. The Scale Score depicts growth in achievement from year to year. Elsewhere in the Individual Student Report, the student's scale score is represented by a black diamond. Surrounding the student's diamond is a confidence band, indicated by a bar. The confidence band indicates the range of scores that would likely result if the same student completed similar forms of the same assessment many times.
4	**Percentile**—The percentile rank compares a student's performance on the assessment this year to that of all North Carolina students who took the assessment in the norming year. The norming year for an assessment is generally the first year the assessment was administered. The percentile shows a student performed at a level equal to or better than the stated percentage of students who took the assessment during the norming year. For example, if a student scores as well as or better than 87 percent of the students who took the assessment in the norming year, the student is at the 87th percentile.
5	**Reported Lexile Score**—The EOG and EOC Reading tests are linked to the **Lexile Framework® for Reading**. **Lexile Score:** The Lexile Framework® measures both reader ability and text difficulty on the same scale, the Lexile scale. Lexile scores are reported from a low of BR (Beginning Reader) to a high of 2000L. Lexile scores do not translate specifically to grade levels. Using a student's Lexile score one can match a student to books or other reading material that are similar to his or her reading ability. The lower a book's Lexile measure, the easier it will be to comprehend. For example, a text with a Lexile measure of 850L will most likely be easier for a reader to comprehend than a text at 950L. The Lexile score also allows one to track a student's progress over time.

	Additional information on Lexiles can be found at http://www.lexile.com.
6	**Achievement Levels**—The 5 achievement levels (described under Label 1) are listed across the top of the graph
7	**Student**—The blue bar represents the student's scale score. Surrounding the student's scale score is a confidence interval, indicated by a black line. The confidence interval indicates the range of scores that would likely result if the same student completed similar assessments many times.
8	**School**—The average school score is represented by this blue bar. The average scale score for the school is based on the fall or spring assessment administration for the given school year of the report.
9	**District**—The average district score is represented by this blue line. The average scale score for the district is based on the fall or spring assessment administration for the given school year of the report.
10	**State**—The average state score for 2013 is represented by this blue bar. The state average is based on the scores of all North Carolina students who took the assessment in the norming year (2012–2013).
11	**LEASchCode** refers to the Local Education Agency (LEA) school code.
12	**InstrName** refers to the instructor's name.
13	**TestDates** refers to the time of year in which the exam was administered.
14	**HdrSchoolName** refers to the school name.
15	**ClassPeriod** refers to the class period.
16	**Number Attempted** refers to the number of questions answered by the student.
17	**2013 State or Local Pctl (Percentile)** refers to either the ELA/reading and mathematics percentiles that were established from 2013 statewide or the LEA-wide assessment data.
18	**Class Mean**—The class mean is the average of the class scores. The mean is the sum of all scores in the roster divided by the number of scores in the roster.

19	**Scale Score Mean**—The group mean is the average of a group of scores. The mean is the sum of all scores in the roster divided by the number of scores in the roster.
20	**Standard Deviation**—The standard deviation indicates the degree of variation of scores among a group of students. The larger the standard deviation, the greater the variation there is in scores. The standard deviation is the square root of the variance of the scores.
21	**Mode**—the group mode is the most common score or scores of the group.
22	**Frequency**—The Frequency column presents the number of students that earned each score.
23	**Cumulative Frequency**—The value in the cumulative frequency column in a frequency table is the total number of students that earned all scores up to and including the score in the same row.
24	**Percent**—The Percent of Total column presents the percent of students that earned a given score (number of students that earned the score divided by the total number of observations).
25	**Cumulative Percent**—The value in the Cumulative Percent column in frequency tables is the percent of students that earned all scores/achievement level up to and including the score/achievement level in the same row.
26	**Met Career- and College-Readiness Standards** – The number of students who have met the College- and Career-Readiness Standards (Levels 4 and 5).
27	**Met On-Grade-Level Standards** – The number of students who have met On-Grade-Level Standards (levels 3, 4 and 5).
28	**Number of Valid Scores** refers to the number of valid scores and is used as the denominator in calculating the mean.
29	**Percent of the Read/Math/Science Items per Form** – The percent of the items per form is the percent of items that align with each content goal.
30	**Weighted Mean Percent Correct** –A weighted mean is used to calculate the mean scores from different forms. If the count of students differs across forms, a weighted mean adjusts for the different counts across the forms. For instance, if twice as many students took one form as compared to another, this form would receive twice the weight in calculating the mean. Usually about the same numbers of students take each form, so in practice, the weighted mean is very similar to an unweighted mean.

31	**Difference 2013 State Mean Percent Correct** – This difference displays performance relative to the 2013 state mean percent correct. Negative values indicate a score performance below the state mean percent correct, while positive values indicate performance above the state mean.