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

2019–20

North Carolina Department of Public Instruction

Public Schools of North Carolina
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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 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-Course 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 (Individual Student Report) is designed for parents and teachers; whereas, the 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 for End-of-Course (EOC) assessments.

How to Use This Guide

This guide has been designed to give users quick access to the information needed when interpreting a specific report. The table of contents and the table of figures can be used to identify a sample report for any type of 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 EOC Reports

Each 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 EOC 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. *Reports and Intended Audience*

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

The 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 report.

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

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

The 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 report. When multiple subgroups are selected, reports are produced for every combination of the chosen subgroups.

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

Report	Groups			
	All	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 reports, including many subject areas, four possible reporting levels, and four grouping variables to choose from, resulting in over 300 potential individual reports.

North Carolina End-of-Course Assessments

During the final five (5) of a semester course or ten (10) days of a yearlong course, students take a state-required NC EOC assessment for the identified classes in which students were enrolled. EOC assessments are administered to students enrolled in Biology, NC Math 1, NC Math 3, and English II, 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 EOC 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

The ISR for the EOC provides information concerning performance on the EOC for the identified class. A sample ISR report for the EOC Assessments is provided in Figure 1. Key features are labeled and explained in the *Index of Terms by Label Number*.

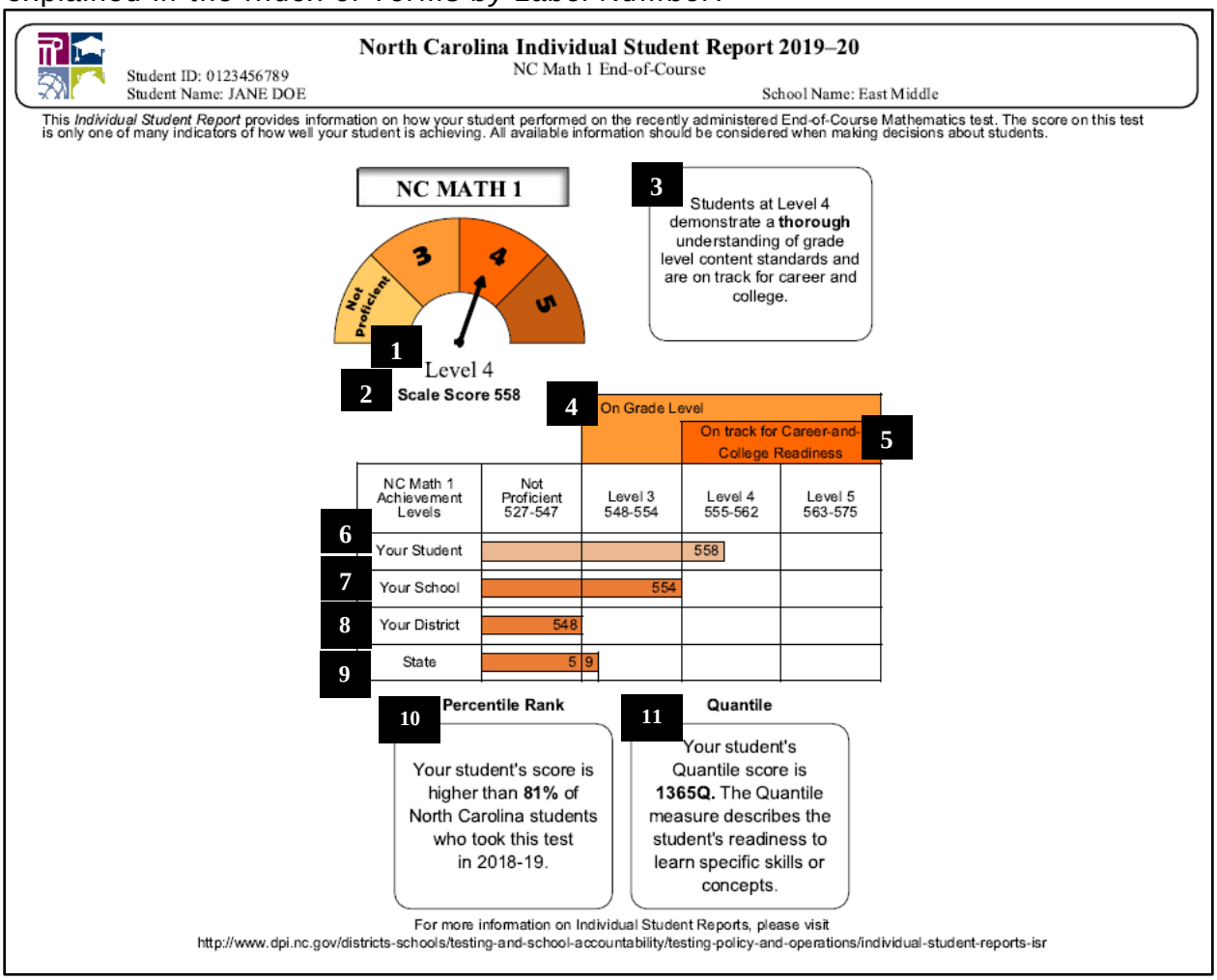


Figure 1. Sample Individual Student Report for NC EOC Assessments

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 of the most common NC EOC 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. Class rosters with grades can use one of six different grade calculation methods. 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-COURSE TESTS 2019-2020
Biology Class Roster

12 LEASchCode = ??????????
13 InstrName = ?????????
14 TestDates = Fall Semester 4 X 4

15 HdrSchoolName = ?????????????
16 ClassPeriod = ??????????

	Student Name	Grade Level	Biology Scores [1] Scale Score (2)	Number Attempted (17)	Percentile Rank [2] (18)	Achievement Level (1)
1	?????????? ??????	10	Absent	0		
2	??????? ????????????	09	219 [a]	0	1	1
3	???????? ?????????????	10	259	65	81	4
4	?????????? ?????????????	10	245	65	29	2
5	?????????? ?????????????	11	241	65	18	1
6	???????? ????????	10	275	65	99	5
7	?????????? ????????	09	275	65	99	5
8	???????????? ????????????????	10	Med Except	0		
9	??????? ??????????	10	NCEXTEND1	0		
10	???????????? ????????????????	10	267	65	96	5
11	???????????? ?????????????	10	262	65	88	5
12	???????????? ????????????	11	Not complete §	0		
13	?????????? ?????????????	10	Repeating [3]	0		
14	???????????? ????????????????	09	Invalid Accom #	65		
15	???????? ????????????	10	256	65	71	4
16	?????????? ?????????????	10	249	65	44	2
17	?????? ?????????????	10	253	65	60	4
18	??????? ????????????	10	230	65	2	1
19	??????? ?????????????	10	Transfer	0		
20	?????????? ?????????????	10	229	65	1	1
19	Class Mean		250.8			

Test specification information is available at http://www.ncpublicschools.org/accountability/testing/technicalnotes
[1] There are 65 items on the test.
[2] These state percentile ranks were established from 2012-13 statewide test data.
[3] Student is repeating this course for credit or taking the course for credit-recovery
[a] Student assigned lowest possible score because no responses coded
§ Online student assessment currently not complete (multiple-sessions, test reset)
# The student used an invalid accommodation which invalidates the score.

Figure 2. Sample Class Roster Report for NC EOC Assessments

Scale Score Frequency Reports

Frequency tables are used to summarize large quantities of scores. The Frequency Reports are used to summarize score information at the class, school, district, and state levels. The Score Frequency Report presents the frequency, percent, cumulative frequency, and cumulative percent of each score for a specific course. These reports can be created for each NC EOC. Figure 3 presents a sample Score Frequency Report for an NC EOC Biology Assessment. The *Index of Terms by Label Number* can be used to learn more about each labeled feature of this report.

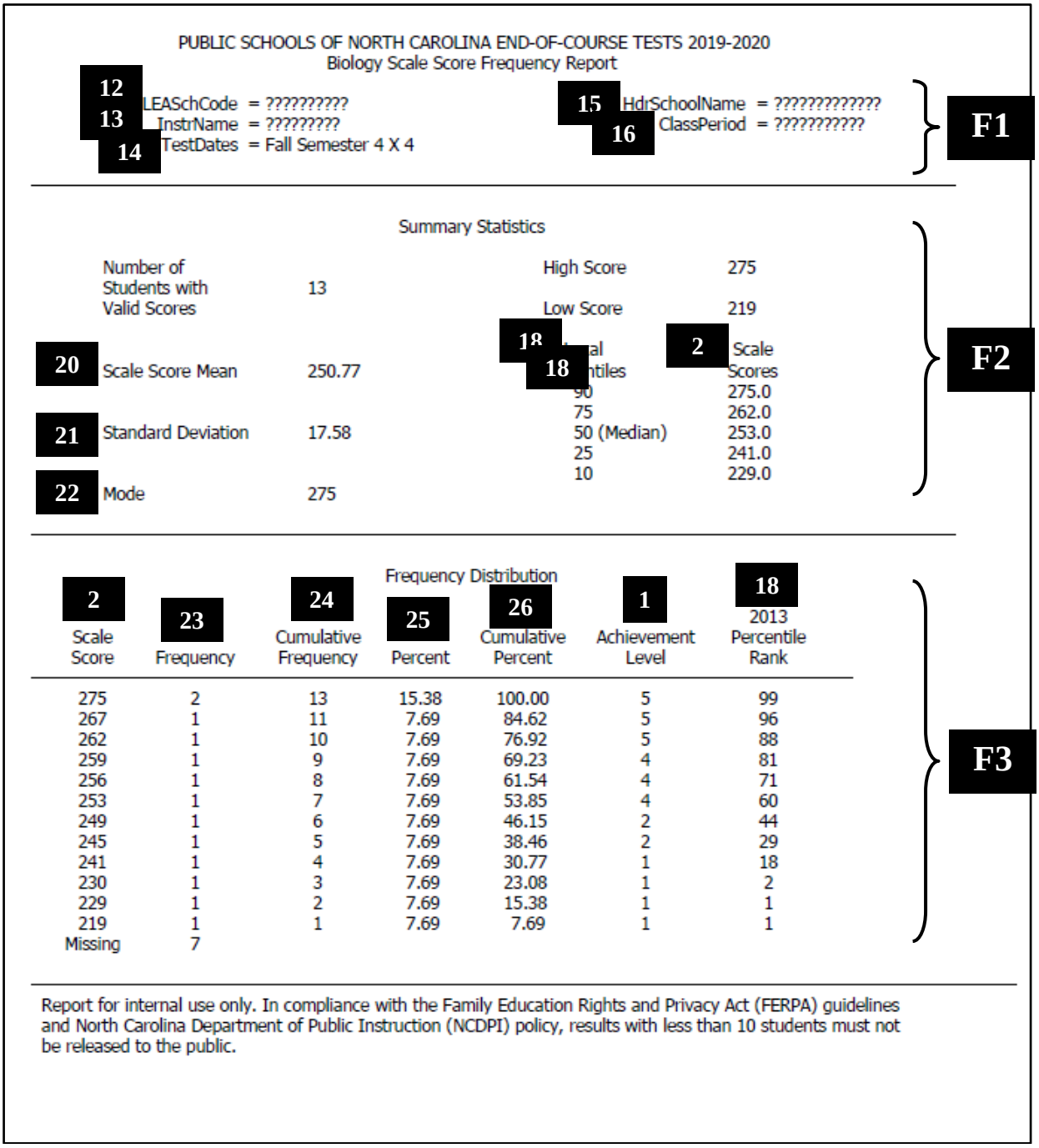


Figure 3. Sample Scale Score Frequency Report for NC EOC Assessments

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 (EOC) and the school year (2019–20). The second line of the header displays the subject area and the type of report. The LEASchCode (Label 12) indicates the Local Educational Agency school code, the InstrName (Label 13) indicates the instructor's name, TestDates (Label 14) indicates the time of year in which the exam was administered, the HdrSchoolName (Label 15) indicates the school name, and the ClassPeriod (Label 16) indicates the class period.

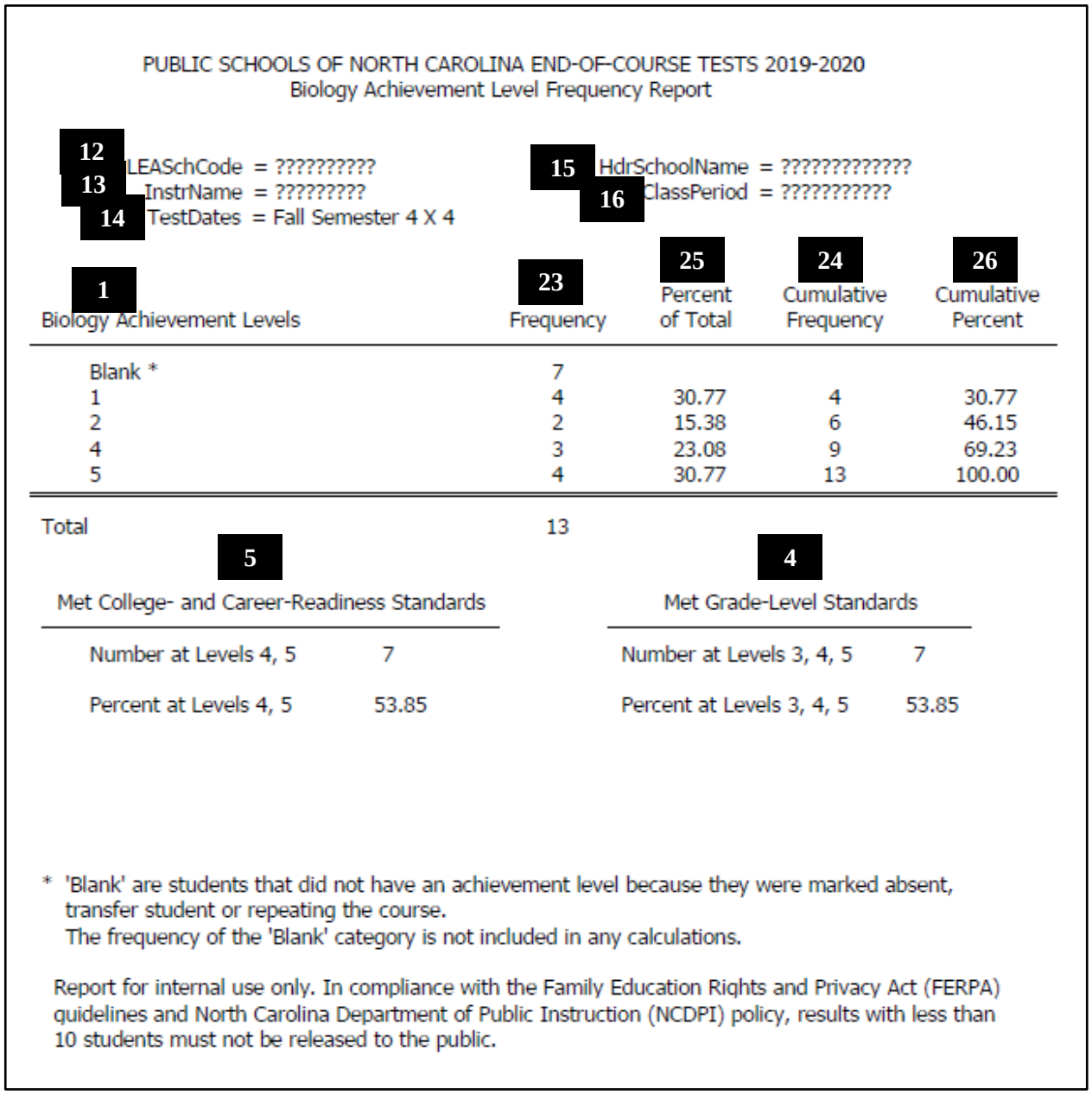
Figure 3 includes the summary table (section label F2) of a sample Score Frequency Report for the Biology EOC assessment. The top row of the summary table indicates that 13 students in this report had valid scores. The highest score was 275 and the lowest score was 219. The arithmetic mean score was 250.77 (Label 20), the standard deviation was 17.58 (Label 21), and the mode was 275 (Label 22). The percentile scores are listed at the far right of the table (Label 18). The scale scores are listed for the 10^{th}, 25^{th}, 50^{th}, 75^{th}, and 90^{th} percentiles (Label 2). In this sample, a scale score of 262 corresponds to a percentile of 75. This means that 75 percent of the 13 students earned a score of 262 or less.

The frequency table of the Score Frequency Report for the Biology EOC assessment is presented in Figure 3 (section label F3). The Scale Score column (Label 2) presents every score earned by the 13 students. The Frequency column (Label 23) presents the number of students that earned each scale score. For example, one examinee earned a scale score of 249. A "Missing" label would indicate that an examinee did not receive a score. The Cumulative Frequency column (Label 24) presents the total number of students that earned up to and including a given scale score. This column shows 6 students earned up to and including a scale score of 249. The Percent column (Label 25) 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 7.69 percent of the students earned a score of 249. The Cumulative Percent column (Label 26) displays the percent of students that earned up to and including a given scale score. This column shows 46.15 percent of the students earned up to and including a scale score of 249. The Achievement Level column (Label 1) displays the achievement level associated with each scale score. In this example, a scale score of 249 corresponds to an achievement level of 2.

Achievement Level Frequency Reports

Figure 4 displays a sample Achievement Level Frequency Report for an EOC Biology Assessment. The first line of he header indicates that the report is for the 2019–20 school year. The second line indicates the subject area and report type.

In this sample, Biology 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 23) 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 25) 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 15.38 percent of students earned an achievement level of 2. The Cumulative Frequency column (Label 24) presents the total number of students that earned up to and include a score in a given row. This column shows 6 students earned up to and including an achievement level of 2. The Cumulative Percent column (Label 26) displays the percent of students that earned up to and including a score in a given row. In the sample shown, 46.15 percent of the students earned up to and including an achievement level of 2. The summary statistics just below the frequency table show 7 of the 13 students were classified as level 4 or 5. This indicates that 53.85 of students met college- and career-readiness standards and 53.85 percent met on-grade-level standards.



PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-COURSE TESTS 2019-2020
Biology Achievement Level Frequency Report

12 LEASchCode = ??????????
13 InstrName = ?????????
14 TestDates = Fall Semester 4 X 4
15 HdrSchoolName = ?????????????
16 ClassPeriod = ???????????

1 Biology Achievement Levels	23 Frequency	25 Percent of Total	24 Cumulative Frequency	26 Cumulative Percent
Blank *	7			
1	4	30.77	4	30.77
2	2	15.38	6	46.15
4	3	23.08	9	69.23
5	4	30.77	13	100.00
Total	13			

5 Met College- and Career-Readiness Standards		4 Met Grade-Level Standards	
Number at Levels 4, 5	7	Number at Levels 3, 4, 5	7
Percent at Levels 4, 5	53.85	Percent at Levels 3, 4, 5	53.85

* 'Blank' are students that did not have an achievement level because they were marked absent, transfer student or repeating the course.
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 for NC EOC Assessments

Goal Summary Reports

The Goal Summary Report is a course-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 EOC mathematics, subscale scores are reported with regard to items designated for calculator active sections versus calculator inactive sections on the goal summary report. In EOC 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-COURSE TESTS 2019-2020
Biology Goal Subscore Summary Report

12 LEASchCode = ??????????
13 InstrName = ?????????
14 TestDates = Fall Semester 4 X 4

15 HdrSchoolName = ????????????
ClassPeriod = ??????????

	19 Scale Score Mean	27 Number of Valid Scores [1]	25 Percent of Biology Items	29 Mean Percent Correct	30 Difference 2017-18 State Mean Percent Correct [2]
Biology	250.8	13	100.0%		
State 2017-18 [3]	250.9	115311			
State 2016-17	250.2	114264			
State 2015-16	250.2	116757			
State 2014-15	249.8	114860			
State 2013-14	250.2	109828			
State 2012-13	250.3	107332			
Goal 1: Structure and Function of Living Organisms			18–22%	61.5	2.5
Goal 2: Ecosystems			18–22%	62.2	-9.8
Goal 3: Evolution and Genetics			43–53%	65.5	-4.1
Goal 4: Molecular Biology			15–19%	63.2	2.9

[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.

Additional information about the assessment is located in the test specifications documents available at http://www.ncpublicschools.org/accountability/testing/technicalnotes

Figure 5. Sample Goal Summary Report for NC EOC Assessments

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. Four achievement levels (i.e., Levels Not Proficient, 3, 4, and 5) are reported. Achievement levels of 3, 4, and 5 indicate a student is on grade-level. Achievement levels of 4 and 5 indicate a student is on track for college- and career-readiness.
2	**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.
3	**Achievement Level Policy Descriptors**—The achievement level descriptors for each assessment can be viewed at https://dpi.nc.gov/districts-schools/testing-and-school-accountability/achievement-level-information
4	**On-Grade-Level**– Achievement levels of 3, 4, and 5 indicate a student is on-grade level.
5	**On Track for College- and Career-Readiness**– The number of students who have met the College and Career Readiness Standards (Levels 4 and 5).
6	**Your Student**—The bar represents the student's scale score.
7	**Your School**—The average school score is represented by this 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.
8	**Your District**—The average district score is represented by this bar. The average scale score for the district is based on the fall or spring assessment administration for the given school year of the report.
9	**State**—The average state score is based on the scores of all North Carolina students who took the assessment in the norming year and is represented by this bar.
10	**Percentile Rank**—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 88 percent of the students who took the assessment in the norming year, the student is at the 88th percentile.
11	**Quantile or Lexile Score**—The EOG mathematics tests are linked to the Quantile Framework® for Mathematics. The EOG ELA/reading test are linked to the Lexile Framework® for Reading. Definitions of Lexiles and Quantiles follow. **Quantile Score**: To interpret what a Quantile® score means for a student, two pieces of information are needed: the Quantile score and the grade level during which a student received the Quantile score. Typically, a higher Quantile measure within a specific grade range indicates that a student probably has very few problems with grade-level material in school. A lower Quantile measure indicates that a student most likely struggles to understand and succeed with grade-level material. Once a student's Quantile measure and grade are known, mathematical concepts, topics, materials, and resources. Additional information on Quantile measures can be found at http://www.Quantiles.com. **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, a student can be matched 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.
12	**LEASchCode** refers to the Local Education Agency (LEA) school code.
13	**InstrName** refers to the instructor's name.
14	**TestDates** refers to the time of year in which the exam was administered.
15	**HdrSchoolName** refers to the school name.
16	**ClassPeriod** refers to the class period.
17	**Number Attempted** refers to the number of questions answered by the student.
18	**Percentile Rank** refers to either the reading, mathematics and science percentiles that were established from norming year statewide

	assessment data or the LEA-wide assessment data
19	**Mean**—The mean is the average of the scores. The mean is the sum of all scores in the roster divided by the number of scores in the roster.
20	**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.
21	**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.
22	**Mode**—the group mode is the most common score or scores of the group.
23	**Frequency**—The Frequency column presents the number of students that earned each score.
24	**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.
25	**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).
26	**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.
27	**Number of Valid Scores** refers to the number of valid scores and is used as the denominator in calculating the mean.
28	**Percent of the Reading/Math/Biology Items per Form** – The percent of the items per form is the percent of items that align with each content goal.
29	**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.
30	**Difference from State Mean Percent Correct** – This difference displays performance relative to the norming year 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.