

**2018 STAAR
Score Distributions and
Statistics by Content Area
and Grade**

Glossary

This glossary provides definitions for the statistical terms that appear in the tables and graphs in this section ("STAAR 2018 Score Distributions and Statistics by Content Area and Grade") of Appendix B. Definitions of statistical terms and concepts in the other sections are given in chapter 3 or chapter 4.

Descriptive Statistics

Mean. The mean is a measure of central tendency. It is the average score for the assessment. It is computed by summing the scores of all students and dividing the sum by the total number of students (N).

Median. The median is another measure of central tendency. It is the score at the middle of the frequency distribution for the assessment. It is computed by finding the score at which there are the same number of scores above as there is below.

Mode. The mode is another measure of central tendency. It is the most frequently obtained score for the assessment. It is determined by computing the frequency distribution and finding the score point with the highest frequency (n -count).

Range. The range is a measure of statistical dispersion (variability or spread). It is the difference between the lowest and highest scores obtained by students on the assessment. It is computed by subtracting the lowest score from the highest score.

Interquartile Range. The interquartile range is another measure of statistical dispersion (variability or spread). It is the difference between the 1st and 3rd quartiles (or 25th and 75th percentiles) of the score distribution for the assessment. It is computed by subtracting the score at the 1st quartile (the point that splits the lowest 25% of the scores) from the score at the 3rd quartile (the point that splits the highest 25% of the scores).

Standard Deviation (SD). The standard deviation is another measure of statistical dispersion (variability or spread). It is an indicator of the degree of score variation around the mean. It is computed using the following formula.

$$SD = \sqrt{\frac{\sum_{i=1}^N (X_i - \bar{X})^2}{N - 1}}$$

where X_i is the score for student i , \bar{X} is the mean score and N is the total number of students who took the assessment.

Variance. The variance is another measure of statistical dispersion (variability or spread) around the mean. It is computed as the square of the standard deviation (SD).

Skewness. The skewness is an indicator of the shape of the score distribution. It measures the extent to which the score distribution "leans" to one side of the mean. A positive skewness indicates that the score distribution leans below the mean. A negative skewness indicates that the score distribution leans above the mean. A skewness of zero indicates that the score distribution is symmetric around the mean. It is computed using the following formula.

$$Skewness = \frac{N}{(N-1)(N-2)} \sum_{i=1}^N \left(\frac{X_i - \bar{X}}{S_x} \right)^3$$

where X_i is the score for student i , \bar{X} is the mean score, S_x is the standard deviation (SD) and N is the total number of students who took the assessment.

Kurtosis. The kurtosis is another indicator of the shape of the score distribution. It measures the "peakedness" of the score distribution. A positive kurtosis is referred to as *leptokurtic*, meaning that the distribution has a more acute peak around the mean and fatter tails. A negative kurtosis is called *platykurtic*, meaning the distribution has a lower, wider peak around the mean and thinner tails. It is computed using the following formula.

$$Kurtosis = \frac{N(N+1)}{(N-1)(N-2)(N-3)} \sum_{i=1}^N \left(\frac{X_i - \bar{X}}{S_x} \right)^4 - \frac{3(N-1)^2}{(N-2)(N-3)}$$

where X_i is the score for student i , \bar{X} is the mean score, S_x is the standard deviation (SD) and N is the total number of students who took the assessment.

Frequency Distributions

Frequency (FREQ). This is the number of students who obtained the particular score point on the assessment.

Cumulative Frequency (CUM FREQ). This is the number of students who obtained a score that is less than or equal to the particular score point on the assessment.

Percentage (PCT). This is the percentage of students who obtained the particular score point on the assessment. It is computed as: $PCT = FREQ \div N \times 100$.

Cumulative Percentage (CUM PCT). This is the percentage of students who obtained a score that is less than or equal to the particular score point on the assessment. It is computed as: $CUM PCT = CUM FREQ \div N \times 100$.

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**Table B.7.1. Spring 2018 STAAR English Grades 3–8 Assessments
Scale Score Descriptive Statistics**

Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Grade 3 Mathematics	386,467	1471.80	1476	1561	1047	201	147.08	21633.59	0.28	0.15
Grade 4 Mathematics	397,924	1569.75	1565	1697	1071	203	147.51	21757.99	0.33	0.20
Grade 5 Mathematics	400,664	1634.93	1634	1724	1094	181	139.41	19435.93	0.28	0.39
Grade 6 Mathematics	387,665	1640.19	1617	1528	1081	188	138.60	19210.34	0.76	0.80
Grade 7 Mathematics	350,802	1659.57	1641	1555	1100	188	134.74	18155.79	0.79	1.00
Grade 8 Mathematics	333,762	1701.74	1691	1743	1099	179	135.70	18414.58	0.50	0.72
Grade 3 Reading	368,263	1441.59	1440	1521	1117	176	140.95	19866.90	0.32	0.36
Grade 4 Reading	382,864	1518.61	1510	1633	1120	193	143.59	20618.11	0.31	0.26
Grade 5 Reading	392,080	1578.02	1582	1652	1138	197	144.40	20852.65	0.40	0.46
Grade 6 Reading	394,958	1576.90	1572	1671	1152	202	140.32	19690.39	0.33	0.25
Grade 7 Reading	394,726	1652.03	1647	1753	1184	206	142.82	20398.27	0.24	0.16
Grade 8 Reading	385,881	1681.95	1691	1783	1170	196	134.15	17995.05	0.04	0.26
Grade 4 Writing	370,396	3732.42	3675	3862	5530	929	632.58	400157.39	0.34	0.49
Grade 7 Writing	386,417	3825.72	3820	4000	5910	859	648.99	421193.97	0.50	1.01
Grade 5 Science	399,294	3854.45	3842	4071	4491	611	508.88	258954.86	0.43	0.66
Grade 8 Science	386,971	3983.90	3931	4296	5376	885	645.60	416795.31	0.41	0.56
Grade 8 Social Studies	389,004	3771.01	3744	4061	4824	751	560.17	313785.74	0.50	0.44

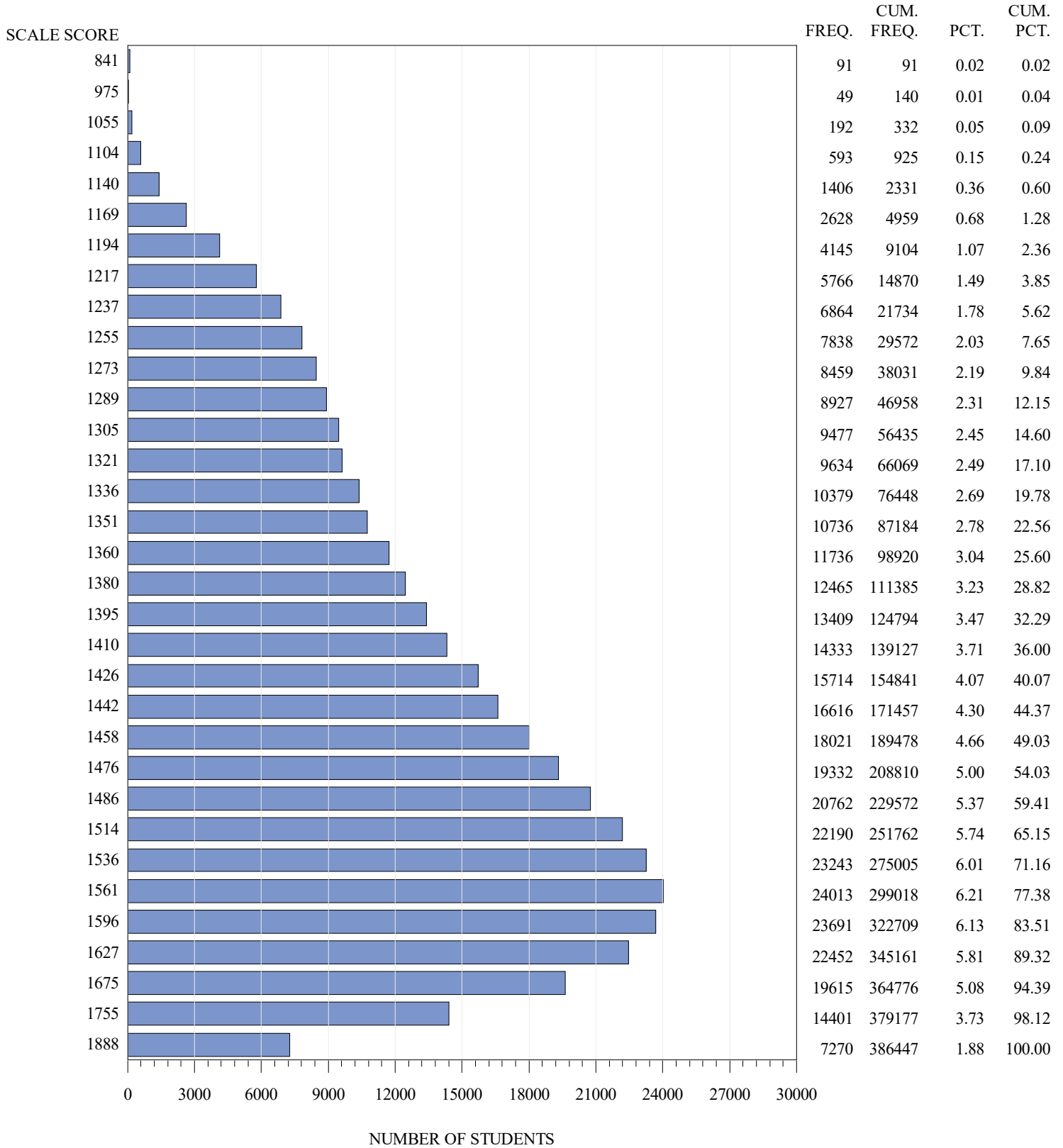
**Table B.7.2. Spring 2018 STAAR Spanish Grades 3–5 Assessments
Scale Score Descriptive Statistics**

Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Grade 3 Mathematics	16,668	1433.48	1426	1486	1047	178	137.81	18991.48	0.43	0.36
Grade 4 Mathematics	9,171	1503.18	1488	1549	858	187	133.08	17709.87	0.52	0.38
Grade 5 Mathematics	5,412	1543.70	1543	1586	881	189	125.87	15843.80	0.34	0.23
Grade 3 Reading	34,831	1398.54	1383	1401	1312	185	144.86	20984.03	0.44	0.54
Grade 4 Reading	24,124	1458.79	1439	1358	1330	227	154.06	23734.49	0.56	0.47
Grade 5 Reading	14,877	1575.87	1582	1655	1337	217	154.55	23885.89	0.33	0.28
Grade 4 Writing	24,571	3734.87	3694	4130	6075	1013	687.81	473084.07	0.40	0.30
Grade 5 Science	7,754	3540.08	3550	3588	4491	601	421.39	177571.47	0.34	0.46

**Table B.7.3. Spring 2018 STAAR EOC Assessments
Scale Score Descriptive Statistics**

Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Algebra I	420,255	4107.81	4062	4140	4736	765	593.02	351678.46	0.66	1.00
Algebra II	11,965	4009.29	3969	4106	5286	806	605.84	367037.51	0.61	0.89
English I	474,424	3912.87	3899	4000	5256	759	534.11	285272.21	0.18	0.51
English II	445,287	3984.43	4000	4305	5411	775	555.57	308657.45	0.23	0.57
English III	9,179	4011.60	4033	4000	5255	628	485.75	235954.69	-0.51	2.70
Biology	410,500	4166.87	4115	4242	4926	758	581.56	338216.05	0.55	0.76
U.S. History	356,959	4310.91	4301	4639	5493	693	560.83	314528.11	0.26	0.80

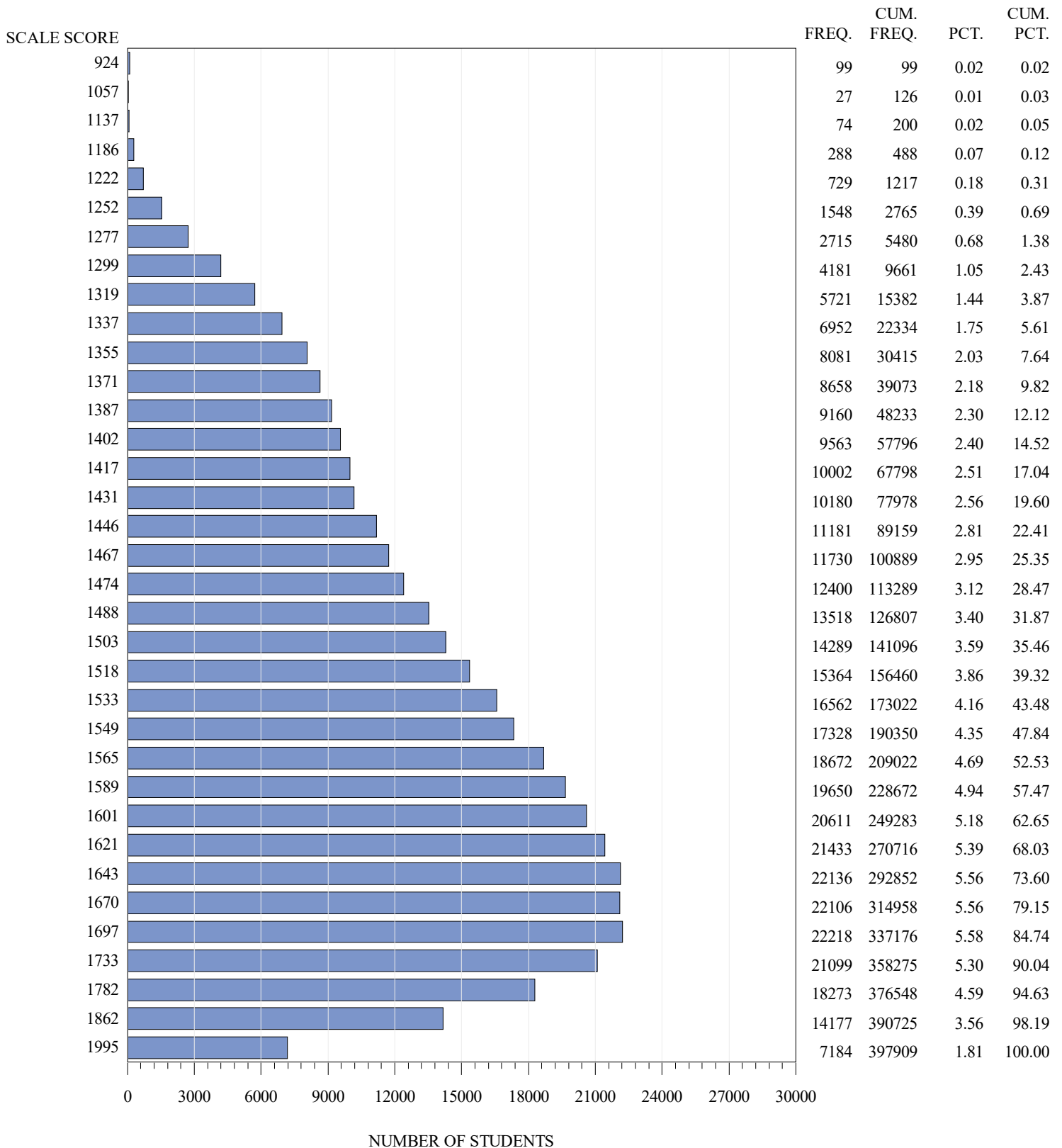
**Figure B.7.1. Spring 2018 STAAR English Grade 3 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

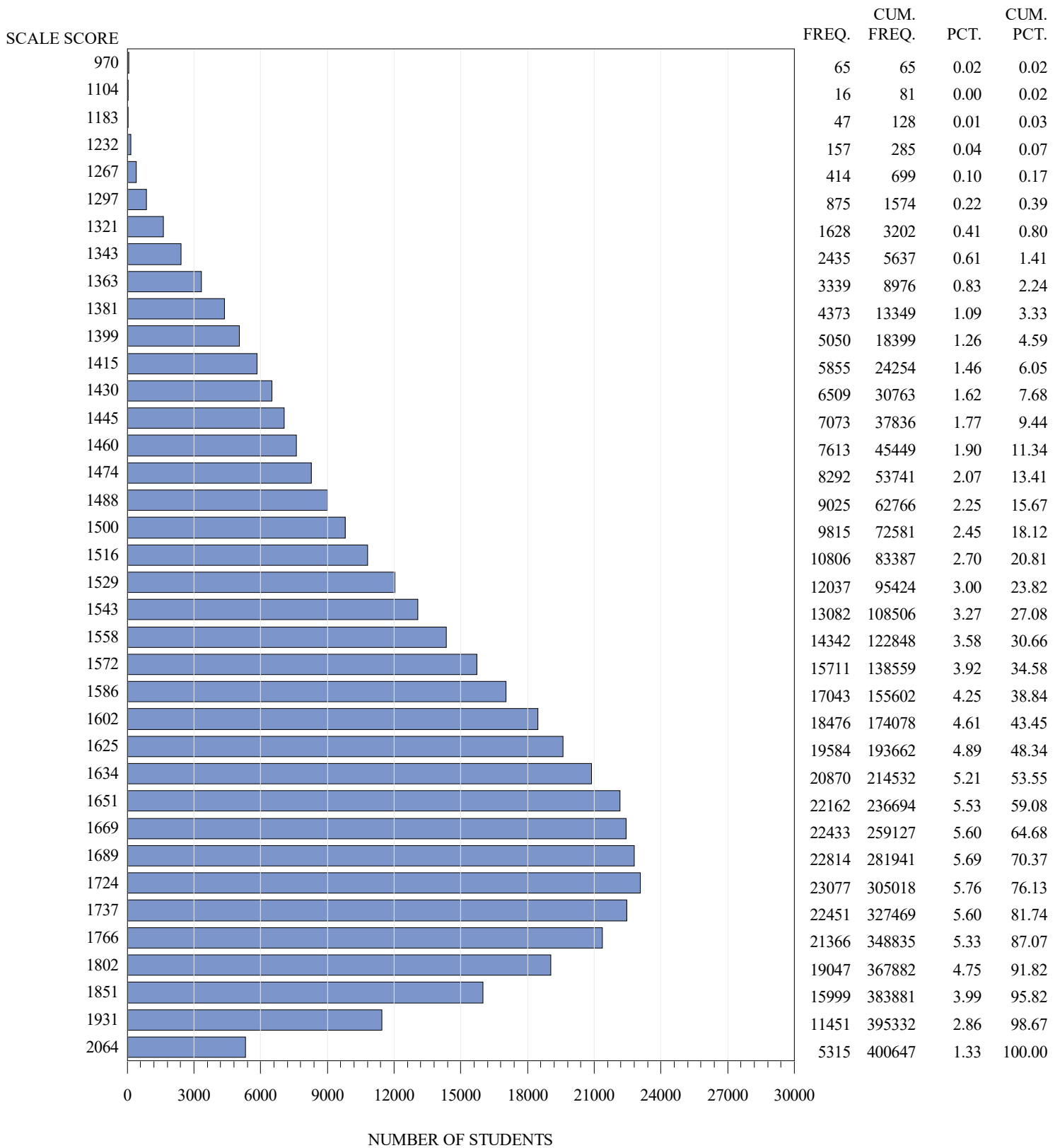
**Figure B.7.2. Spring 2018 STAAR English Grade 4 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

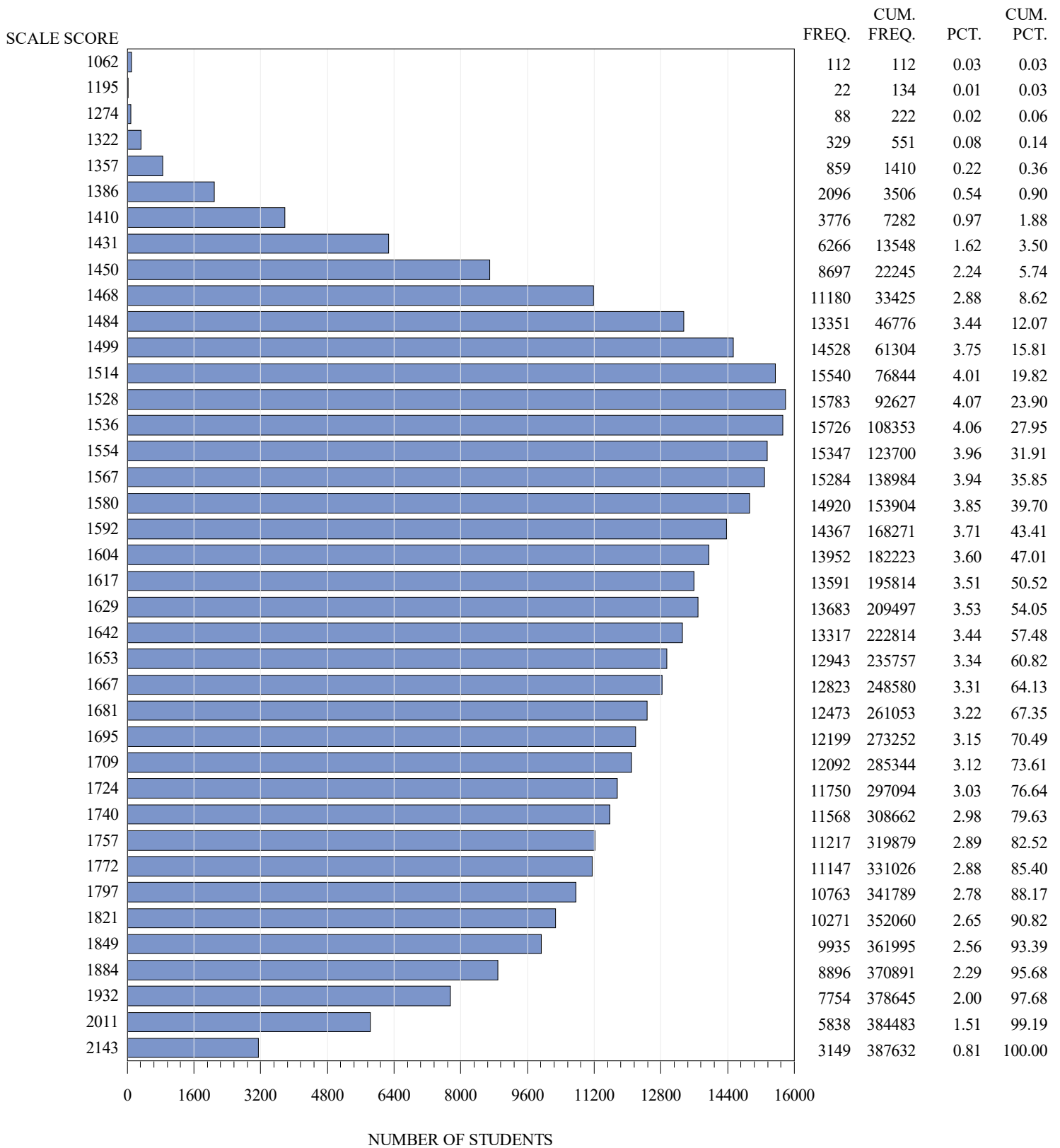
**Figure B.7.3. Spring 2018 STAAR English Grade 5 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

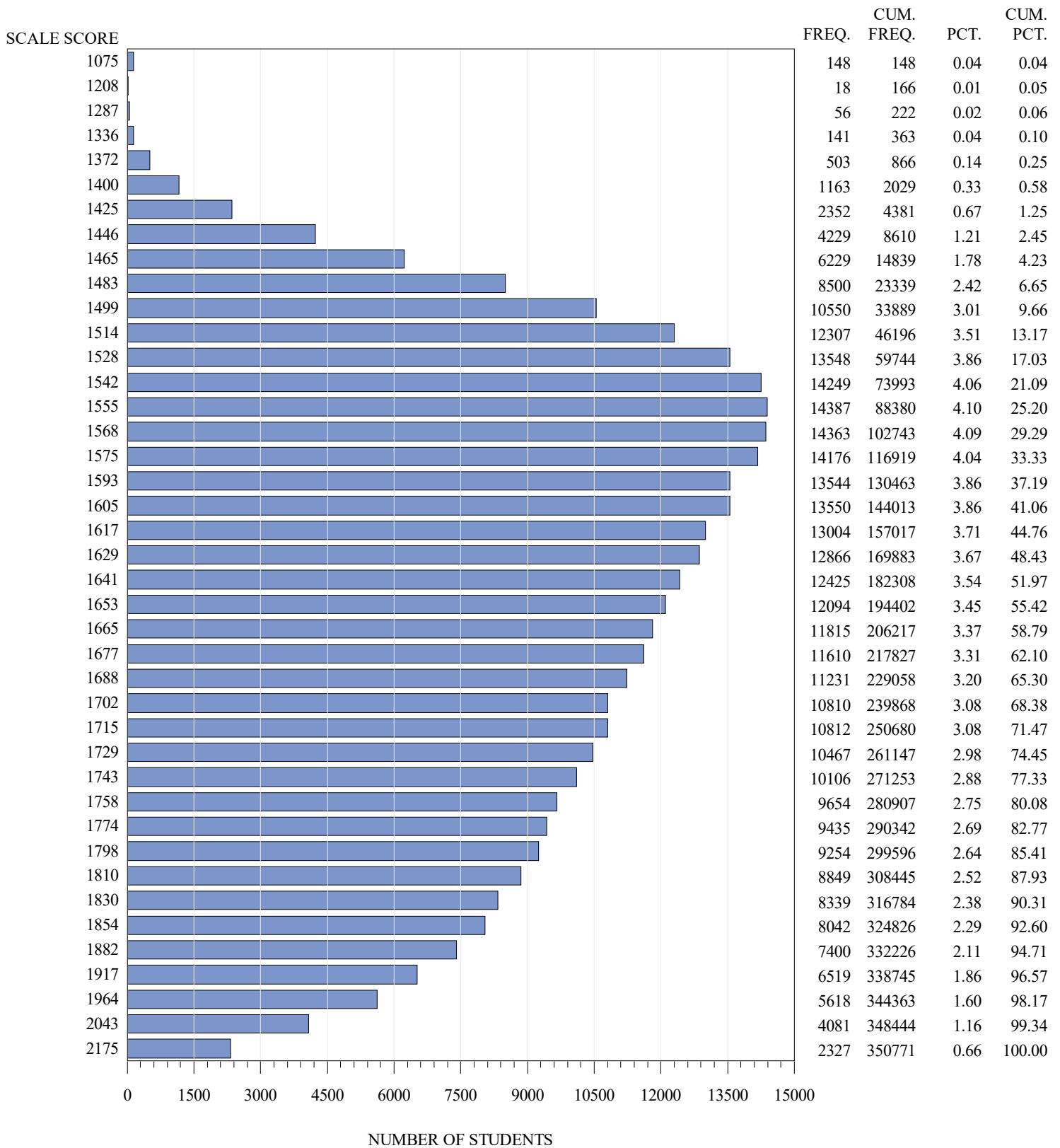
**Figure B.7.4. Spring 2018 STAAR English Grade 6 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

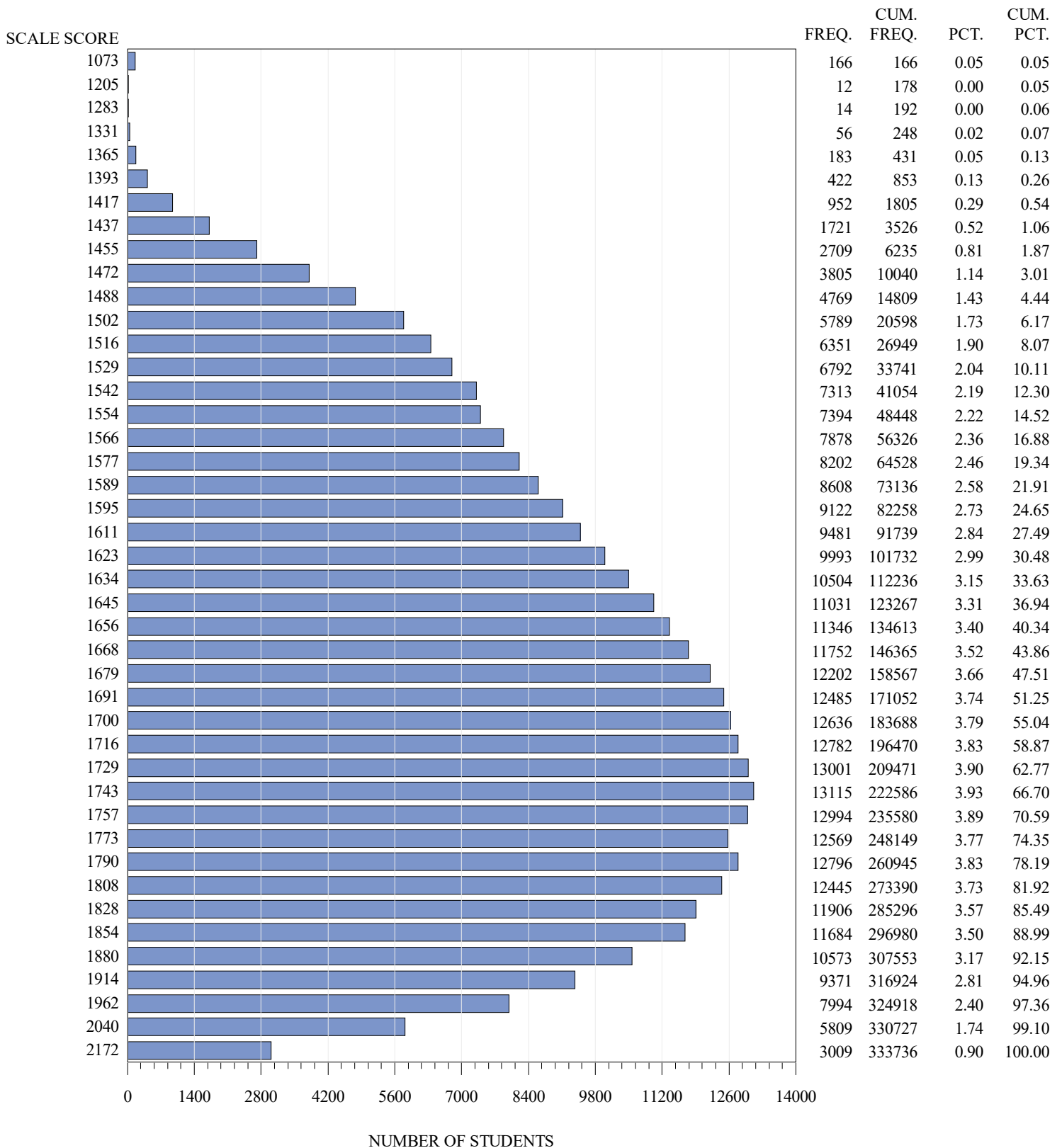
**Figure B.7.5. Spring 2018 STAAR English Grade 7 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

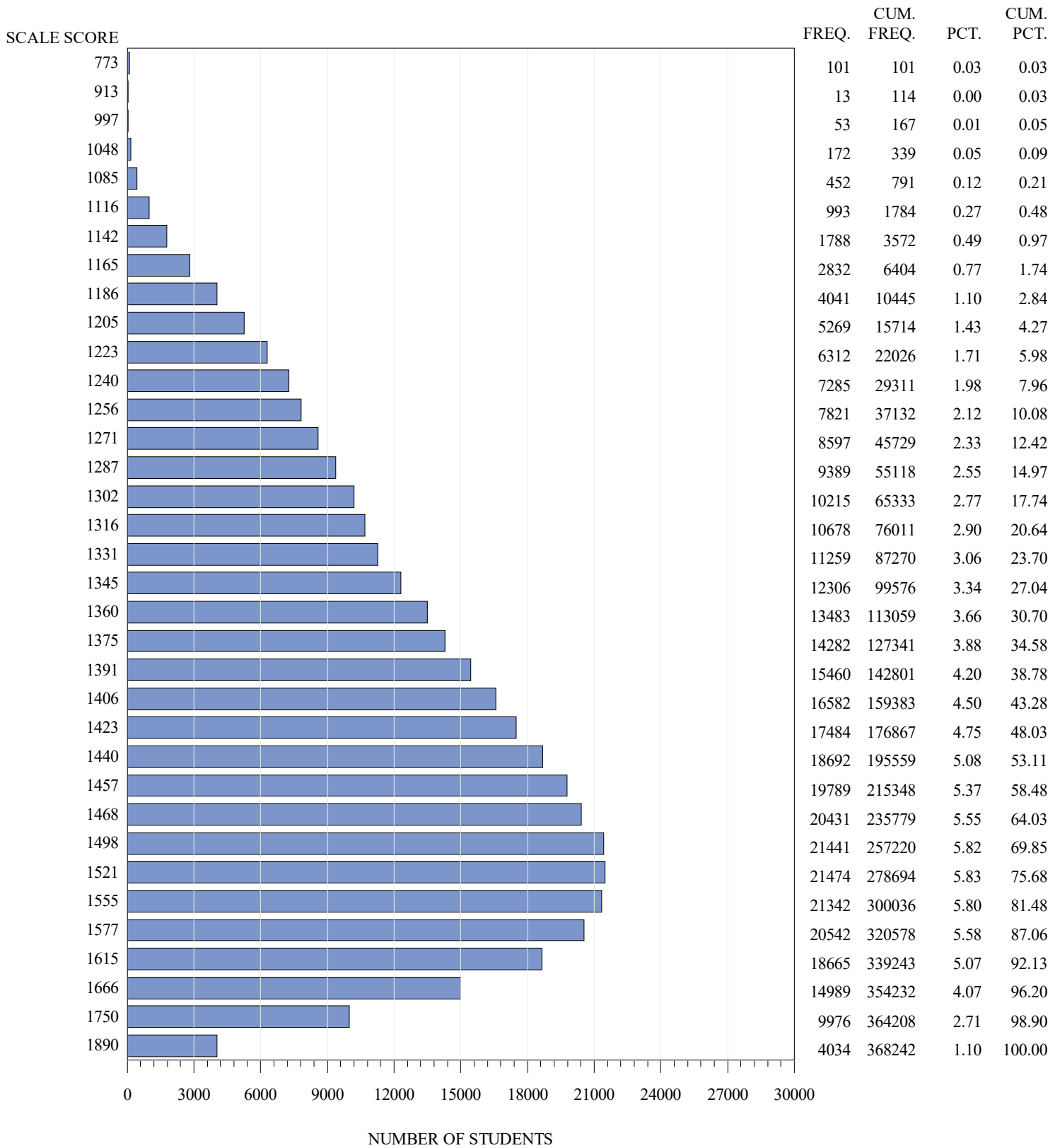
**Figure B.7.6. Spring 2018 STAAR English Grade 8 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

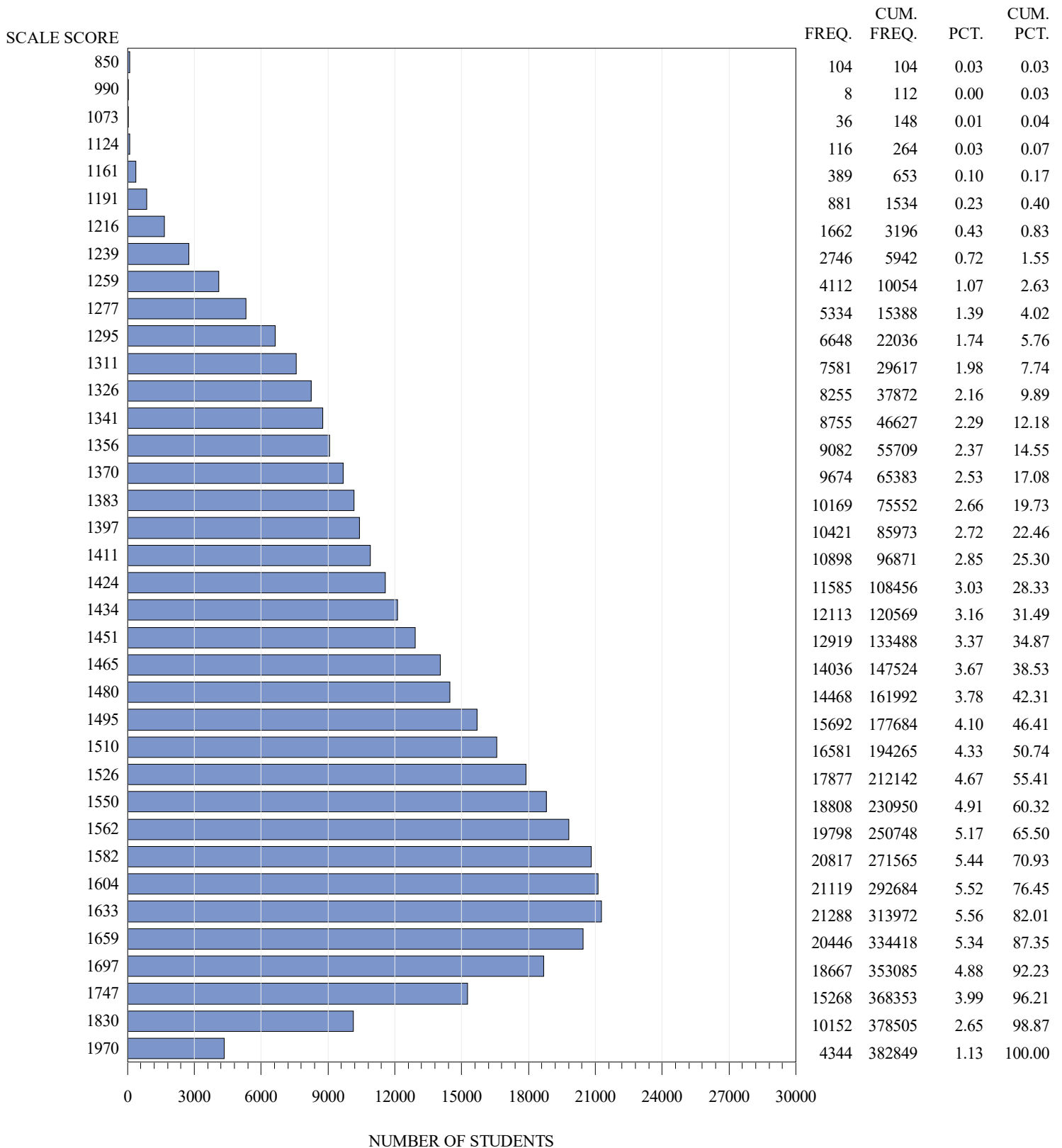
**Figure B.7.7. Spring 2018 STAAR English Grade 3 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

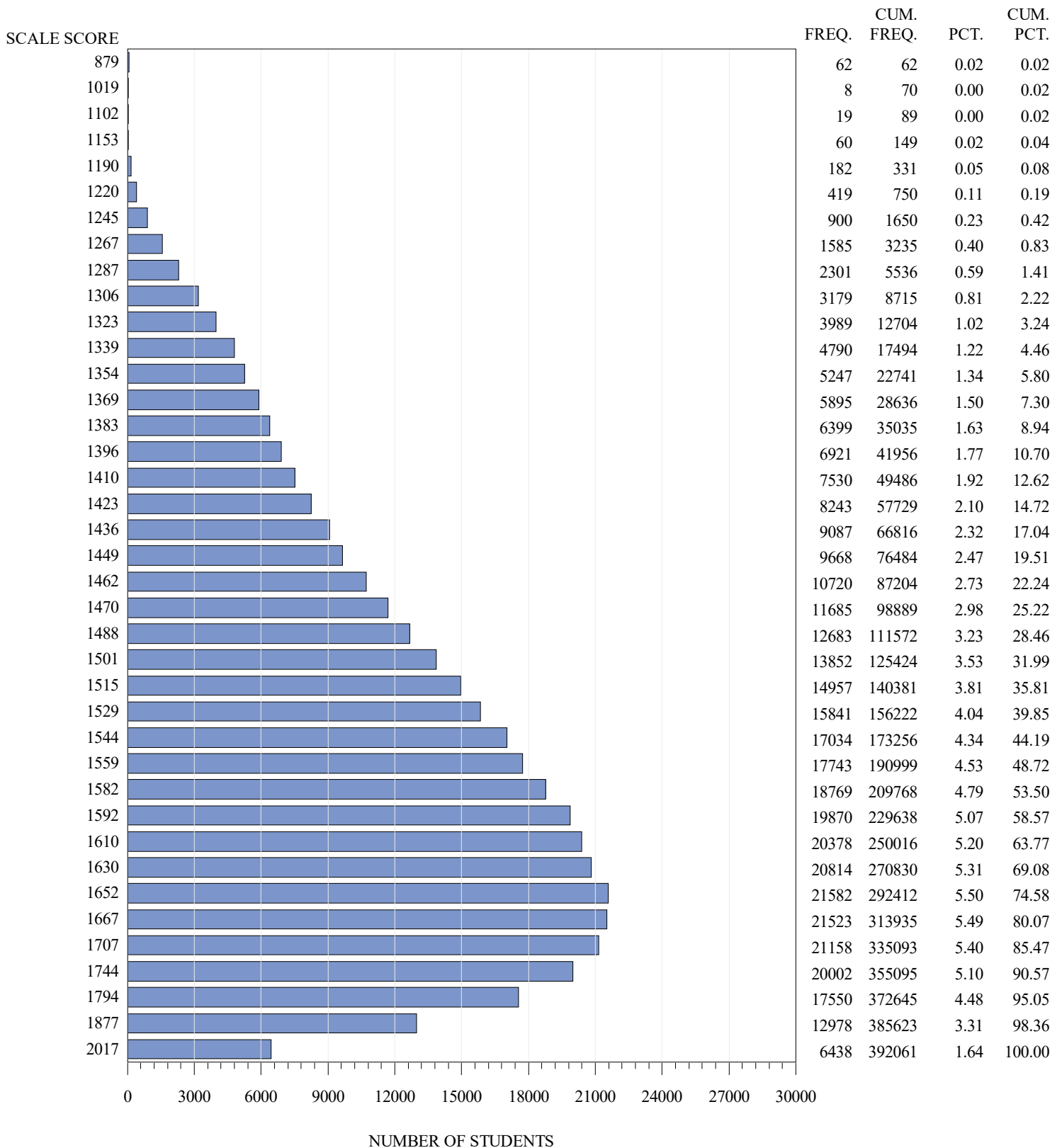
**Figure B.7.8. Spring 2018 STAAR English Grade 4 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

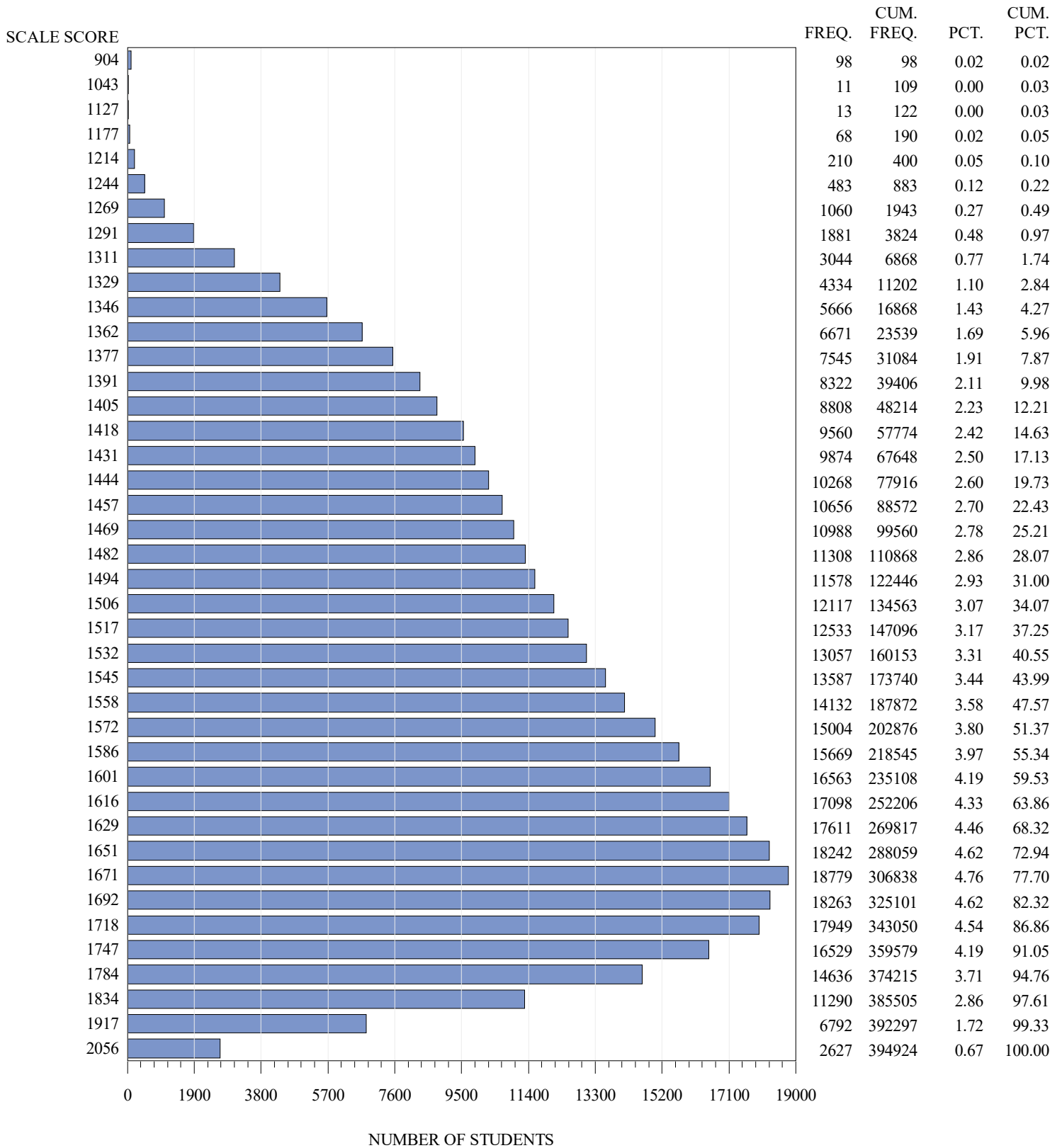
**Figure B.7.9. Spring 2018 STAAR English Grade 5 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

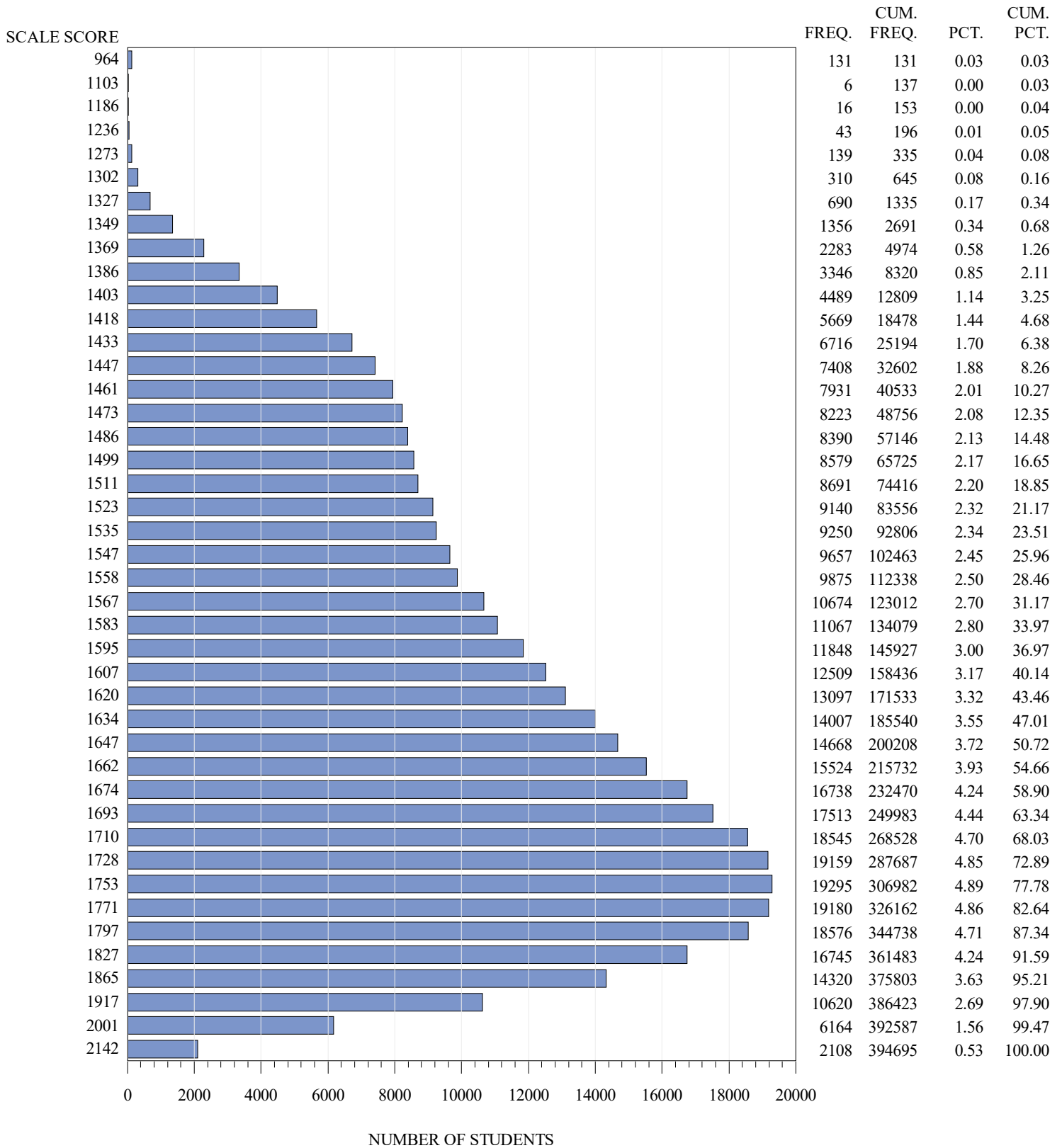
**Figure B.7.10. Spring 2018 STAAR English Grade 6 Reading
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All Students**



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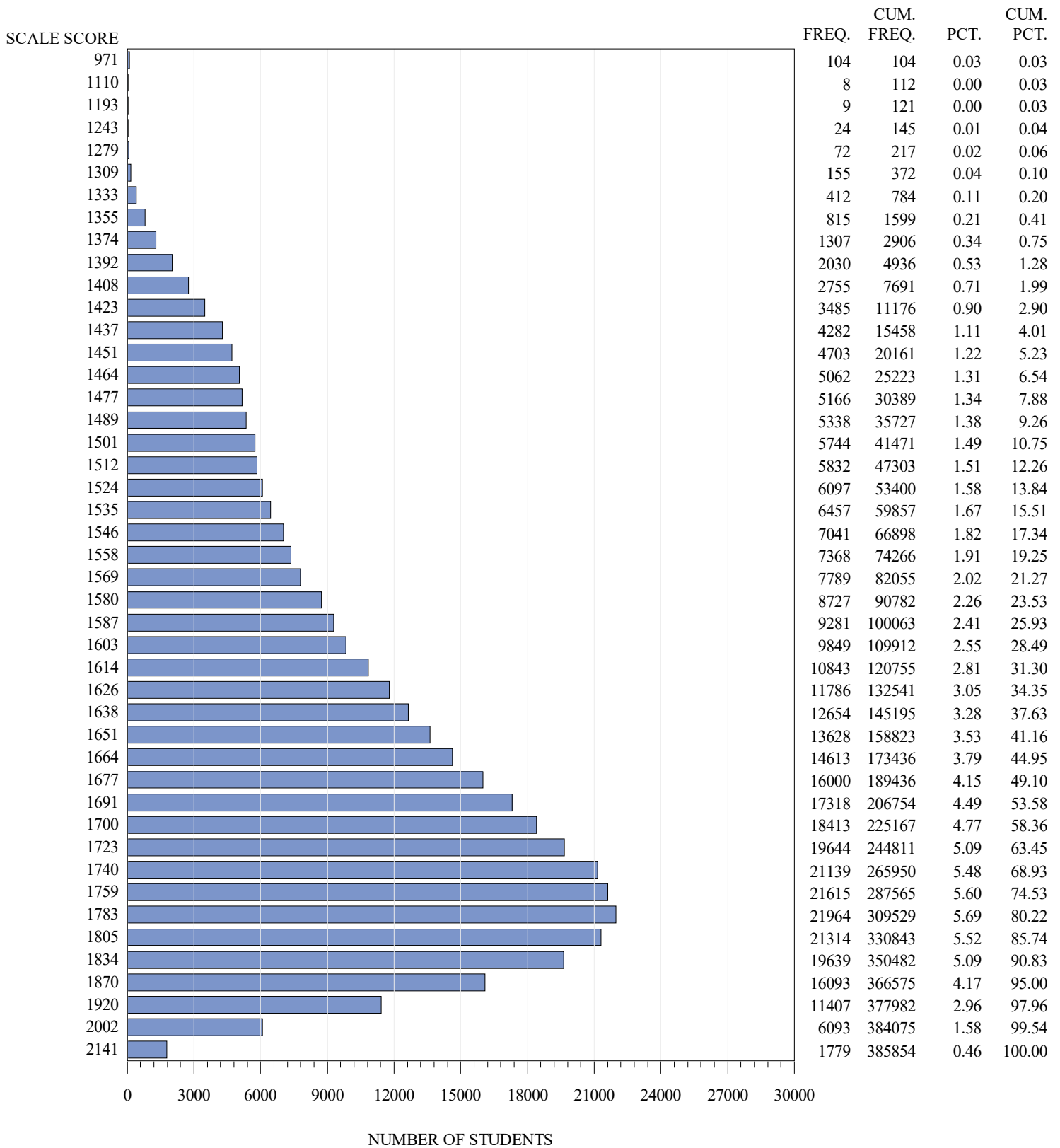
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.11. Spring 2018 STAAR English Grade 7 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

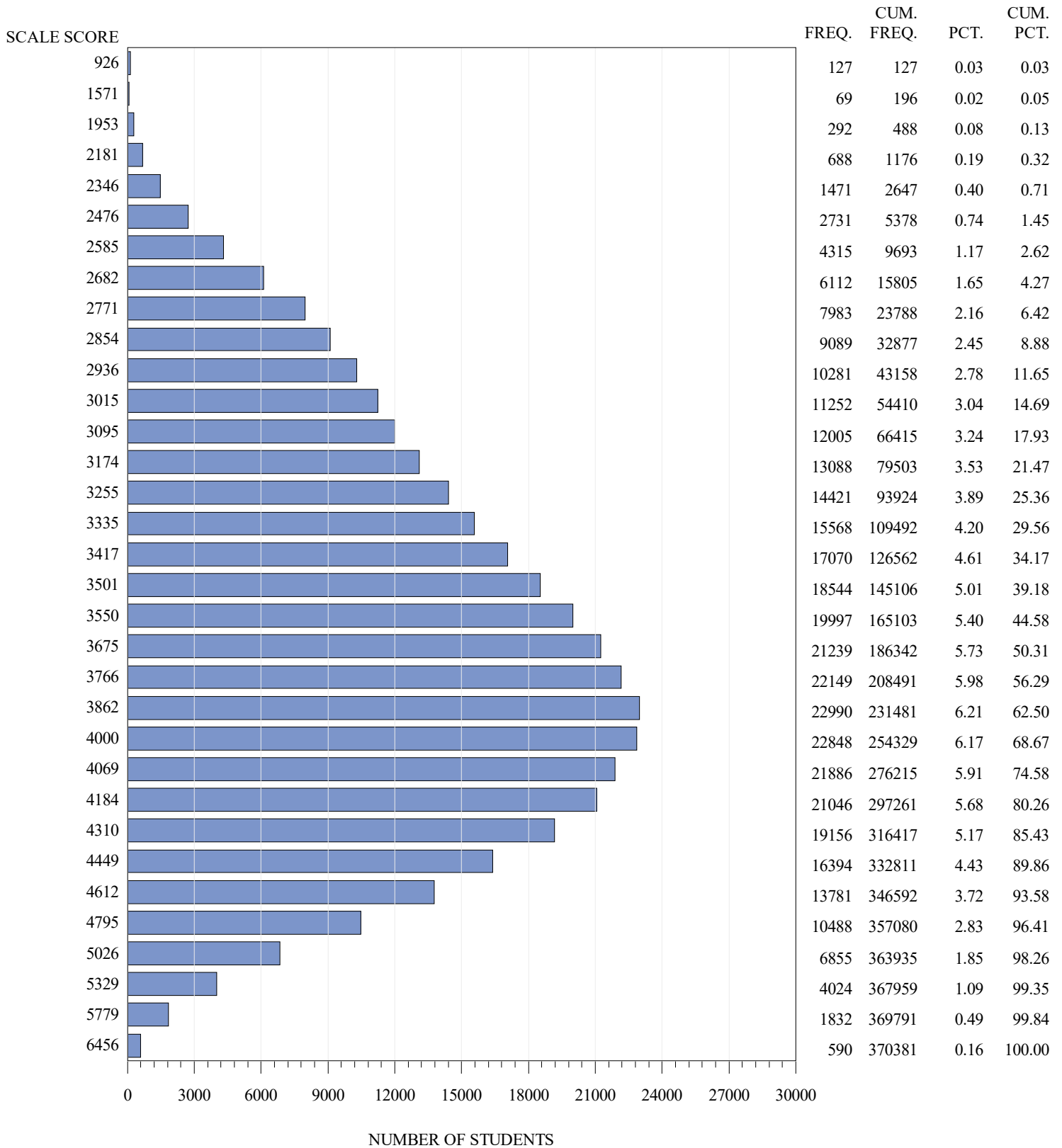
**Figure B.7.12. Spring 2018 STAAR English Grade 8 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

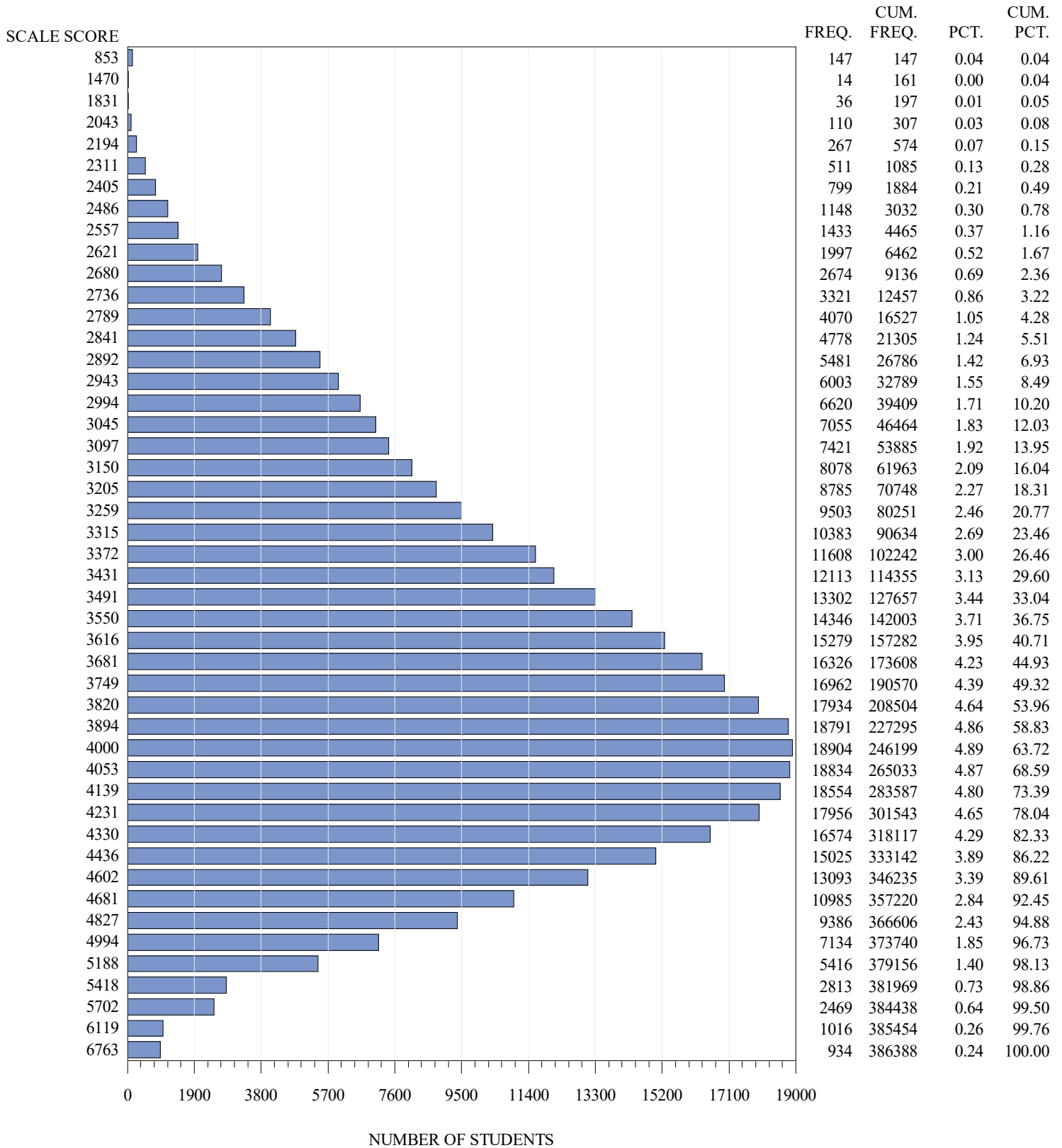
**Figure B.7.13. Spring 2018 STAAR English Grade 4 Writing
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

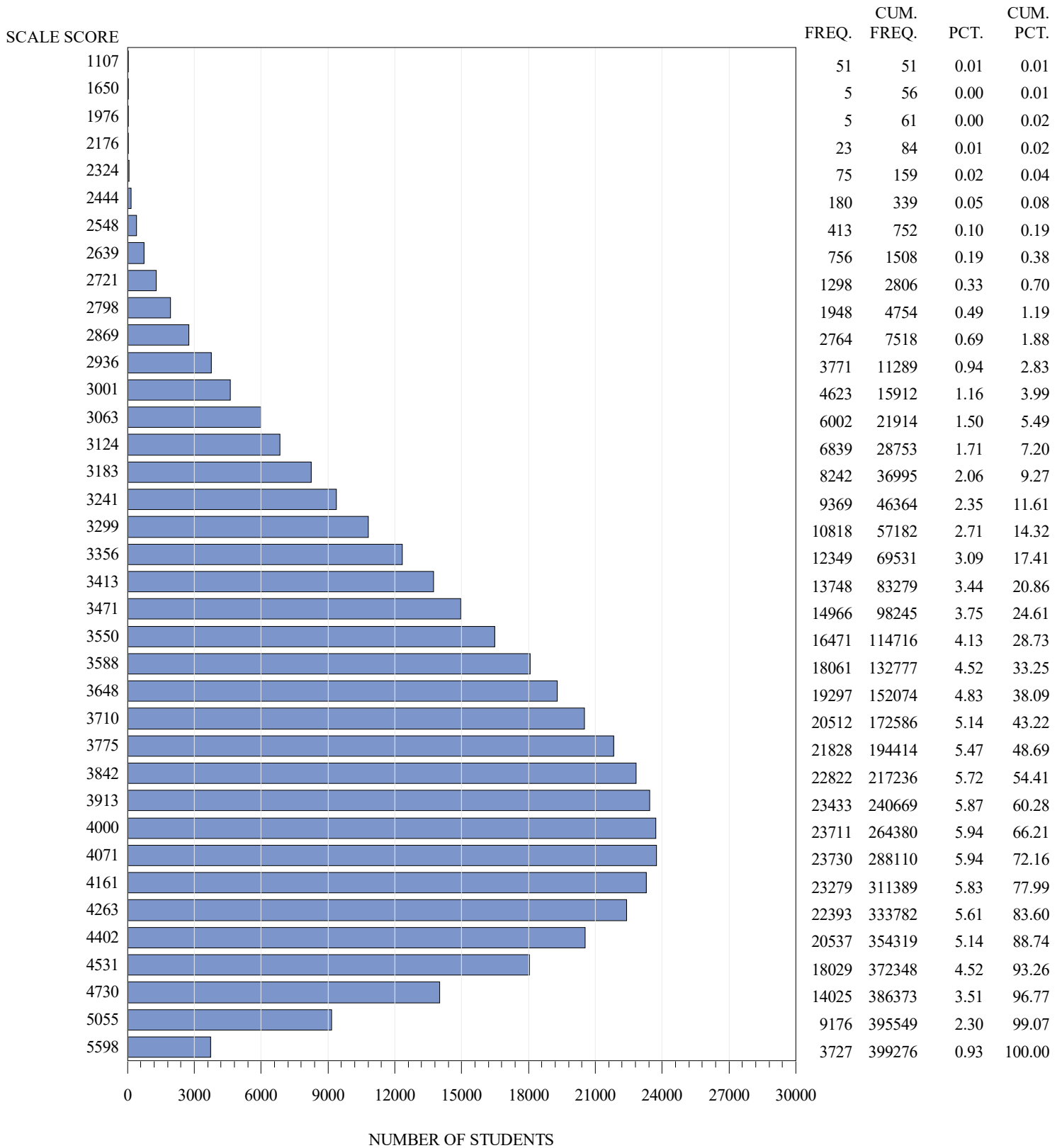
**Figure B.7.14. Spring 2018 STAAR English Grade 7 Writing
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

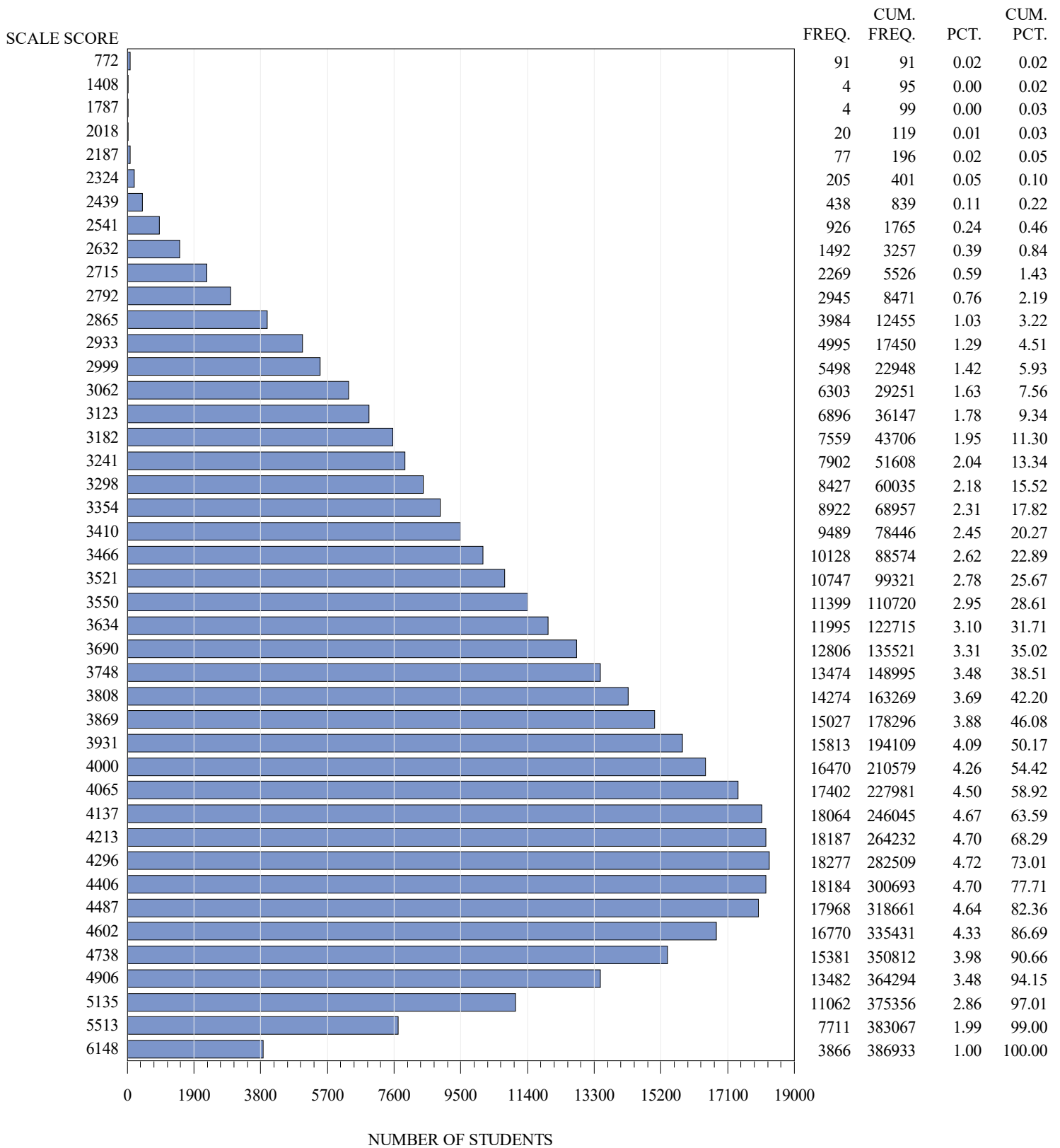
**Figure B.7.15. Spring 2018 STAAR English Grade 5 Science
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All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

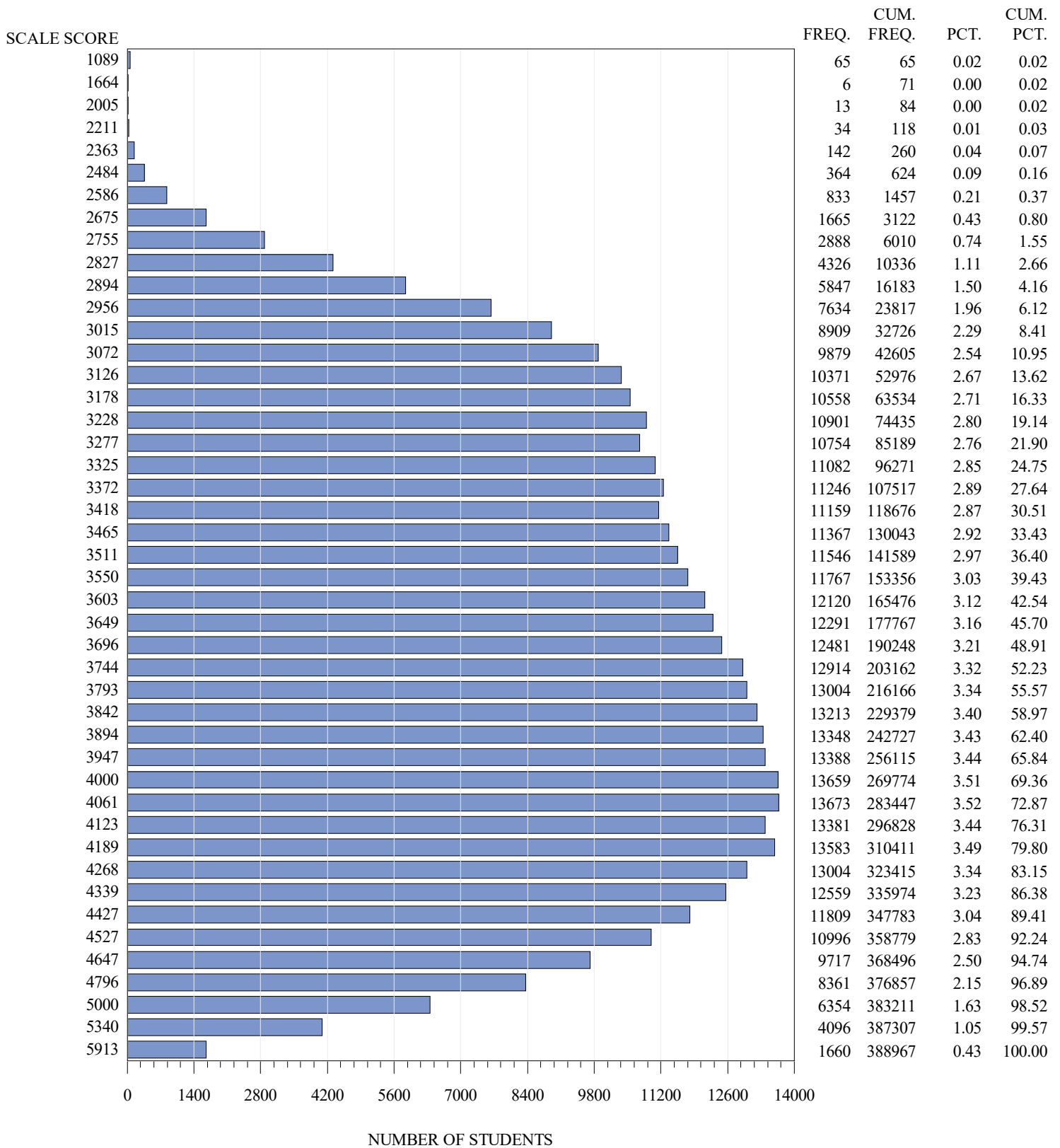
**Figure B.7.16. Spring 2018 STAAR English Grade 8 Science
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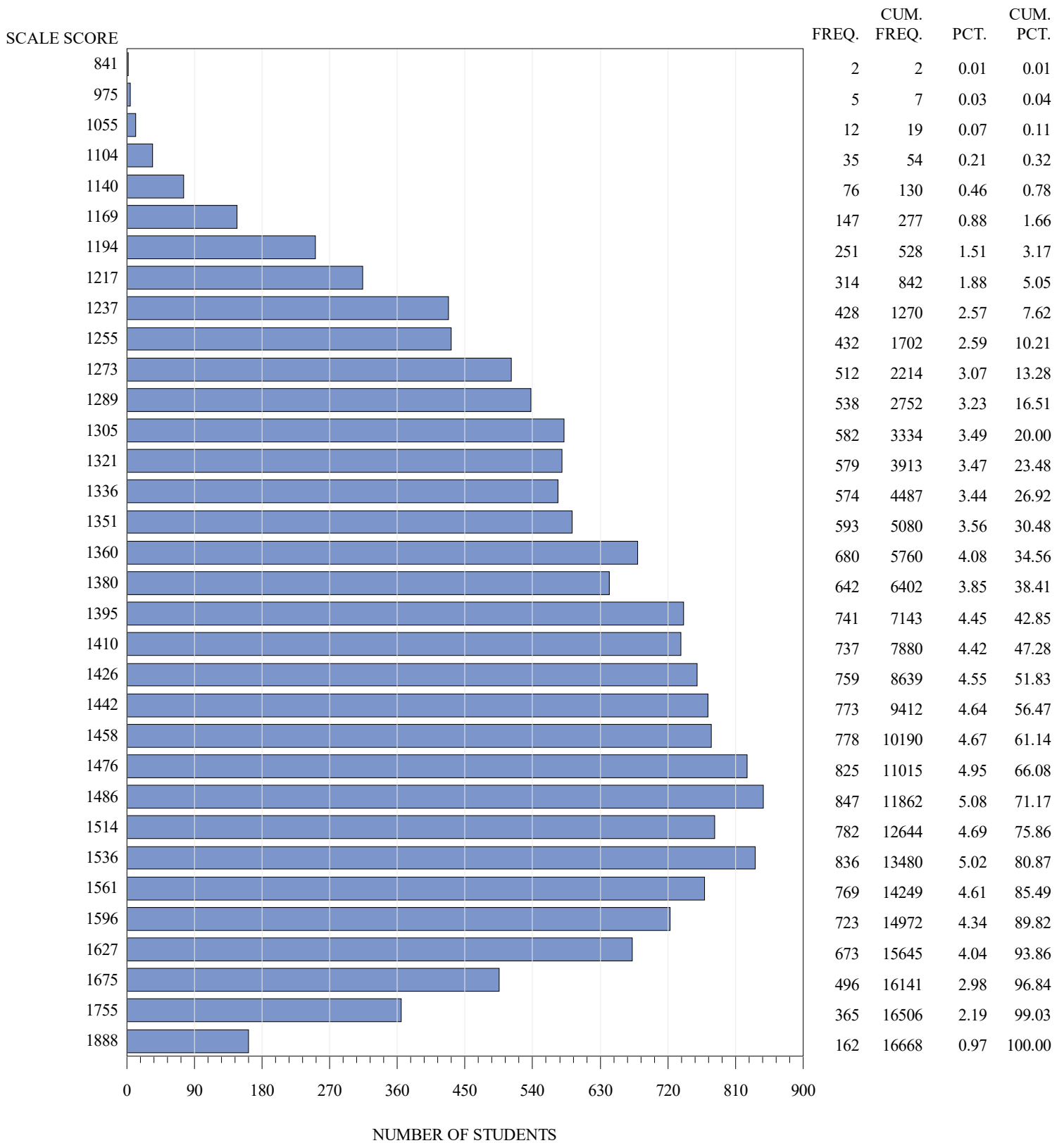
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.17. Spring 2018 STAAR English Grade 8 Social Studies
Frequency Distribution of Scale Scores
All Students**



Notes:
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

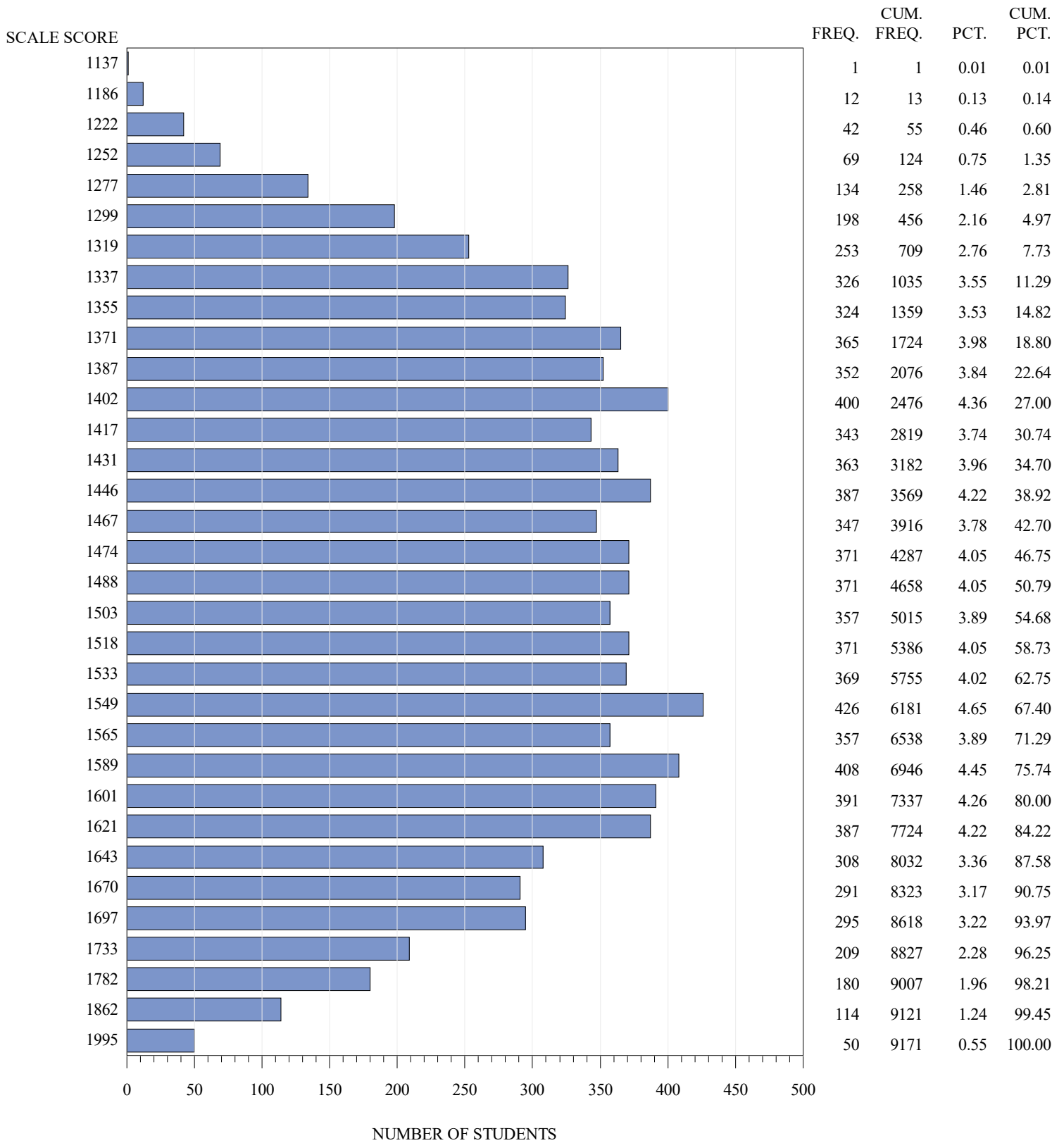
**Figure B.7.18. Spring 2018 STAAR Spanish Grade 3 Mathematics
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All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

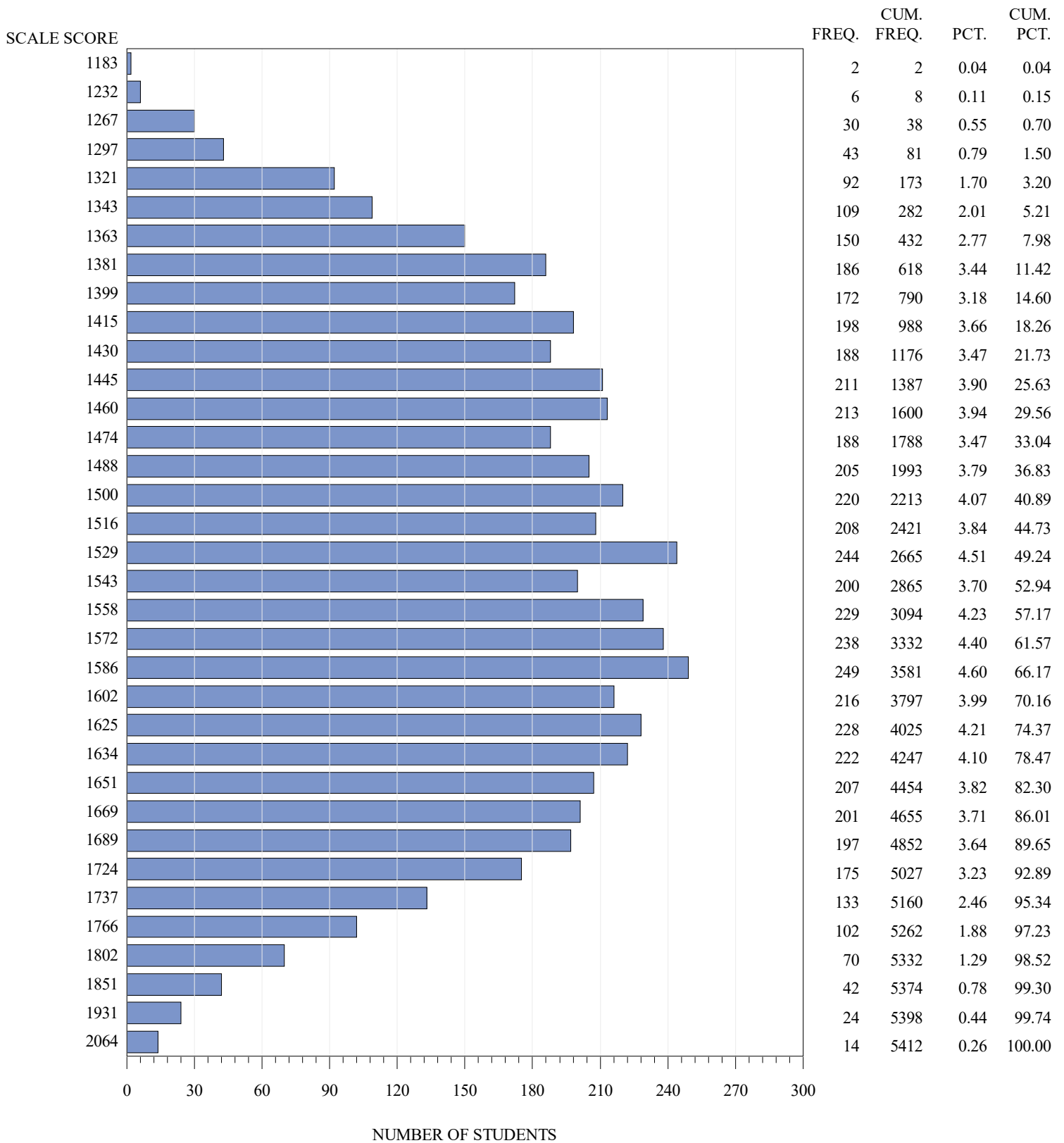
**Figure B.7.19. Spring 2018 STAAR Spanish Grade 4 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

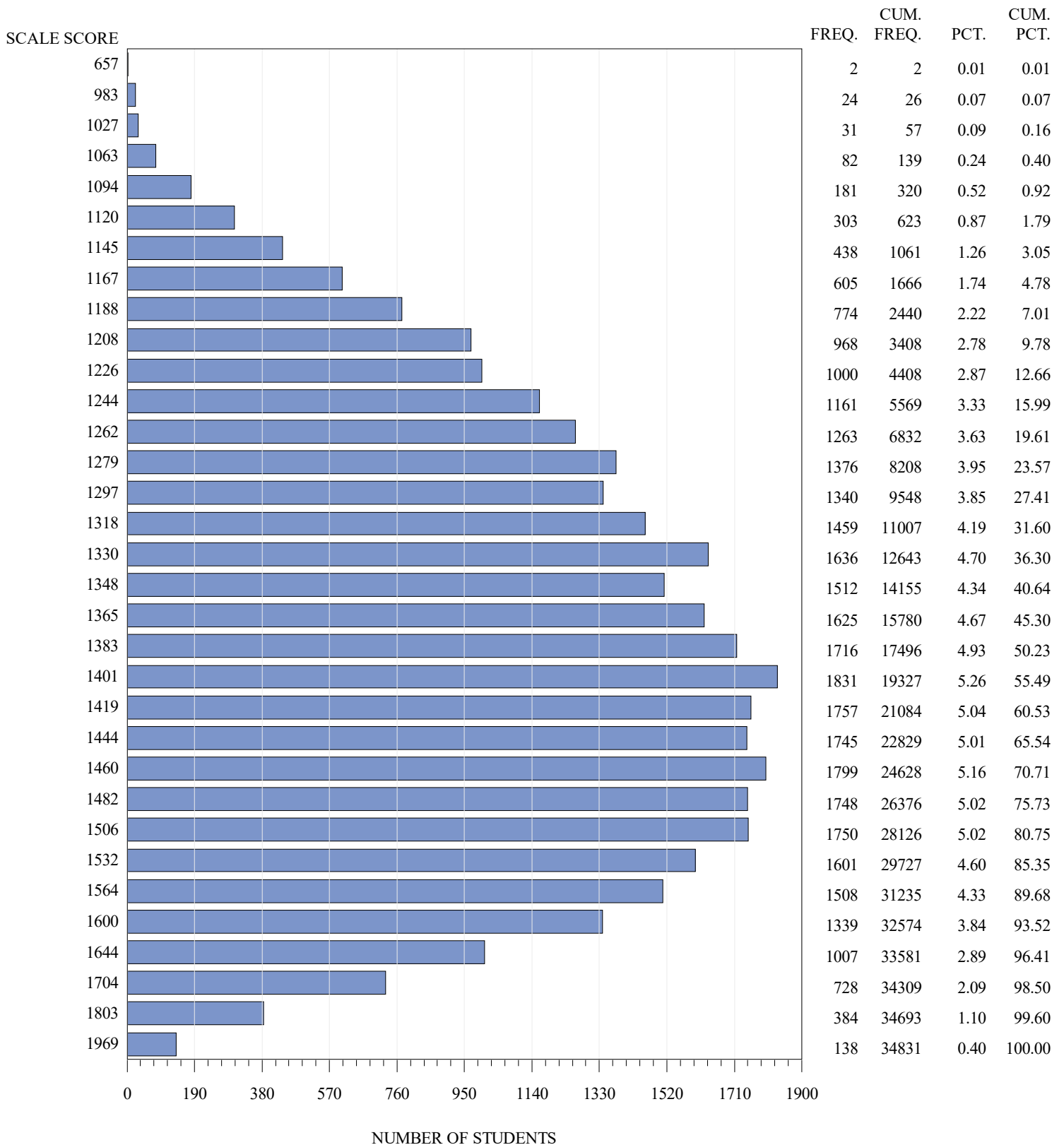
**Figure B.7.20. Spring 2018 STAAR Spanish Grade 5 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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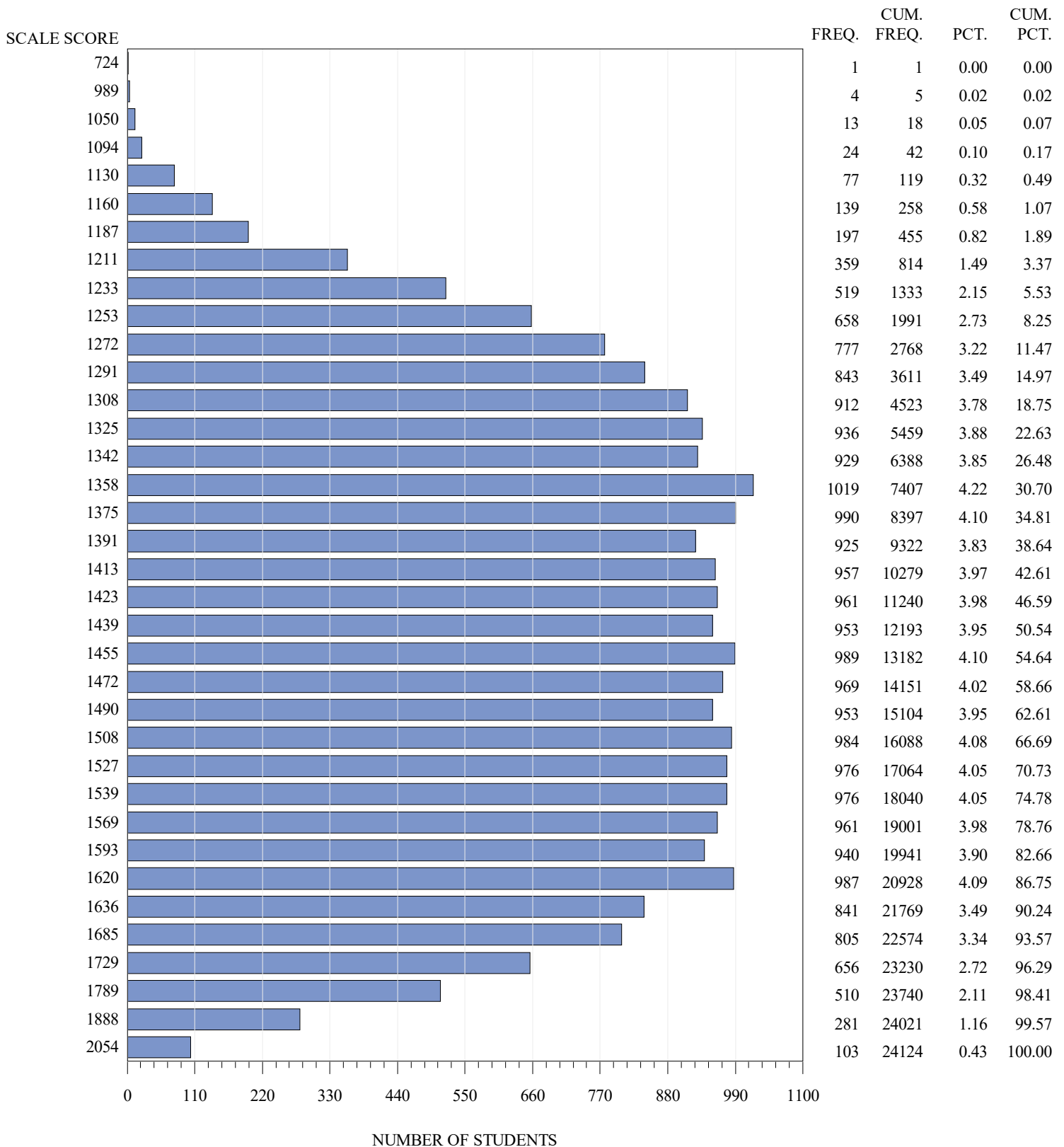
**Figure B.7.21. Spring 2018 STAAR Spanish Grade 3 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

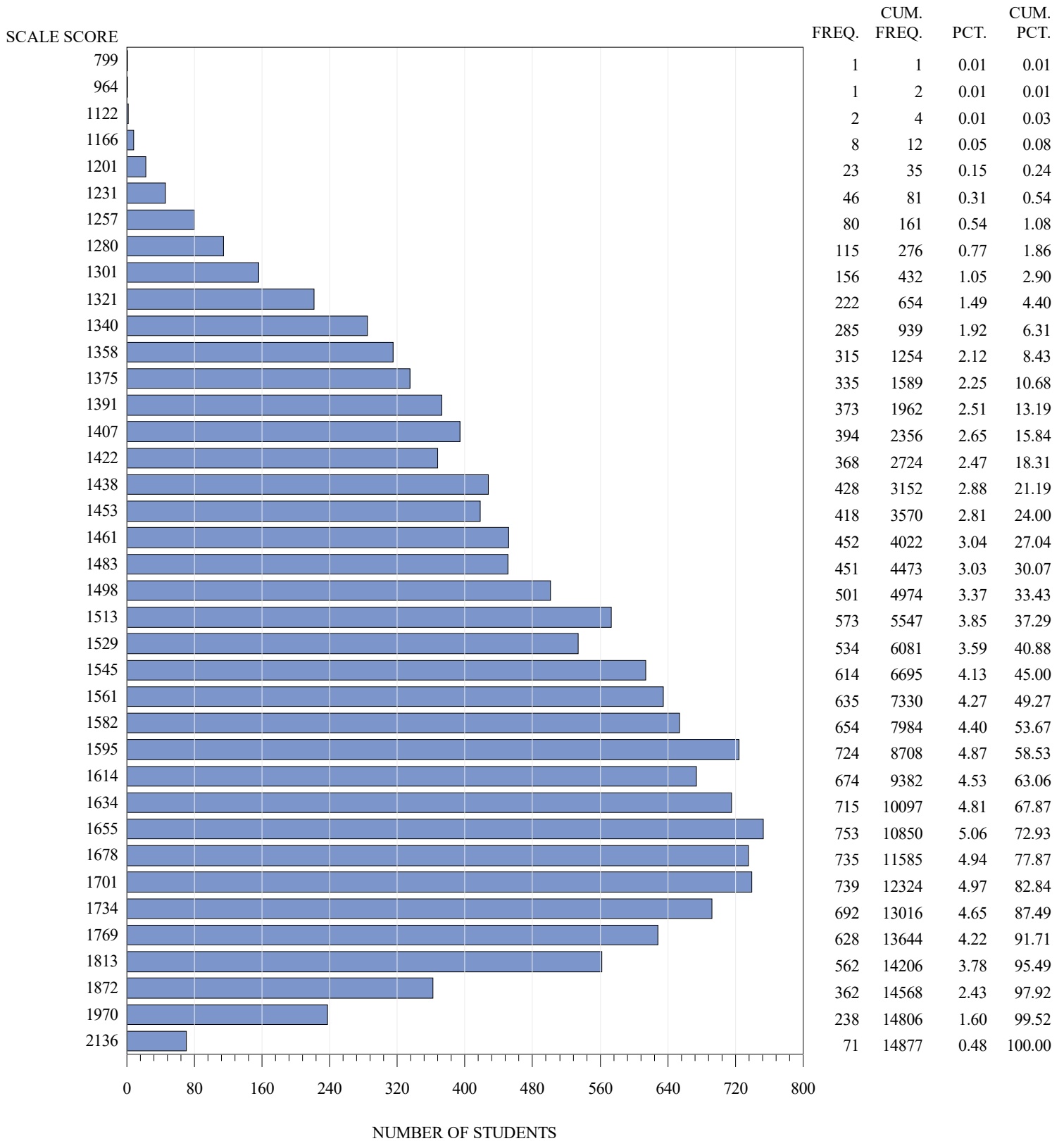
**Figure B.7.22. Spring 2018 STAAR Spanish Grade 4 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

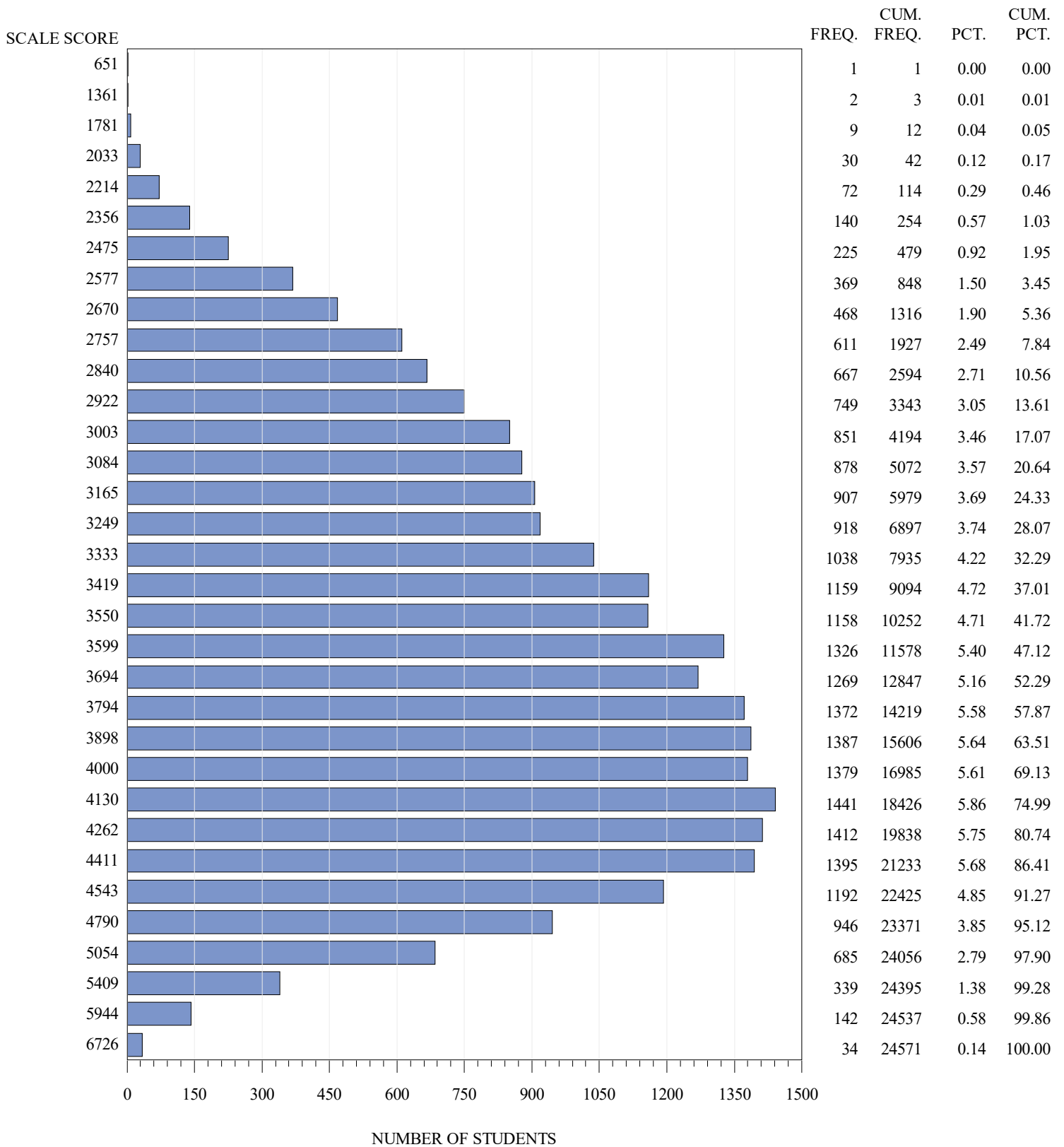
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.23. Spring 2018 STAAR Spanish Grade 5 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

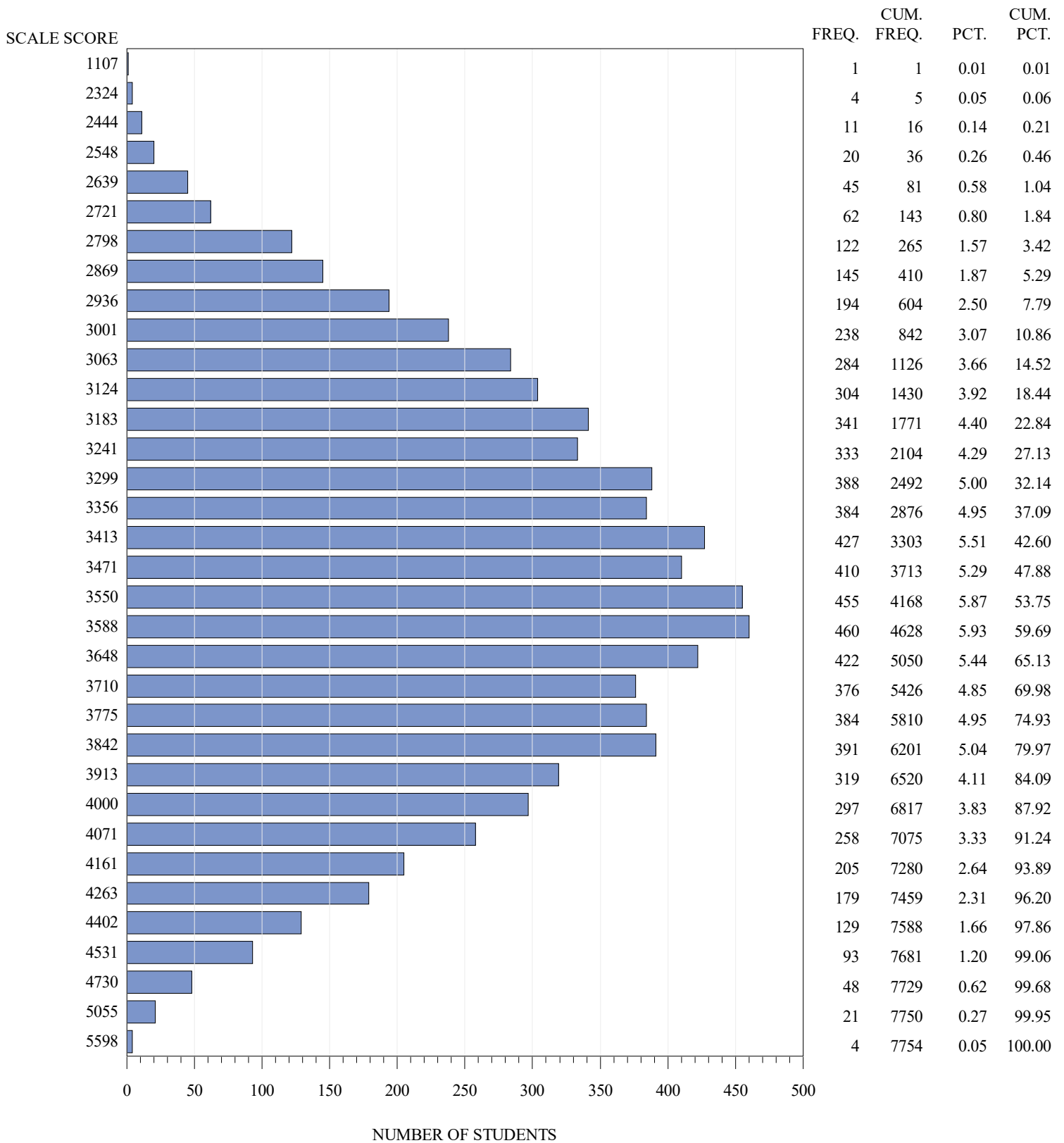
**Figure B.7.24. Spring 2018 STAAR Spanish Grade 4 Writing
Frequency Distribution of Scale Scores
All Students**



Notes:

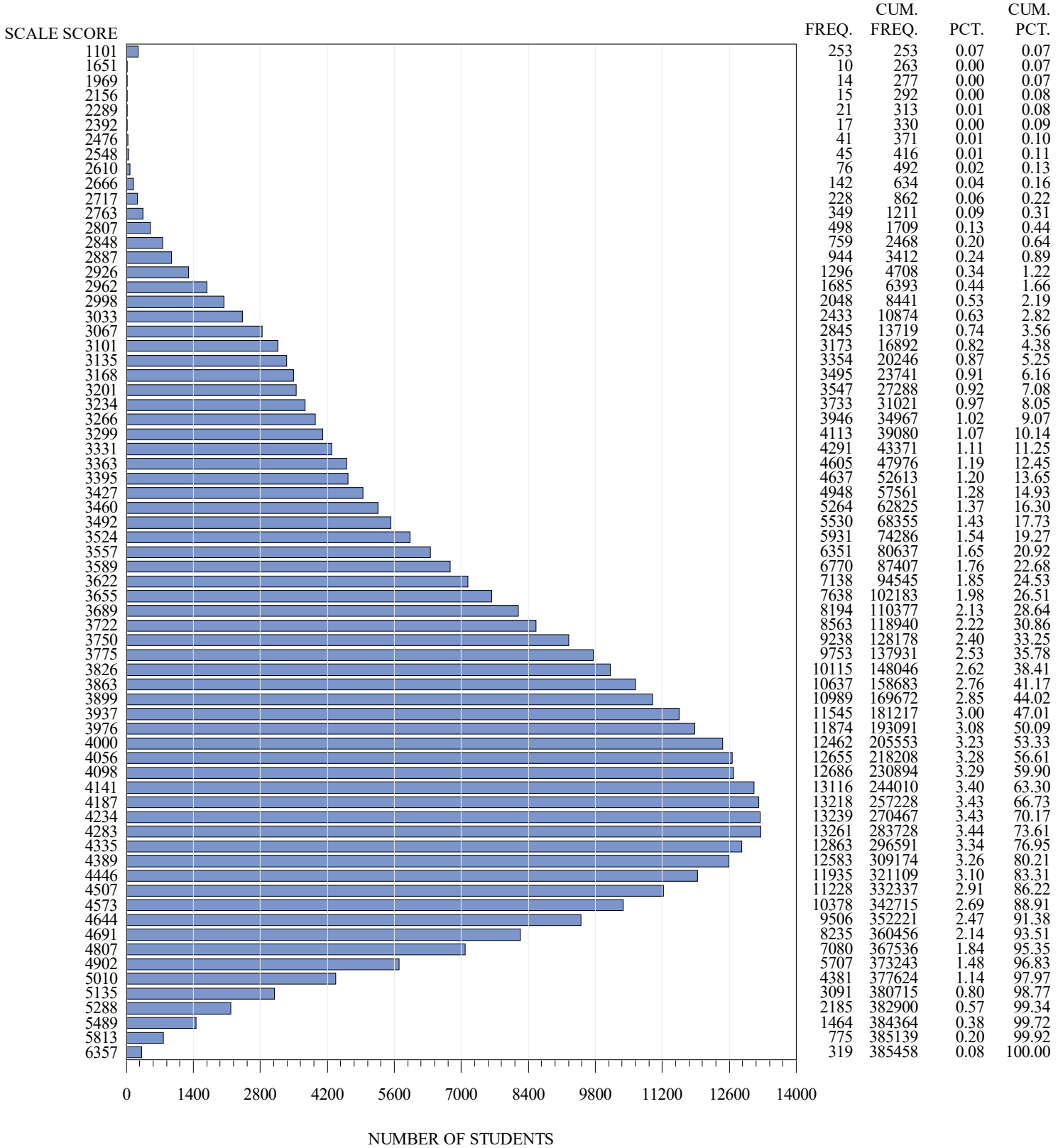
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.25. Spring 2018 STAAR Spanish Grade 5 Science
Frequency Distribution of Scale Scores
All Students**



Notes:
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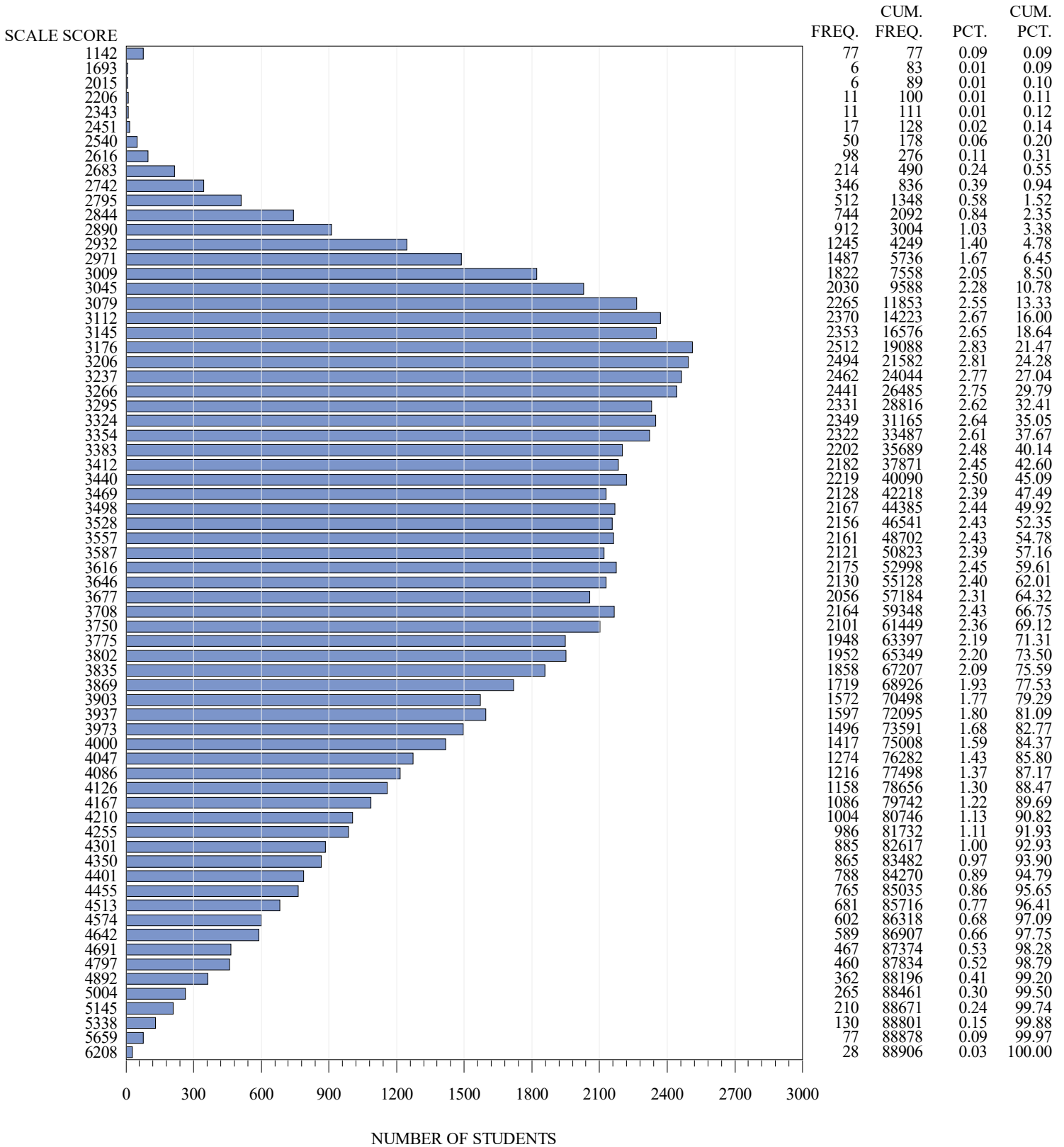
**Figure B.7.26. Spring 2018 STAAR EOC English I
Frequency Distribution of Scale Scores
Paper Students**



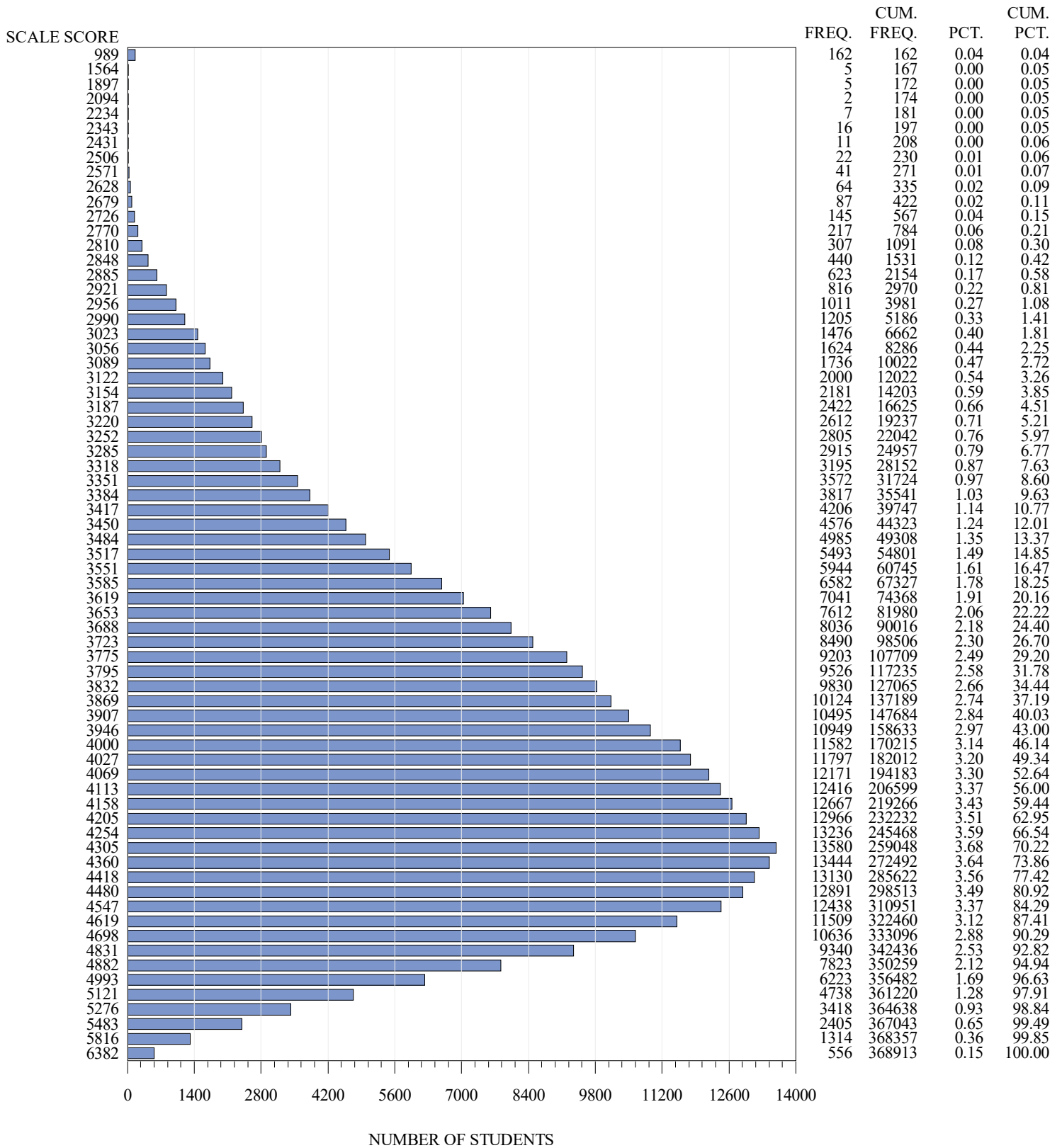
Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.27. Spring 2018 STAAR EOC English I
Frequency Distribution of Scale Scores
Online Students**



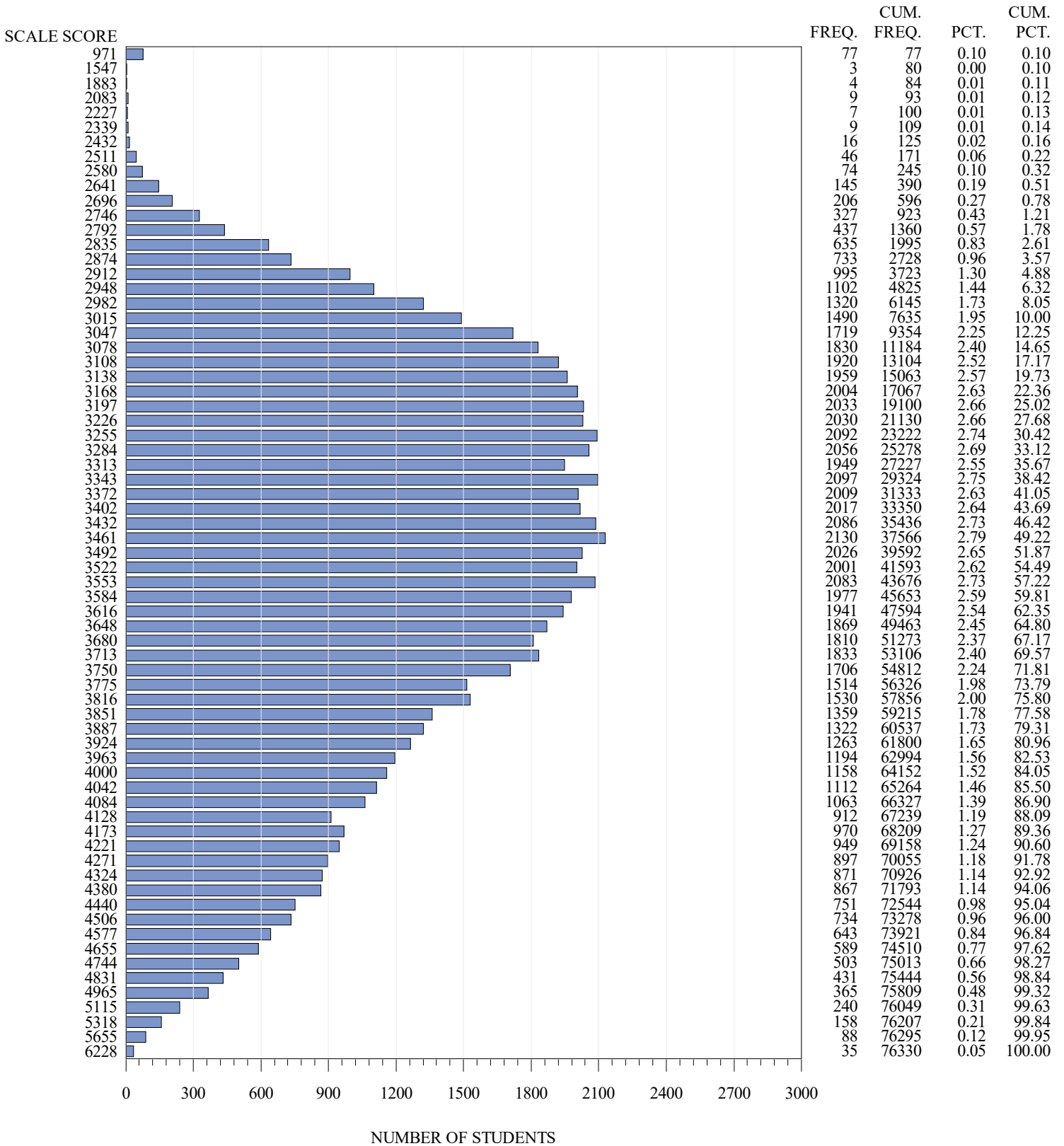
**Figure B.7.28. Spring 2018 STAAR EOC English II
Frequency Distribution of Scale Scores
Paper Students**



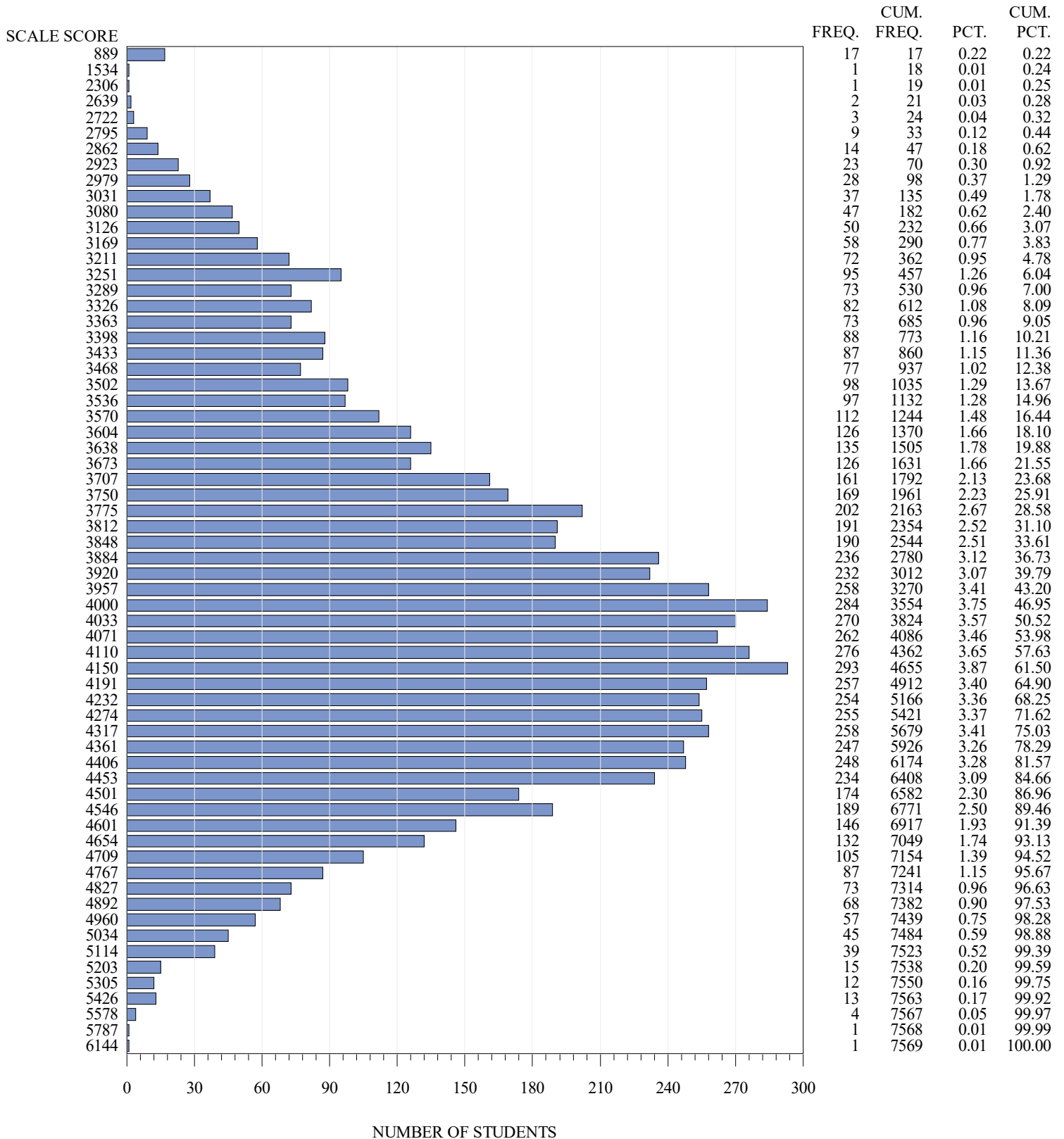
Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.29. Spring 2018 STAAR EOC English II
Frequency Distribution of Scale Scores
Online Students**

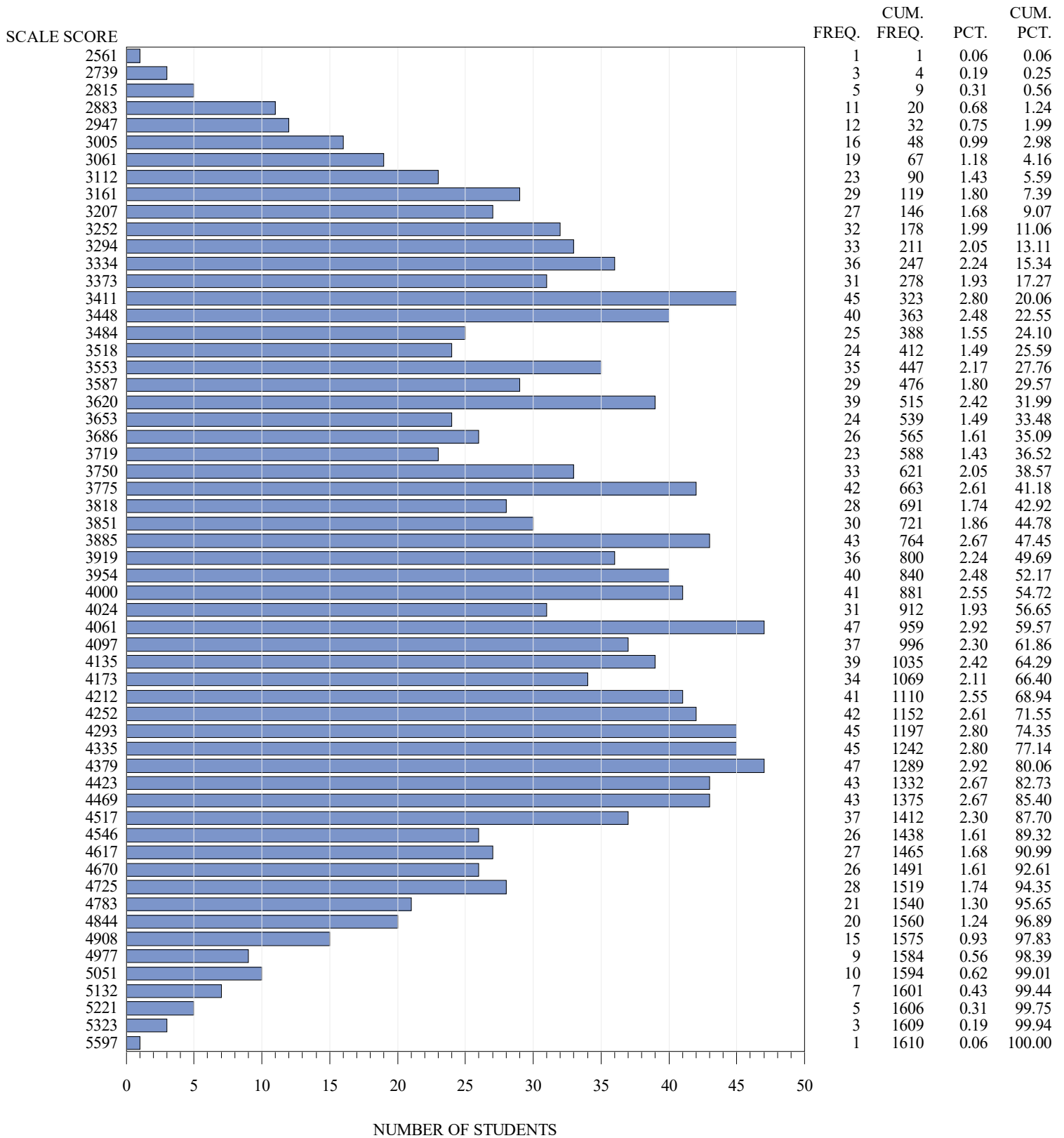


**Figure B.7.30. Spring 2018 STAAR EOC English III
Frequency Distribution of Scale Scores
Paper Students**

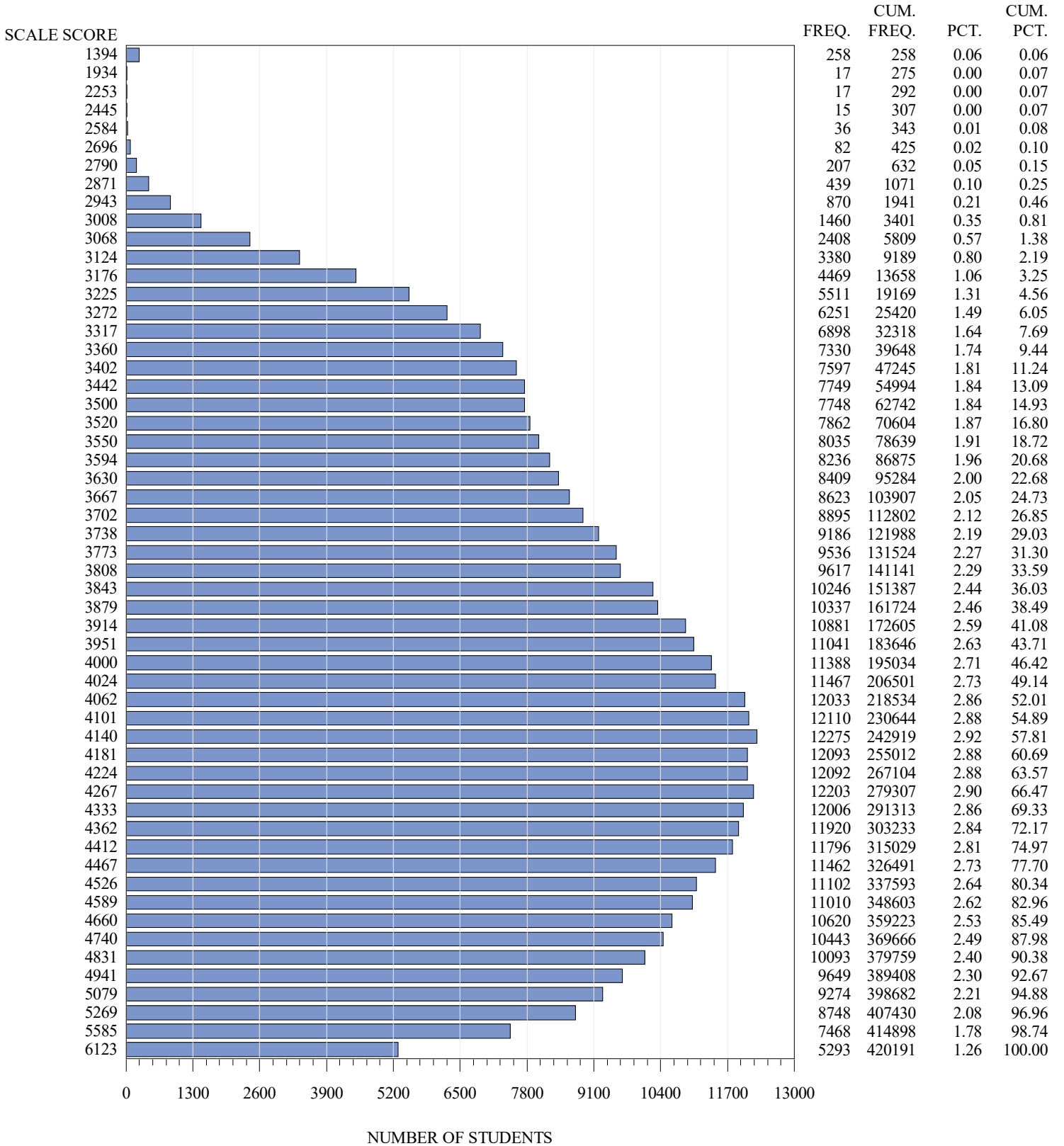


Notes:
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.31. Spring 2018 STAAR EOC English III
Frequency Distribution of Scale Scores
Online Students**



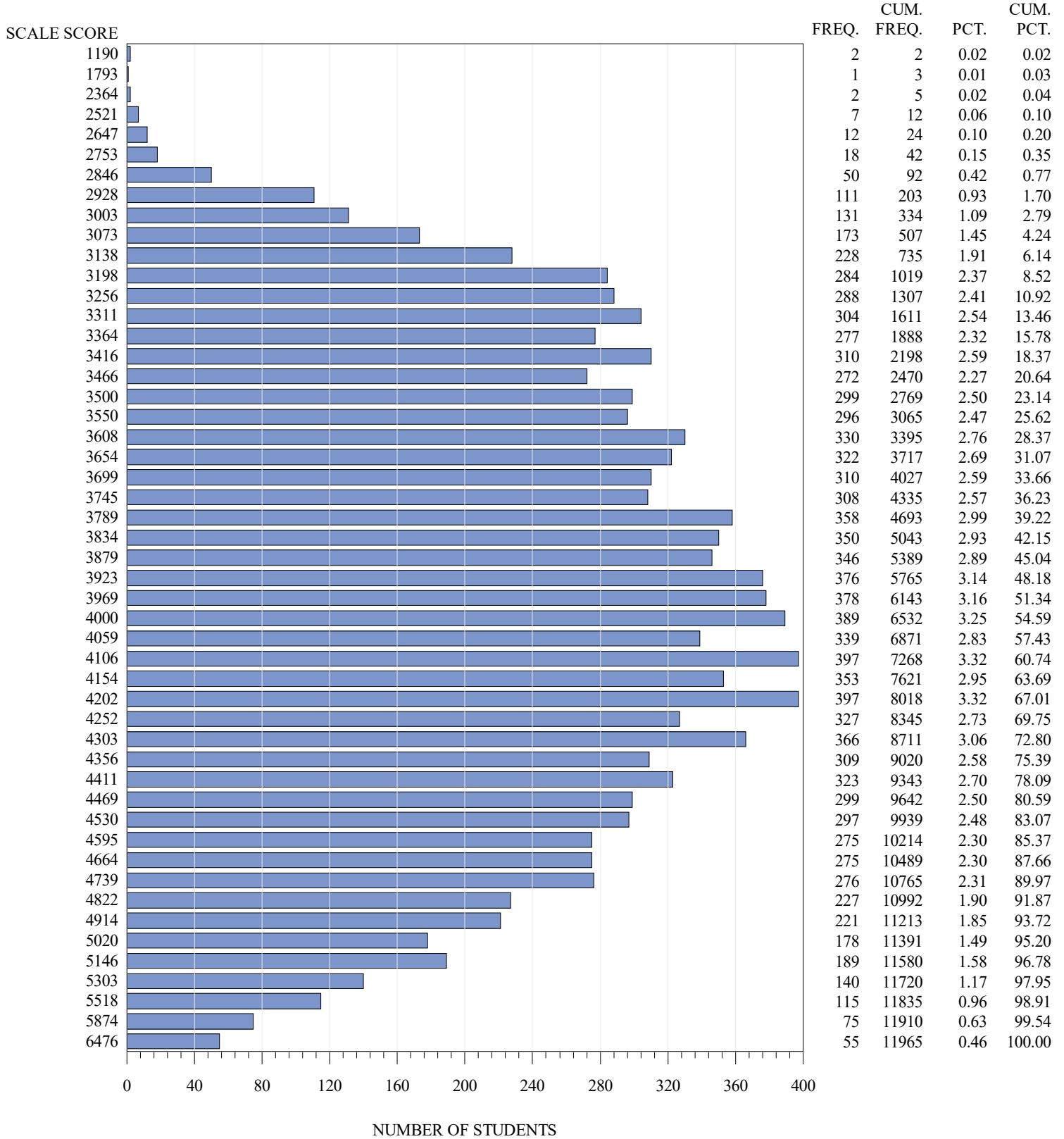
**Figure B.7.32. Spring 2018 STAAR EOC Algebra I
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

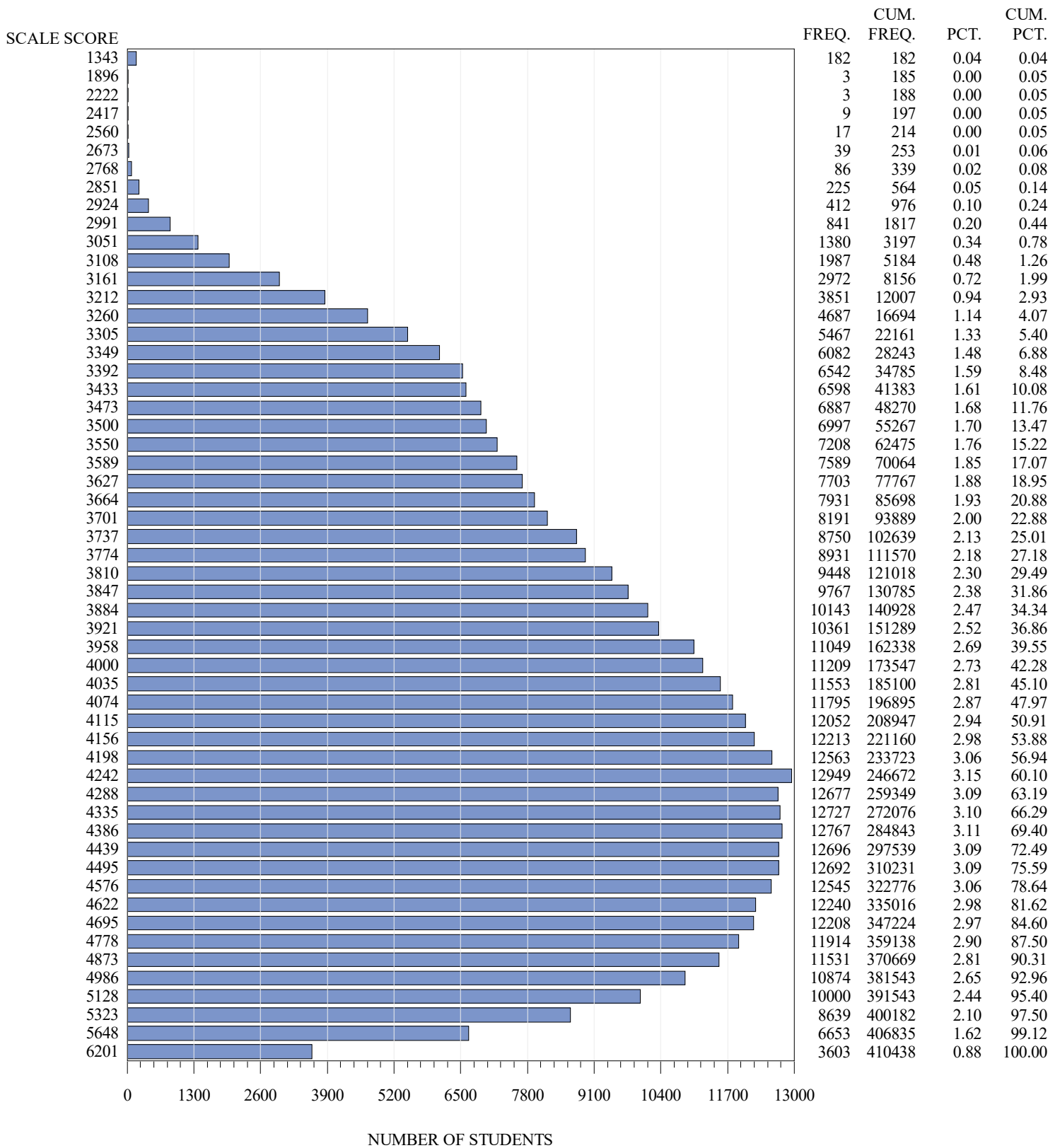
**Figure B.7.33. Spring 2018 STAAR EOC Algebra II
Frequency Distribution of Scale Scores
All Students**



Notes:

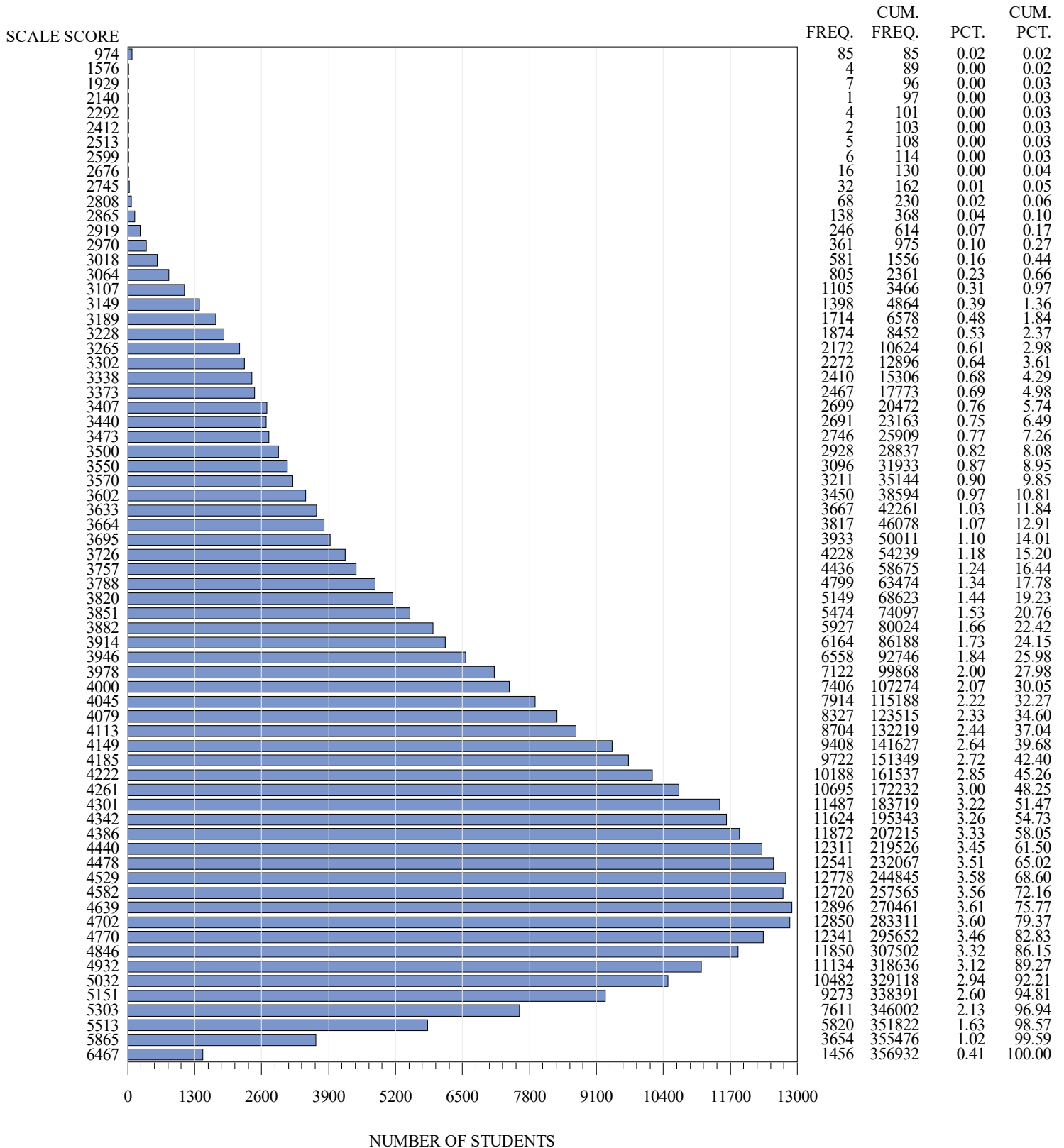
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.34. Spring 2018 STAAR EOC Biology
Frequency Distribution of Scale Scores
All Students**



Notes:
Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.

**Figure B.7.35. Spring 2018 STAAR EOC U.S. History
Frequency Distribution of Scale Scores
All Students**



Notes:

Students who took the braille or the paper STAAR with Embedded Supports (PE) version of the test are not included in the frequency distribution tables.