

**2021 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 2021 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 are 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 percent of the scores) from the score at the 3rd quartile (the point that splits the highest 25 percent 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 2021 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	325,064	1409.31	1385	1473	1096	226	162.62	26445.25	0.60	0.41
Grade 4 Mathematics	330,460	1522.19	1501	1364	1106	221	162.88	26528.27	0.62	0.23
Grade 5 Mathematics	339,642	1598.36	1574	1741	1102	215	166.89	27853.77	0.58	0.21
Grade 6 Mathematics	344,115	1606.23	1580	1511	1124	167	139.01	19322.46	0.82	1.12
Grade 7 Mathematics	295,490	1613.79	1575	1514	1103	174	131.82	17377.10	0.98	1.69
Grade 8 Mathematics	293,487	1647.04	1635	1513	1131	197	140.76	19813.16	0.66	1.07
Grade 3 Reading	310,193	1416.95	1413	1487	1153	207	150.47	22642.26	0.29	0.27
Grade 4 Reading	318,025	1482.78	1477	1604	1137	205	144.55	20895.00	0.28	0.15
Grade 5 Reading	332,458	1558.22	1554	1681	1169	230	159.21	25346.85	0.20	0.01
Grade 6 Reading	349,453	1557.93	1556	1629	1153	194	135.93	18475.85	0.34	0.51
Grade 7 Reading	345,936	1631.49	1641	1753	1162	207	147.49	21754.29	0.02	0.01
Grade 8 Reading	338,180	1665.09	1666	1766	1197	199	140.02	19606.52	-0.01	0.54
Grade 4 Writing	316,801	3580.84	3550	3796	5855	870	630.38	397385.02	0.48	0.99
Grade 7 Writing	347,648	3706.41	3662	3876	5895	871	643.49	414081.83	0.09	1.58
Grade 5 Science	337,581	3715.03	3671	3932	4481	762	541.36	293066.09	0.49	0.65
Grade 8 Science	338,224	3870.35	3805	4000	5426	866	662.10	438381.97	0.46	0.91
Grade 8 Social Studies	338,473	3656.03	3582	3245	4888	755	520.89	271327.46	0.50	0.96

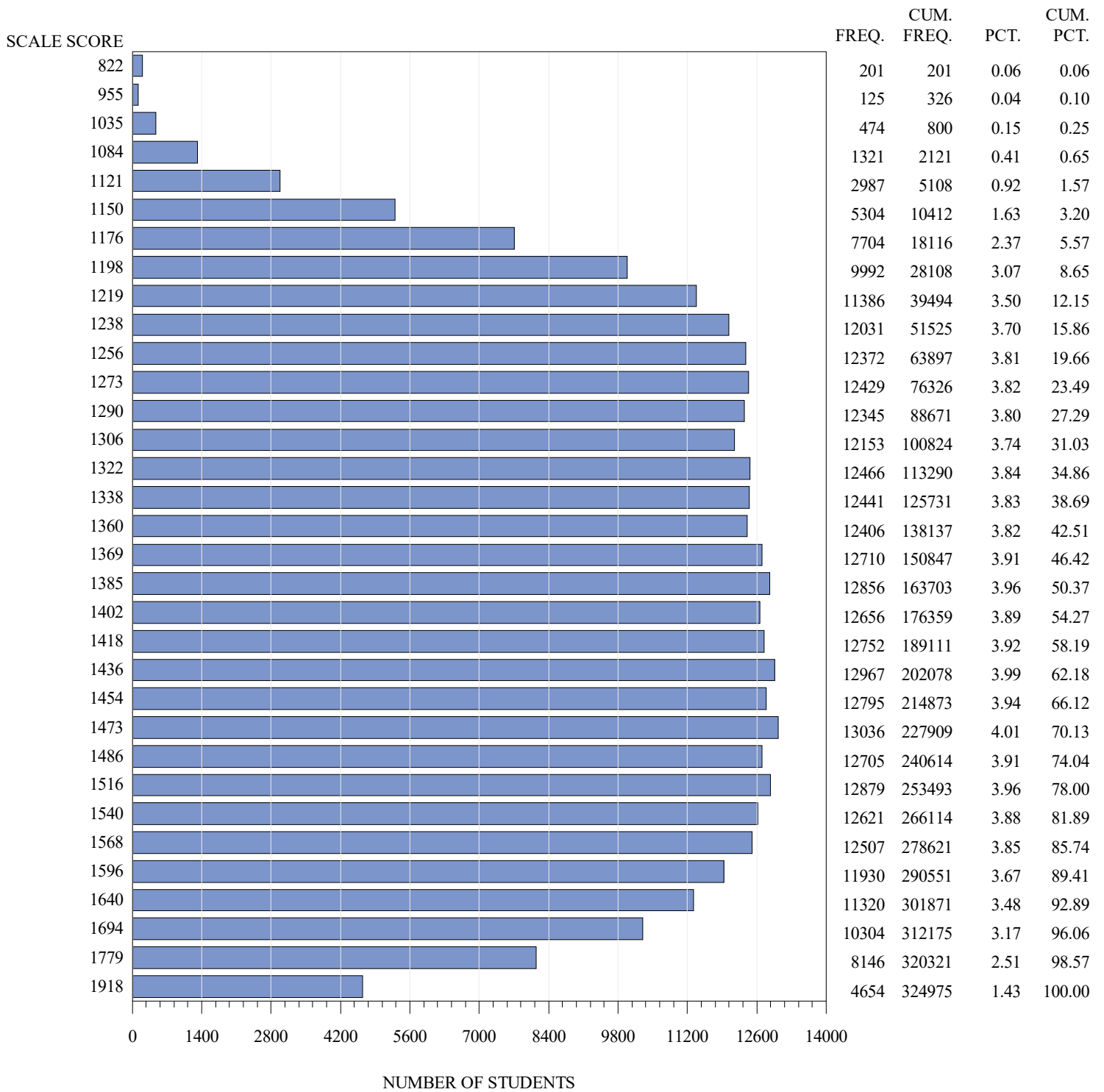
**Table B.7.2. Spring 2021 STAAR Spanish Grades 3–5 Assessments
Scale Score Descriptive Statistics**

Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Grade 3 Mathematics	13,335	1337.02	1322	1238	1096	180	133.70	17875.62	0.80	1.24
Grade 4 Mathematics	8,449	1430.40	1412	1346	1093	155	123.85	15339.39	0.93	1.32
Grade 5 Mathematics	5,809	1494.23	1478	1386	1095	171	130.67	17073.46	0.90	1.24
Grade 3 Reading	27,836	1344.81	1318	1253	1326	197	153.23	23477.96	0.76	0.94
Grade 4 Reading	20,660	1412.87	1383	1280	1333	219	158.59	25151.32	0.66	0.28
Grade 5 Reading	14,091	1556.57	1553	1670	1380	232	151.62	22989.19	0.09	-0.06
Grade 4 Writing	20,953	3330.34	3317	3697	6032	788	587.30	344924.16	0.39	0.43
Grade 5 Science	7,282	3352.76	3327	3095	4481	516	409.22	167463.88	0.55	0.91

**Table B.7.3. Spring 2021 STAAR EOC Assessments
Scale Score Descriptive Statistics**

Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Algebra I	396,272	3932.99	3829	3386	4778	826	590.17	348306.02	0.91	1.18
Algebra II	4,511	3641.05	3608	3311	5286	658	480.63	231001.10	0.67	1.18
English I	415,929	4002.65	4000	4000	5421	781	575.89	331654.73	-0.09	2.04
English II	393,559	4080.35	4084	4831	5521	791	578.28	334410.16	0.15	0.36
English III	2,772	3905.03	3912	4000	5303	638	462.47	213873.89	0.09	0.55
Biology	392,222	4116.46	4058	4469	4878	823	620.48	384994.50	0.65	0.61
U.S. History	347,885	4300.73	4290	4761	5671	843	625.12	390776.56	0.26	0.21

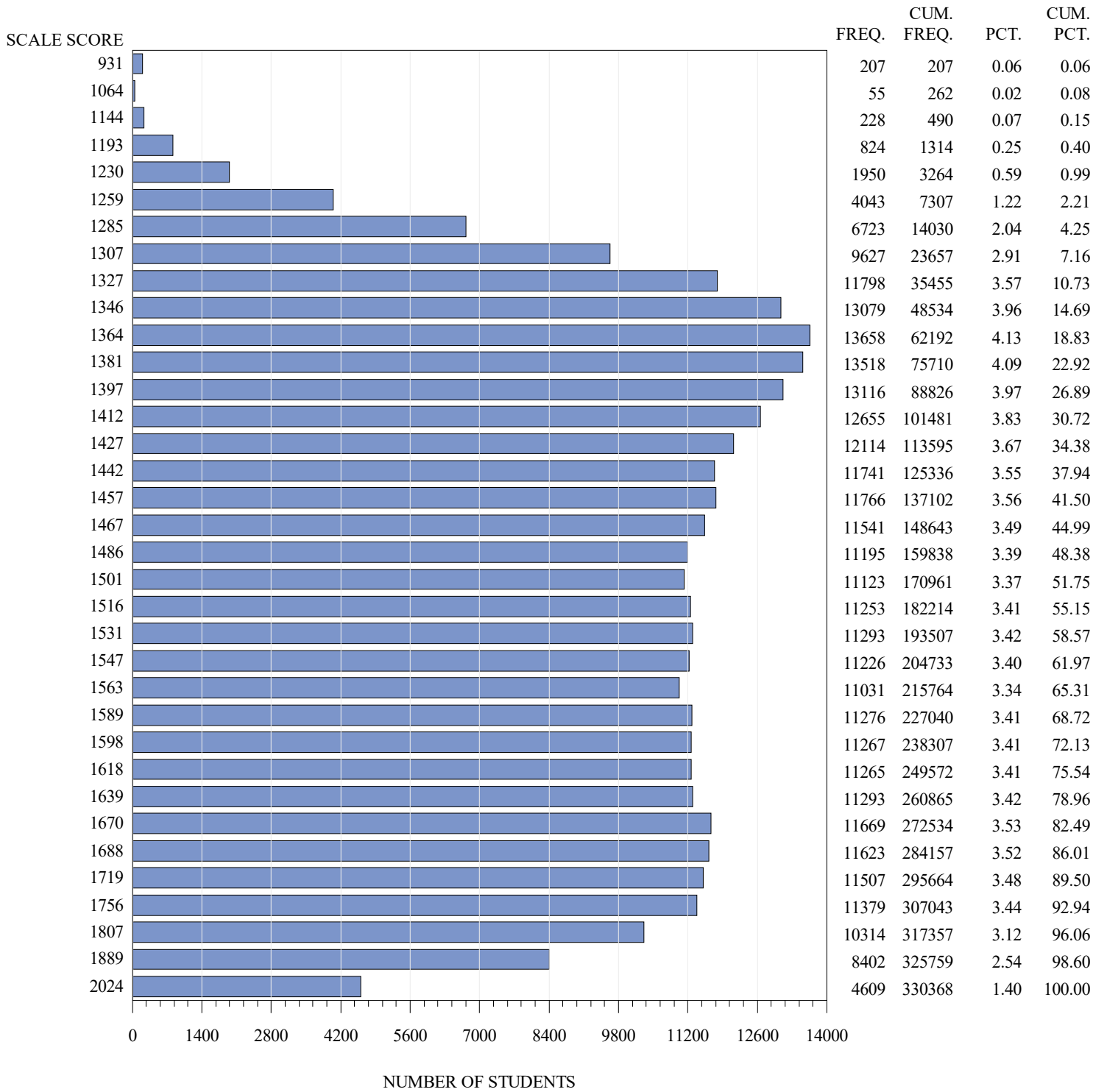
**Figure B.7.1. Spring 2021 STAAR English Grade 3 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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

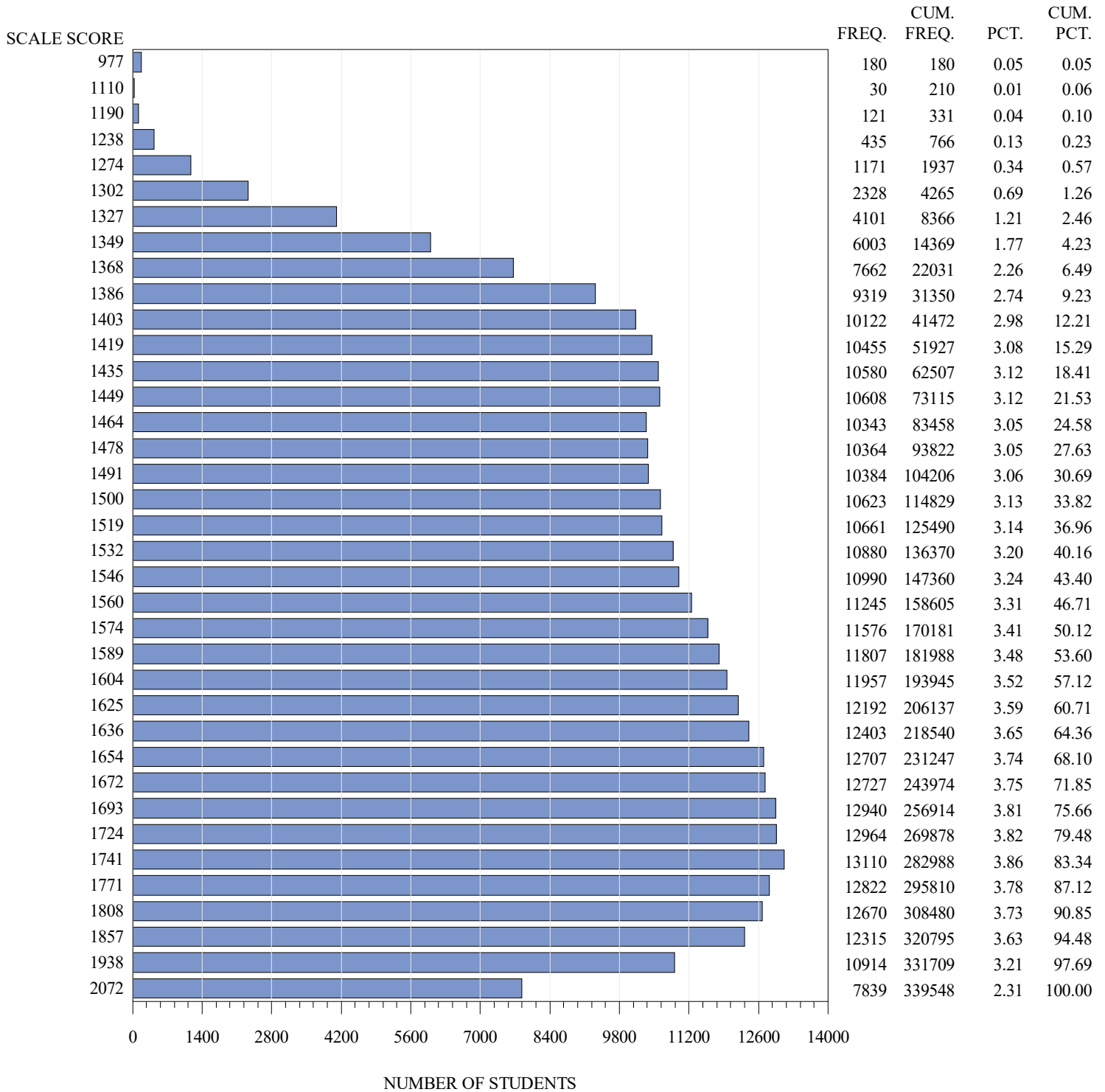
**Figure B.7.2. Spring 2021 STAAR English Grade 4 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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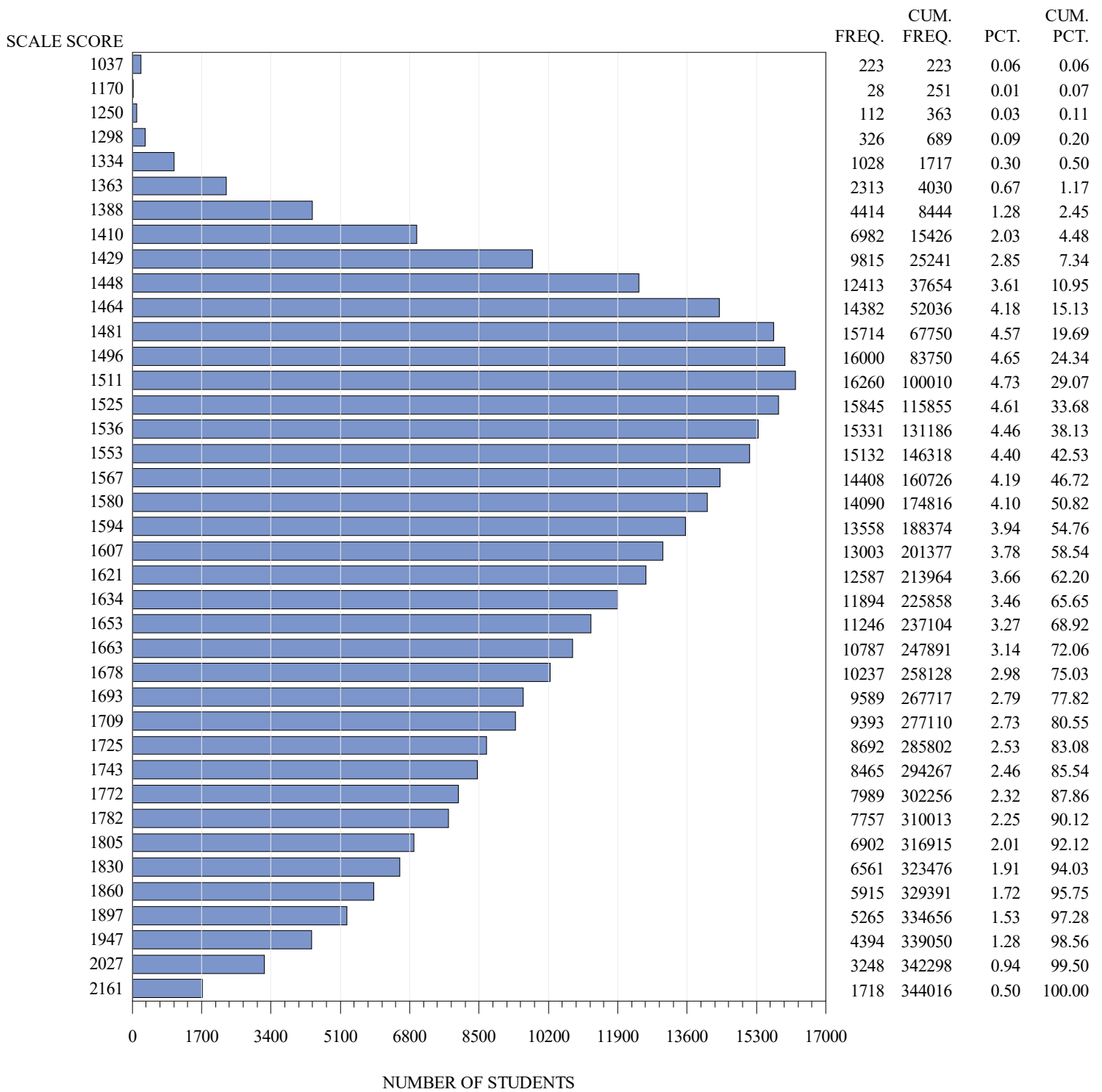
**Figure B.7.3. Spring 2021 STAAR English Grade 5 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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

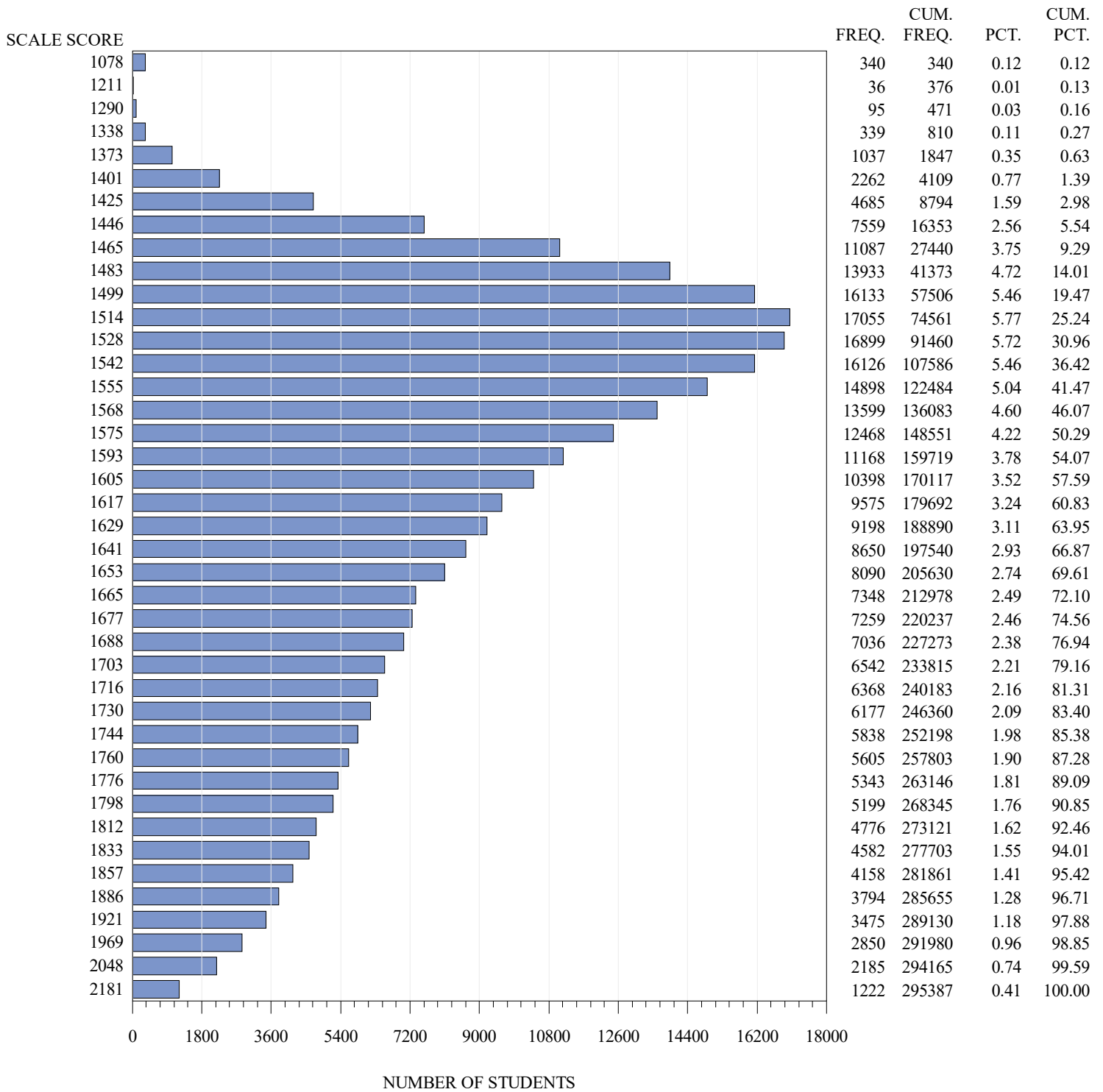
**Figure B.7.4. Spring 2021 STAAR English Grade 6 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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

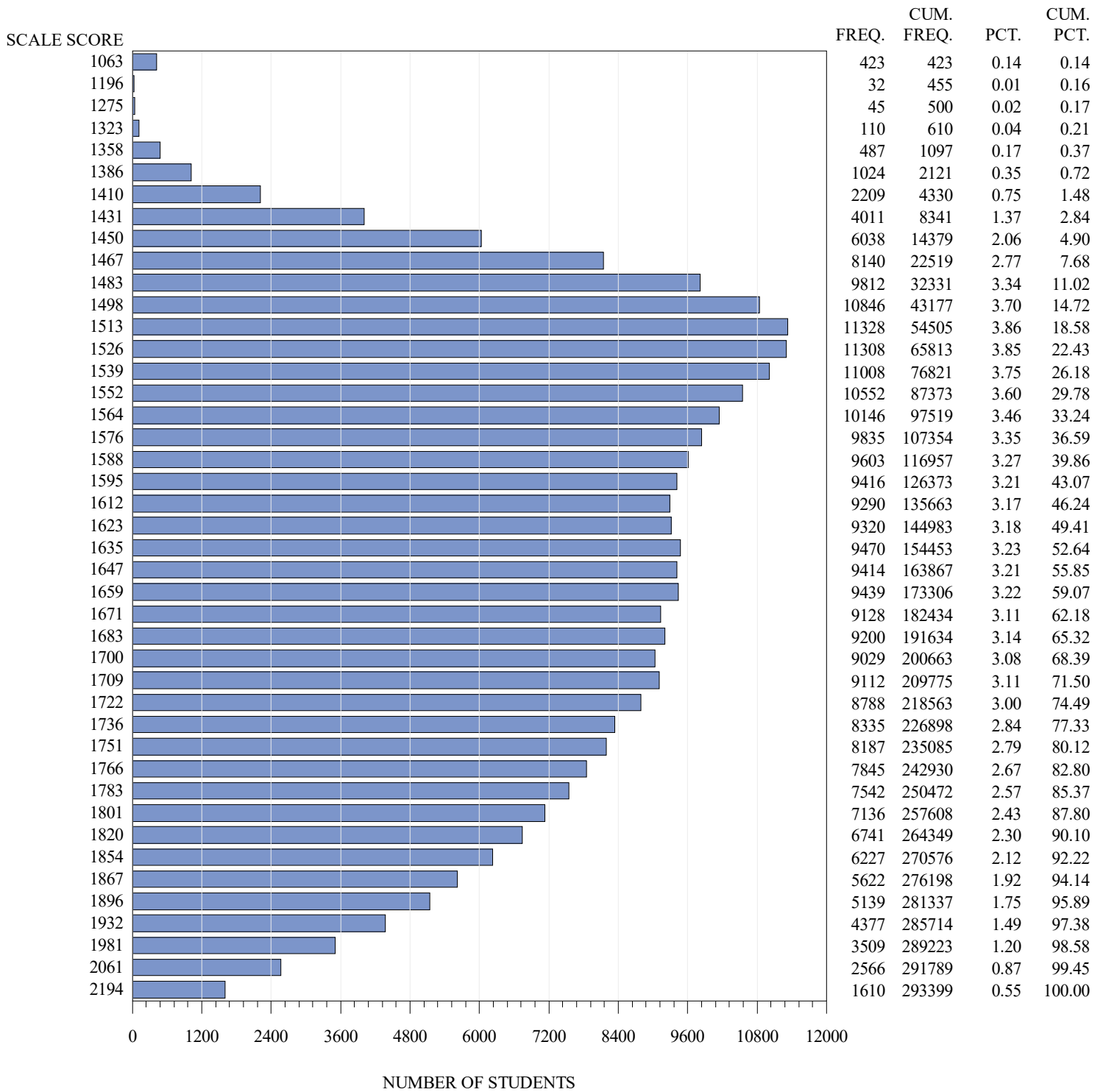
**Figure B.7.5. Spring 2021 STAAR English Grade 7 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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

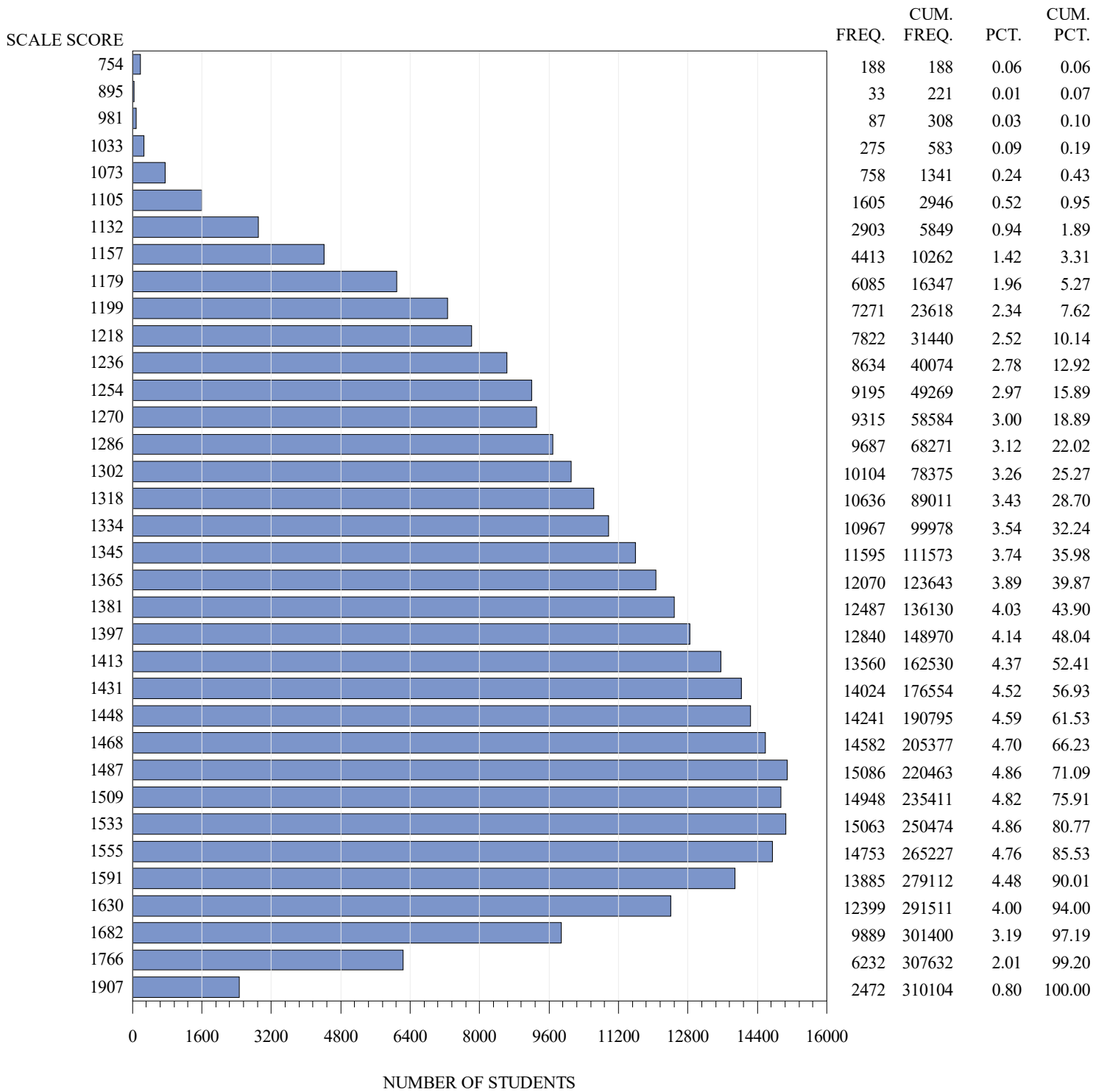
**Figure B.7.6. Spring 2021 STAAR English Grade 8 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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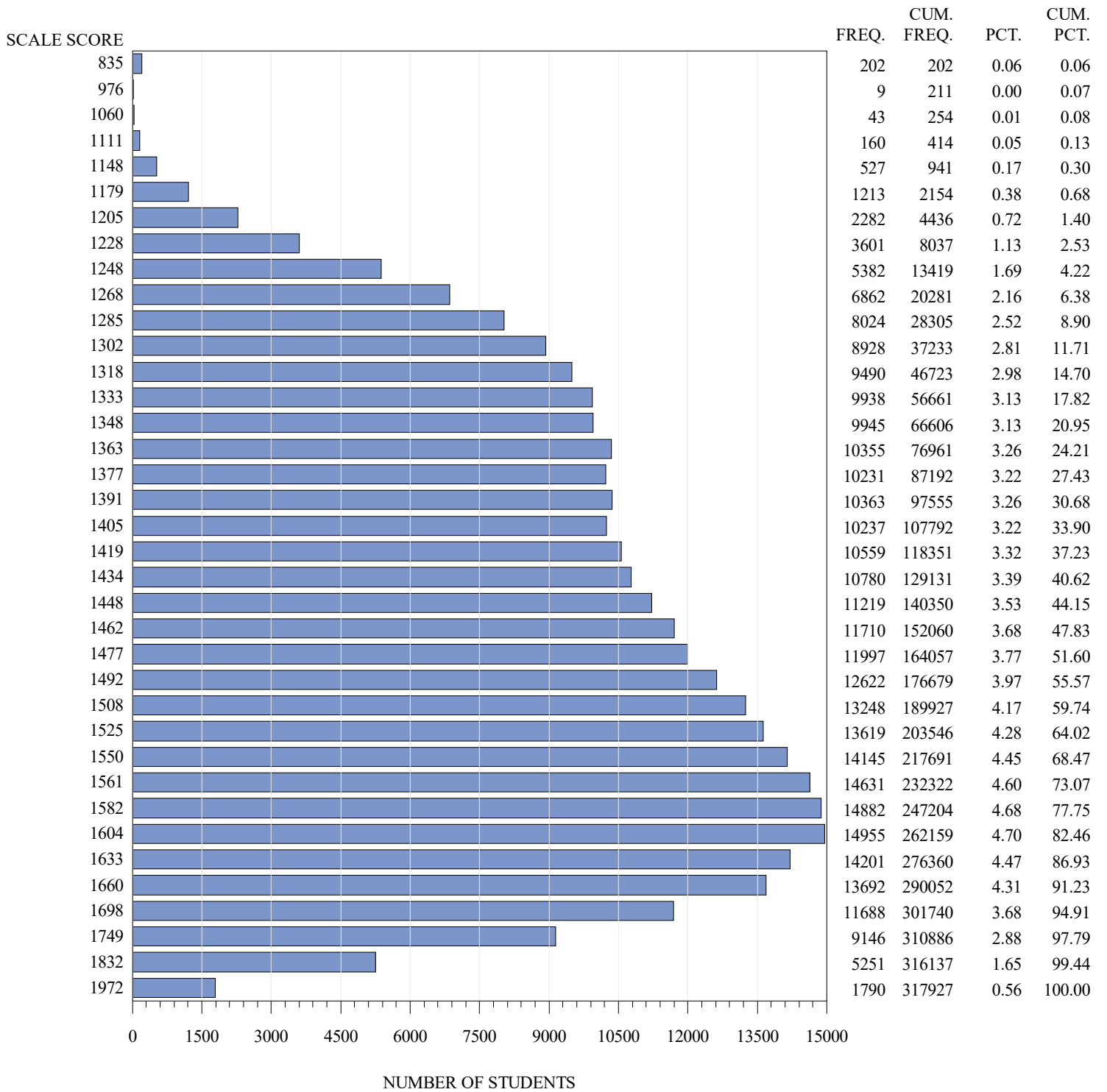
**Figure B.7.7. Spring 2021 STAAR English Grade 3 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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

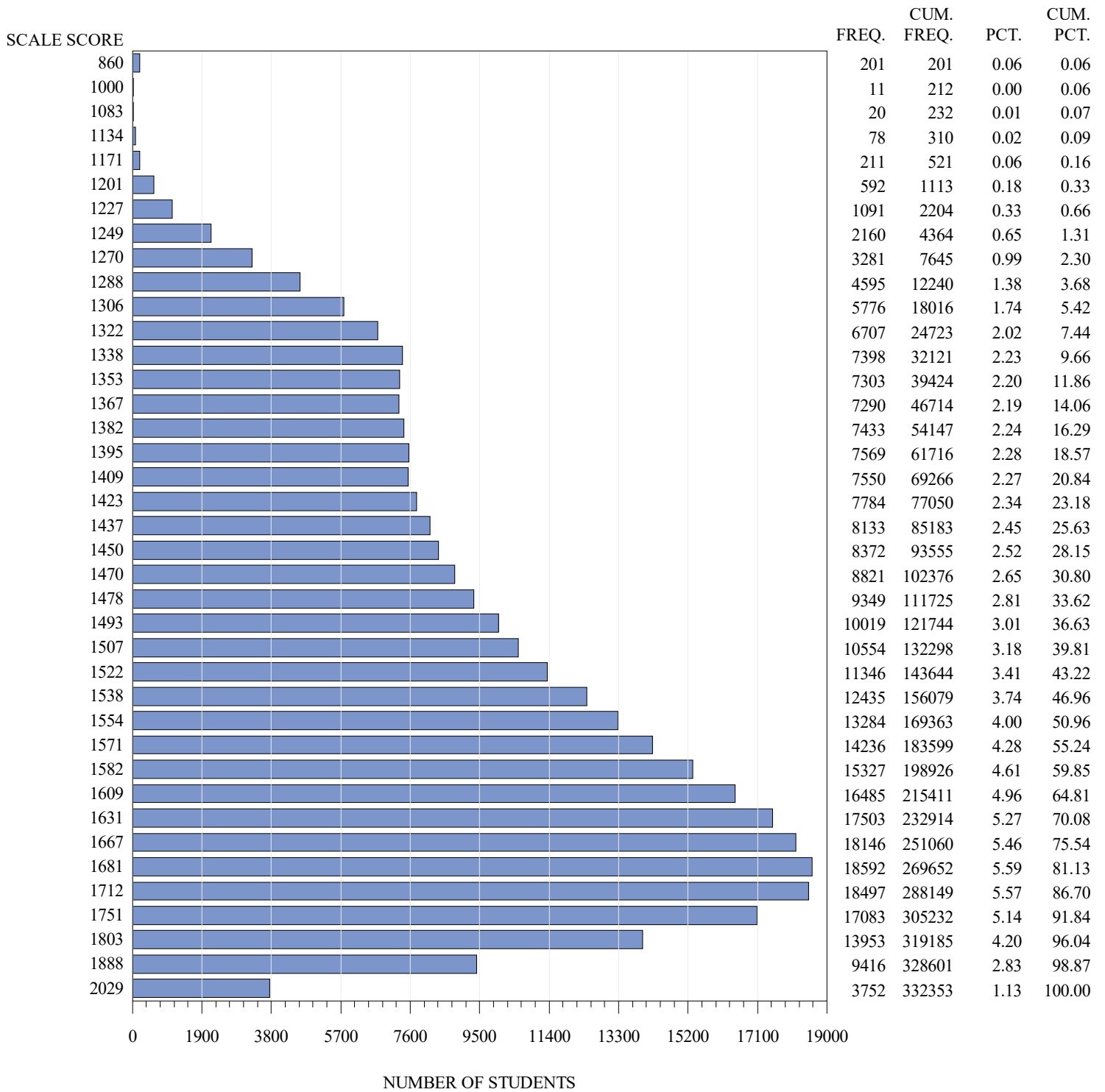
**Figure B.7.8. Spring 2021 STAAR English Grade 4 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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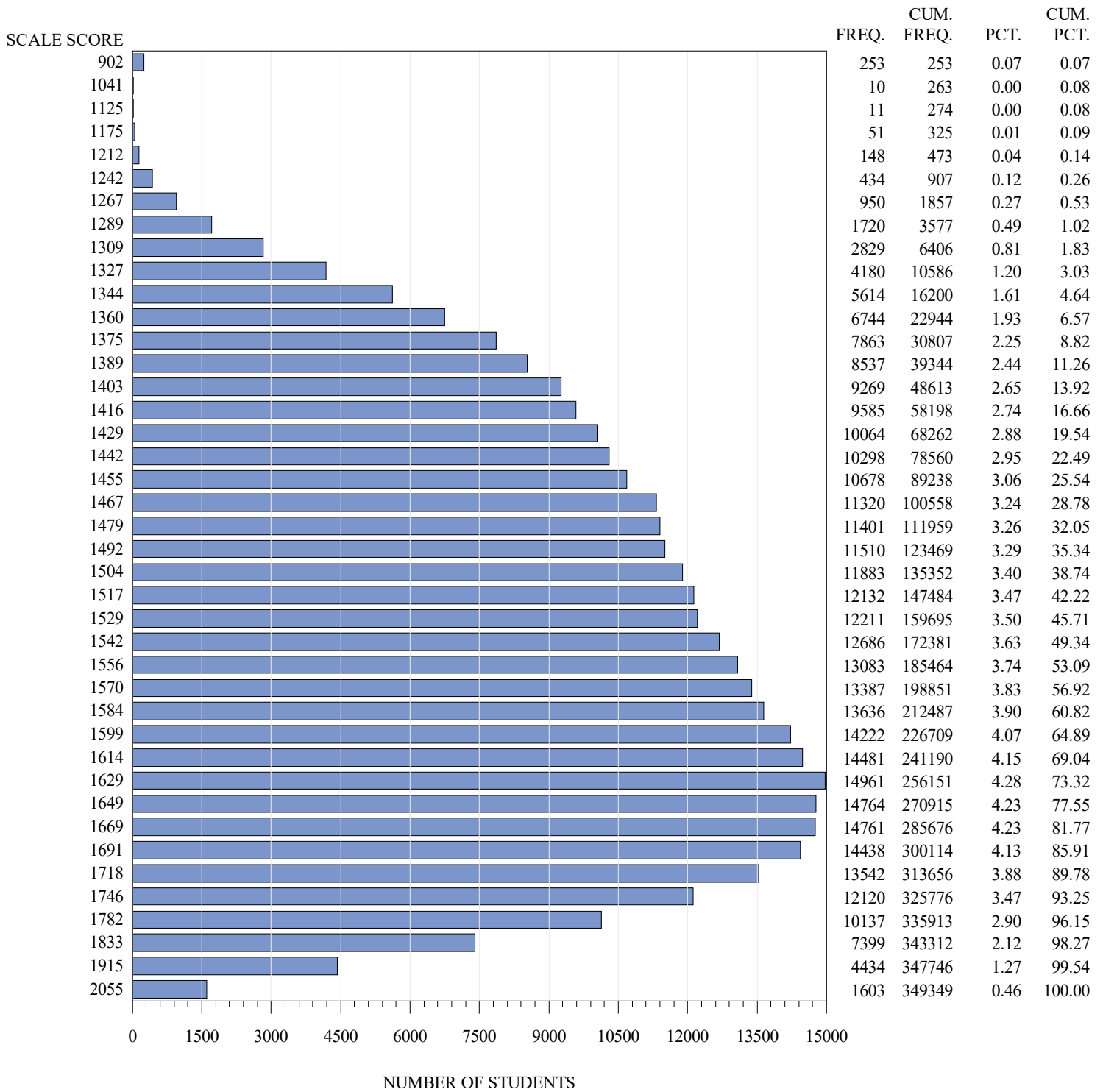
**Figure B.7.9. Spring 2021 STAAR English Grade 5 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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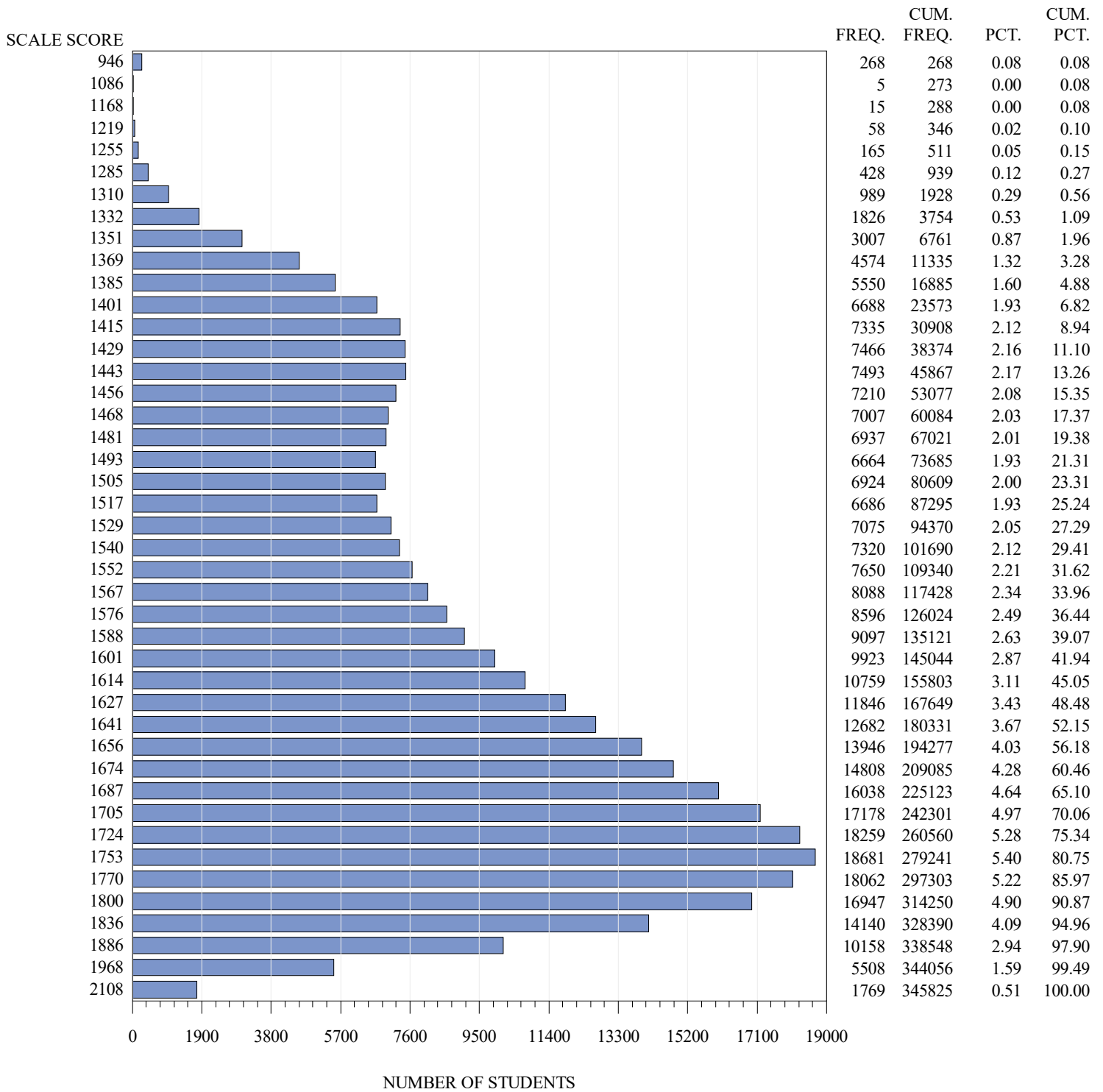
**Figure B.7.10. Spring 2021 STAAR English Grade 6 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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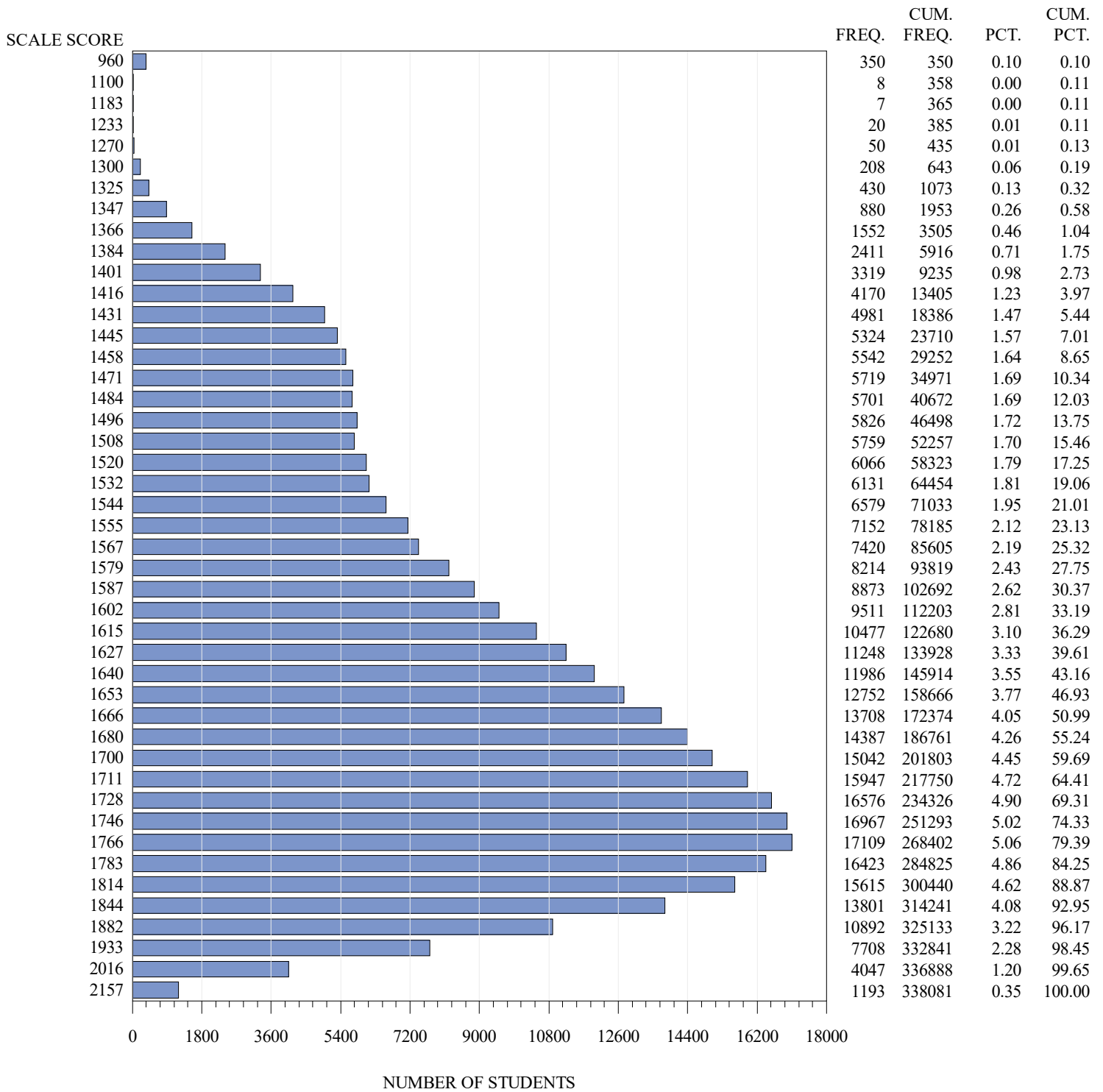
**Figure B.7.11. Spring 2021 STAAR English Grade 7 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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

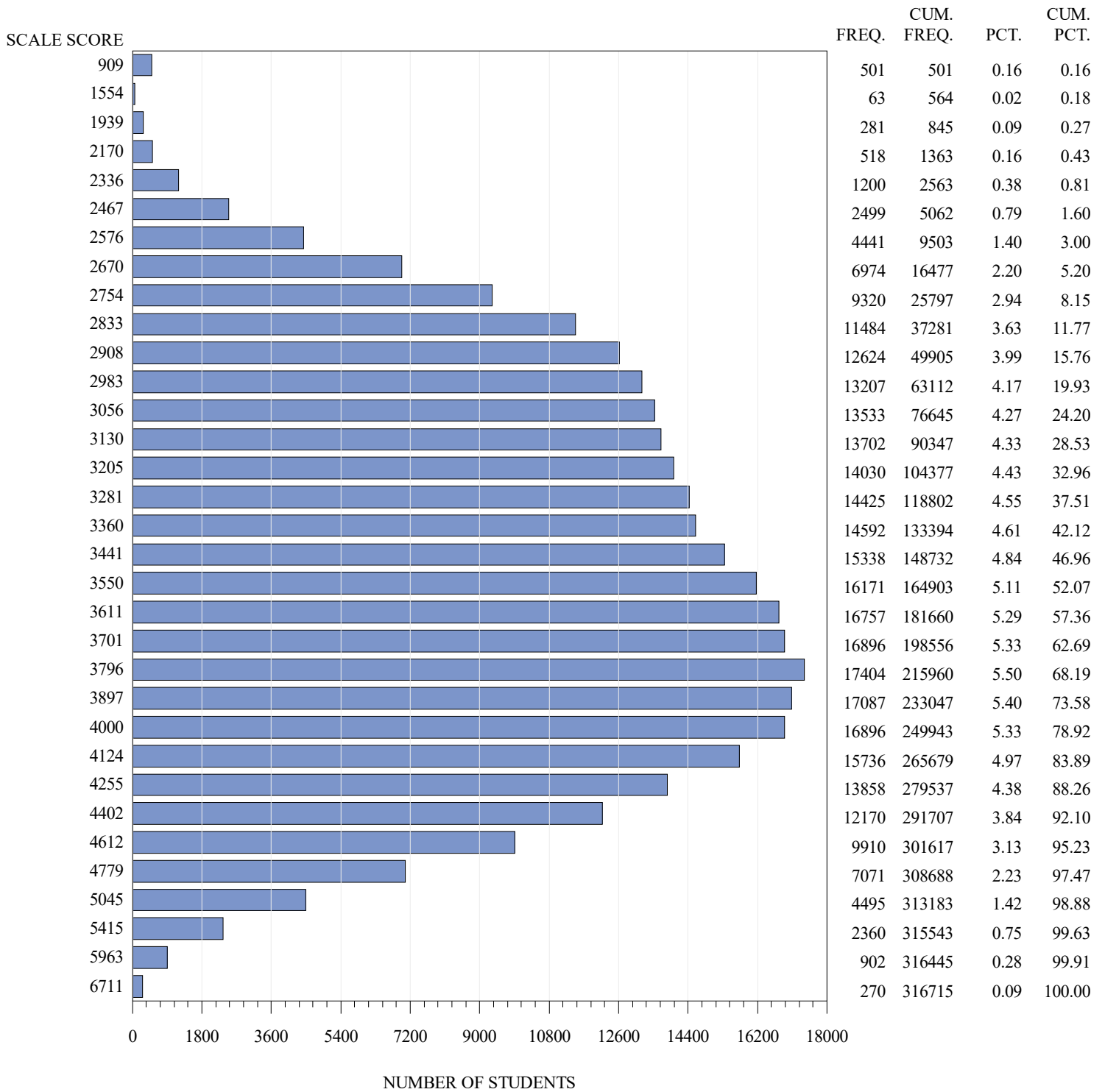
**Figure B.7.12. Spring 2021 STAAR English Grade 8 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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

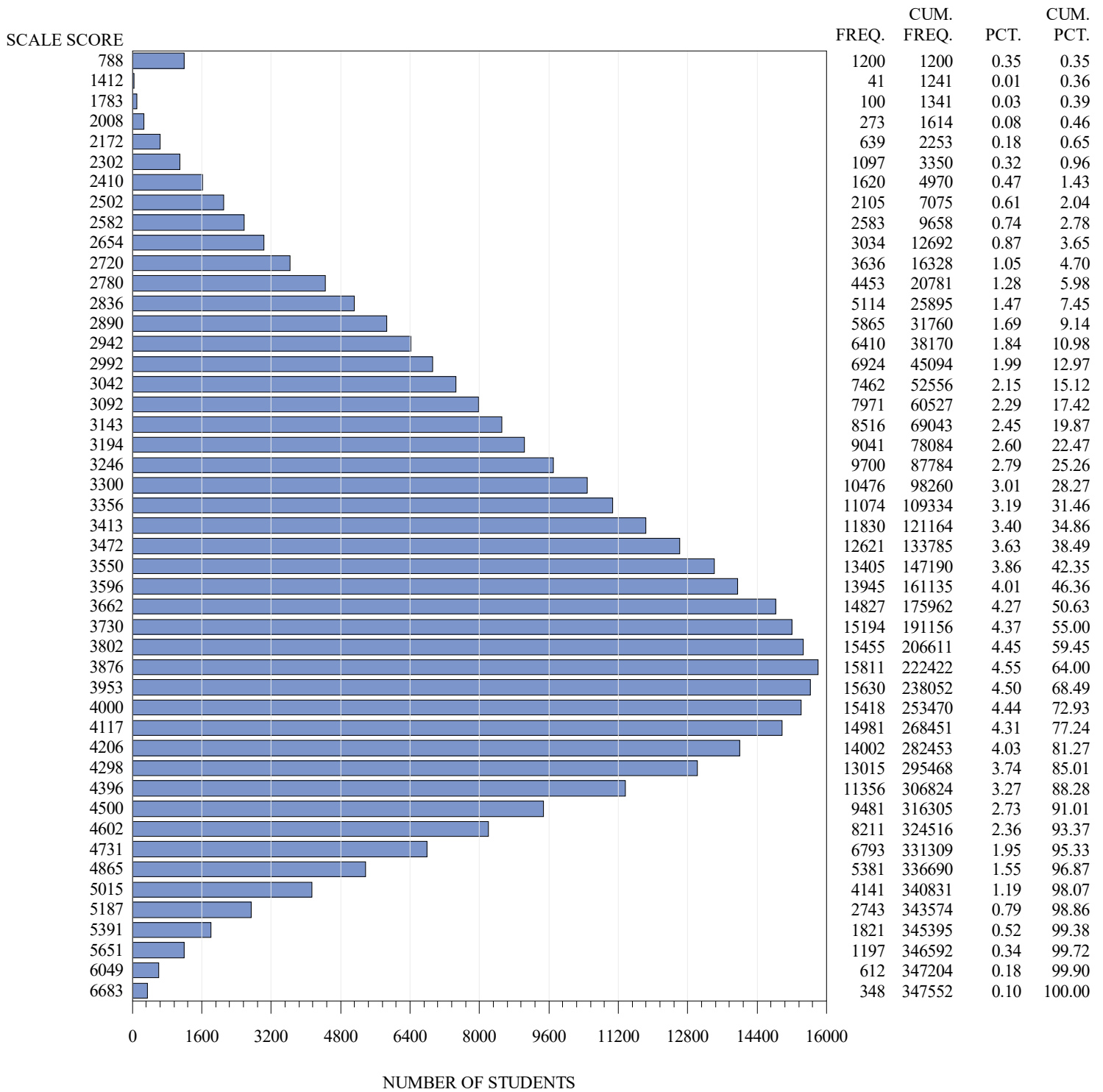
**Figure B.7.13. Spring 2021 STAAR English Grade 4 Writing
Frequency Distribution of Scale Scores
All Students**



Notes:

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

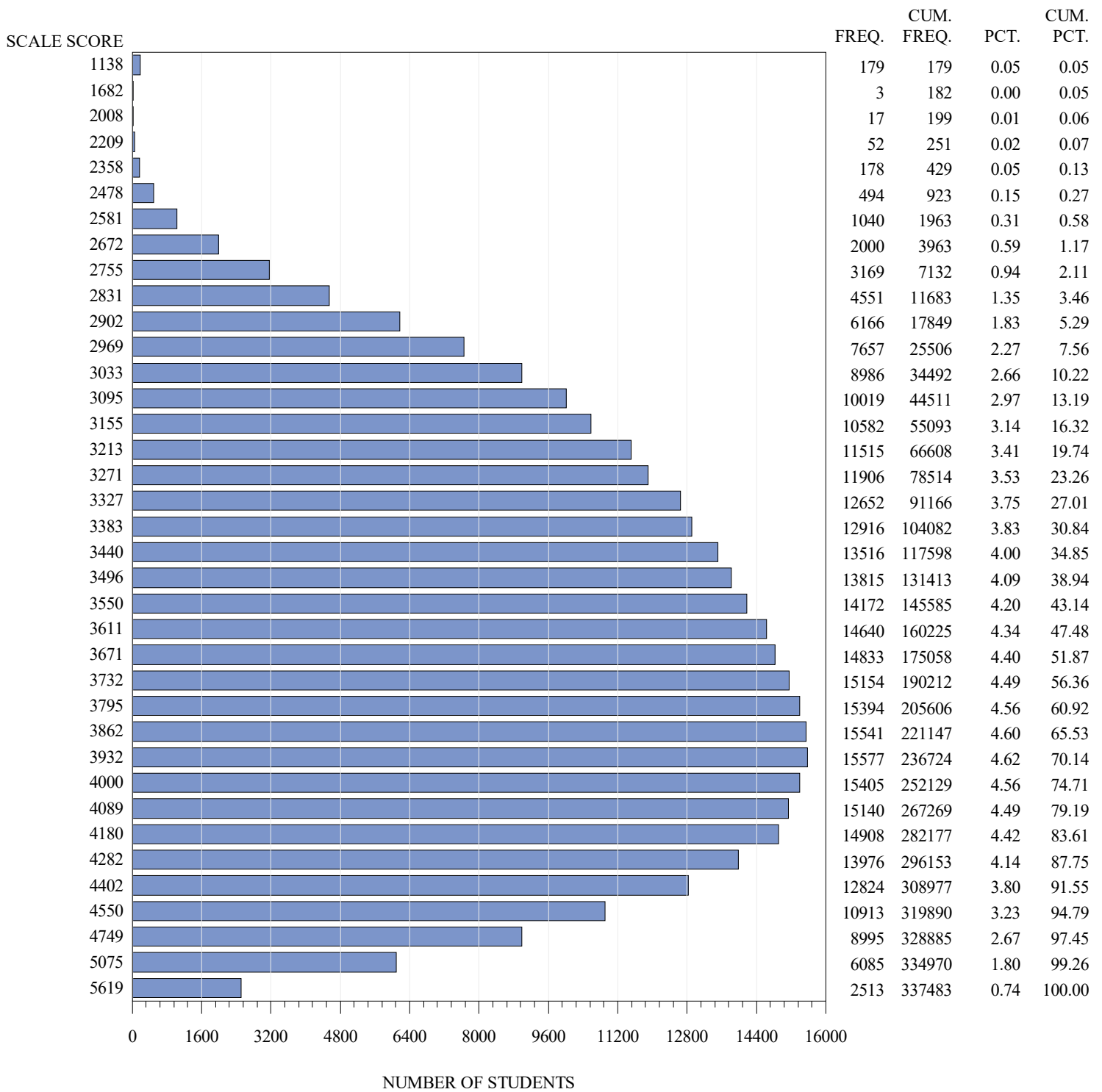
**Figure B.7.14. Spring 2021 STAAR English Grade 7 Writing
Frequency Distribution of Scale Scores
All Students**



Notes:

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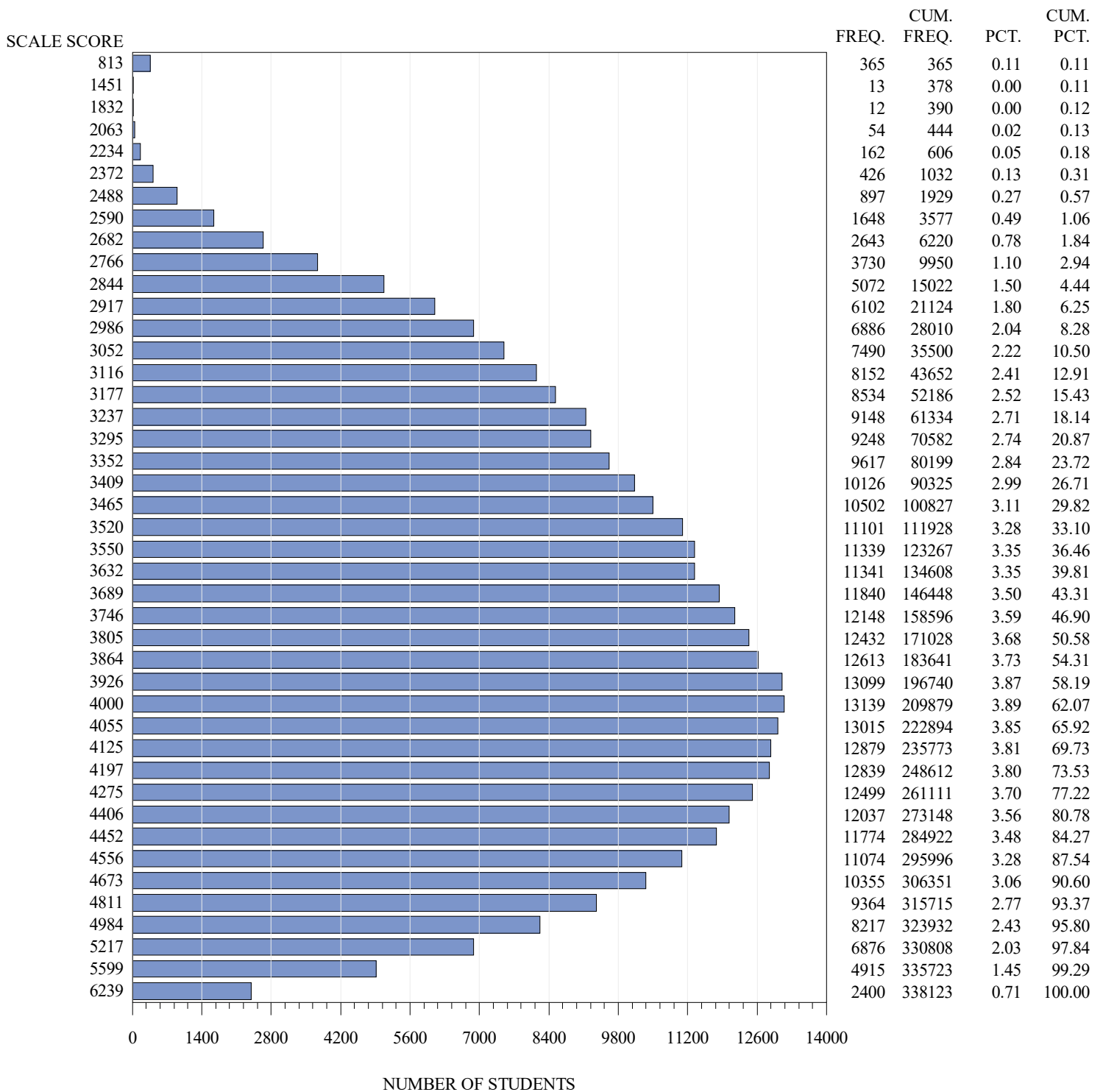
**Figure B.7.15. Spring 2021 STAAR English Grade 5 Science
Frequency Distribution of Scale Scores
All Students**



Notes:

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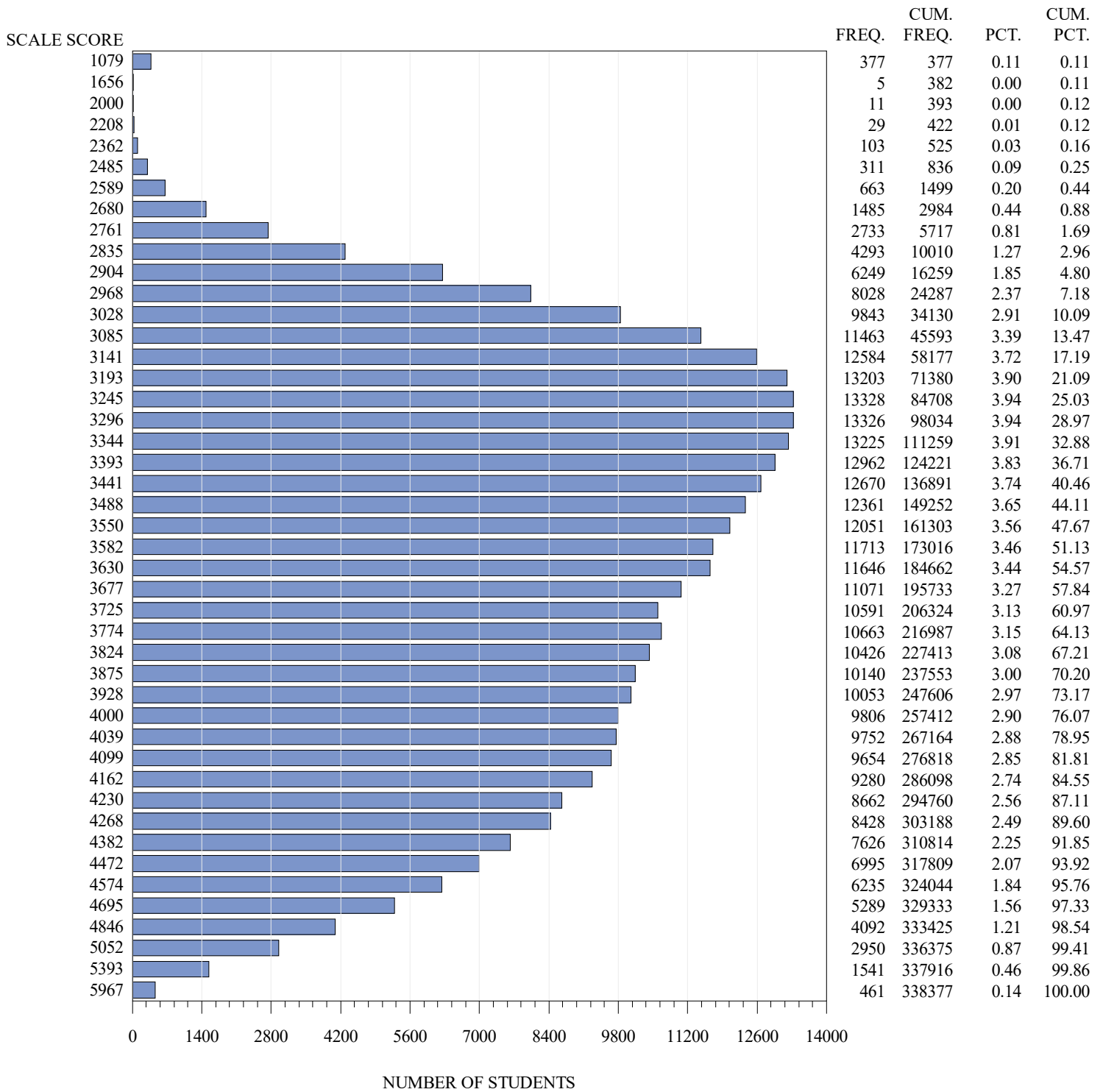
**Figure B.7.16. Spring 2021 STAAR English Grade 8 Science
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All Students**



Notes:

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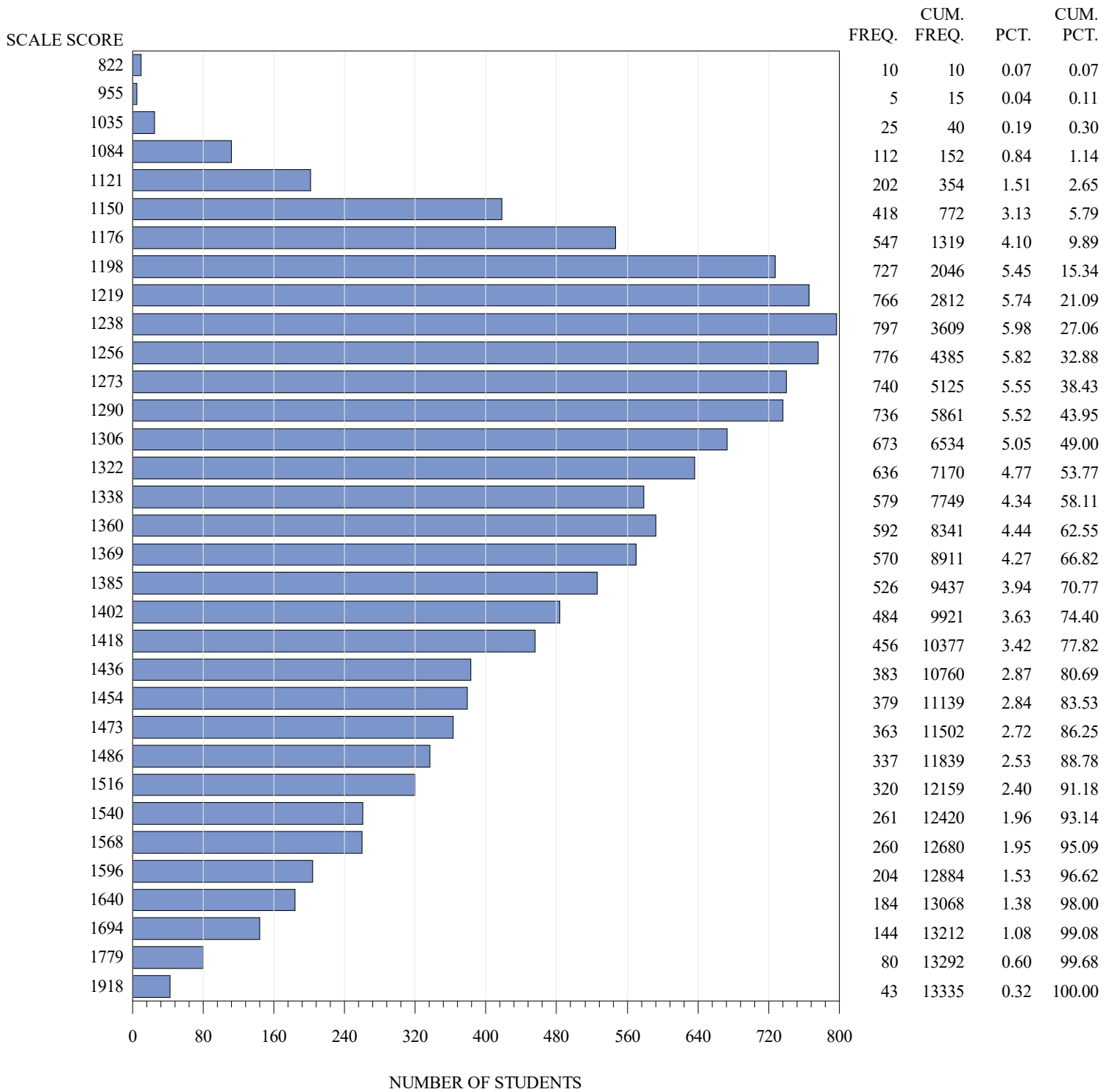
**Figure B.7.17. Spring 2021 STAAR English Grade 8 Social Studies
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All Students**



Notes:

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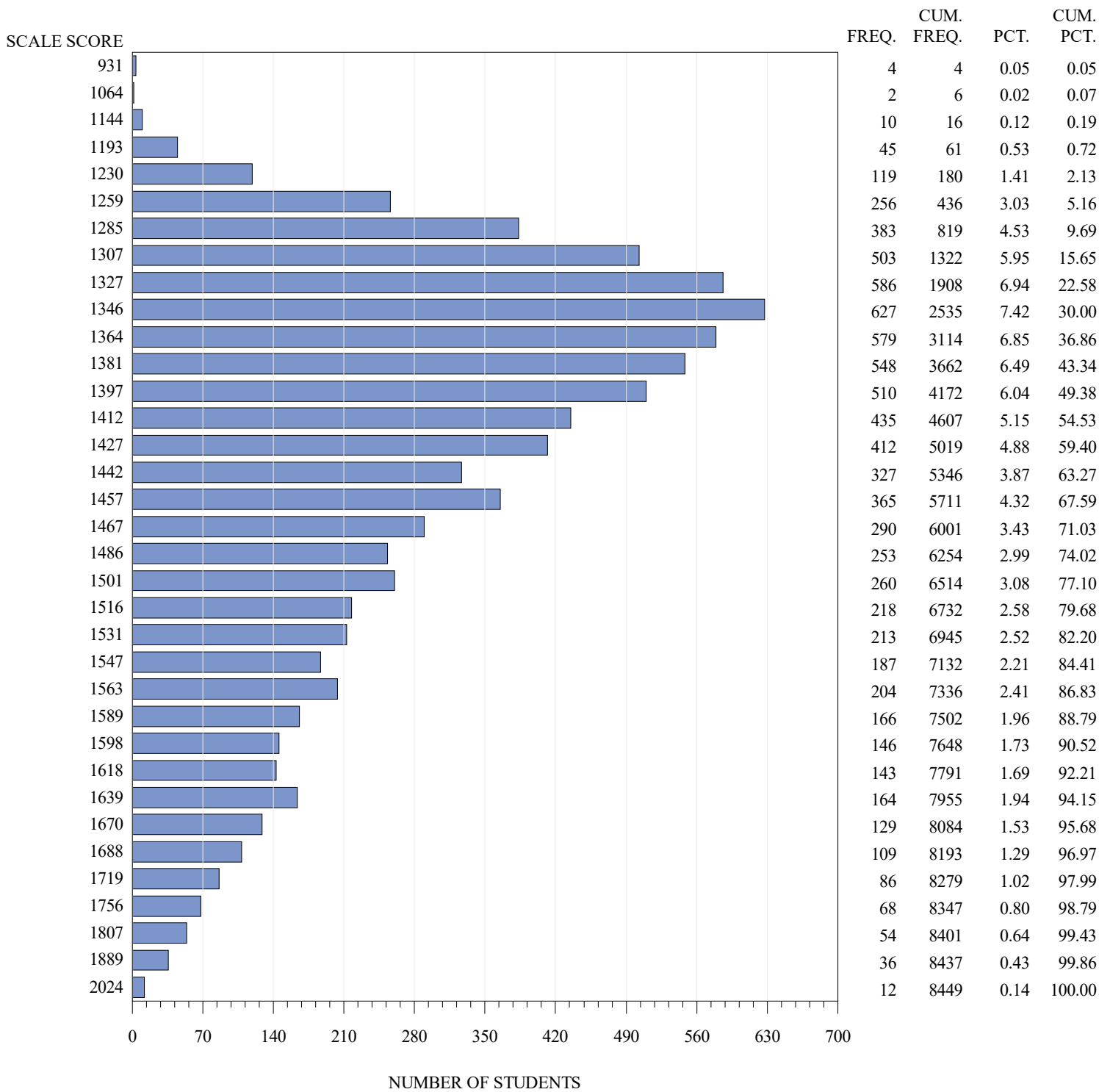
**Figure B.7.18. Spring 2021 STAAR Spanish Grade 3 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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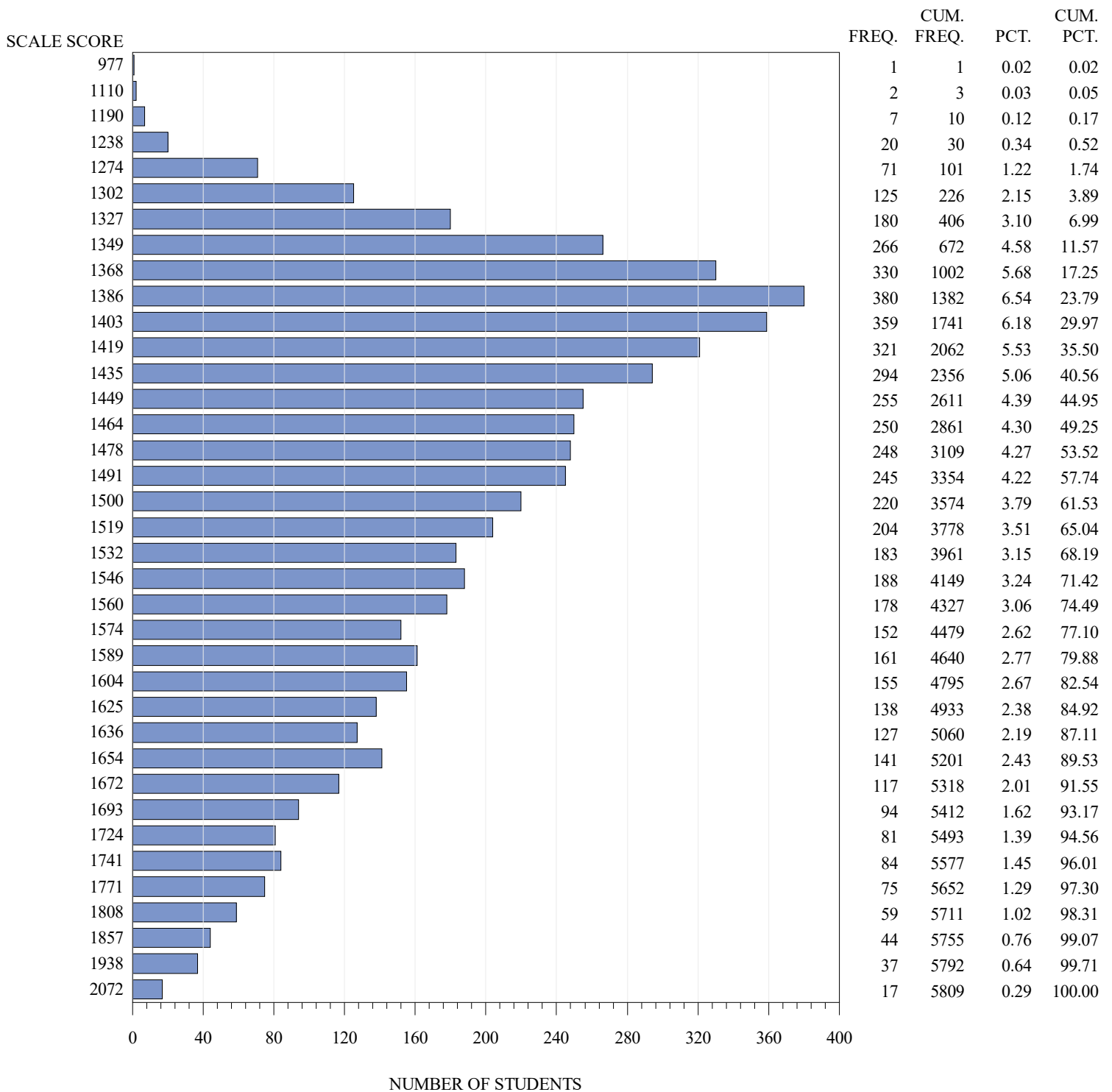
**Figure B.7.19. Spring 2021 STAAR Spanish Grade 4 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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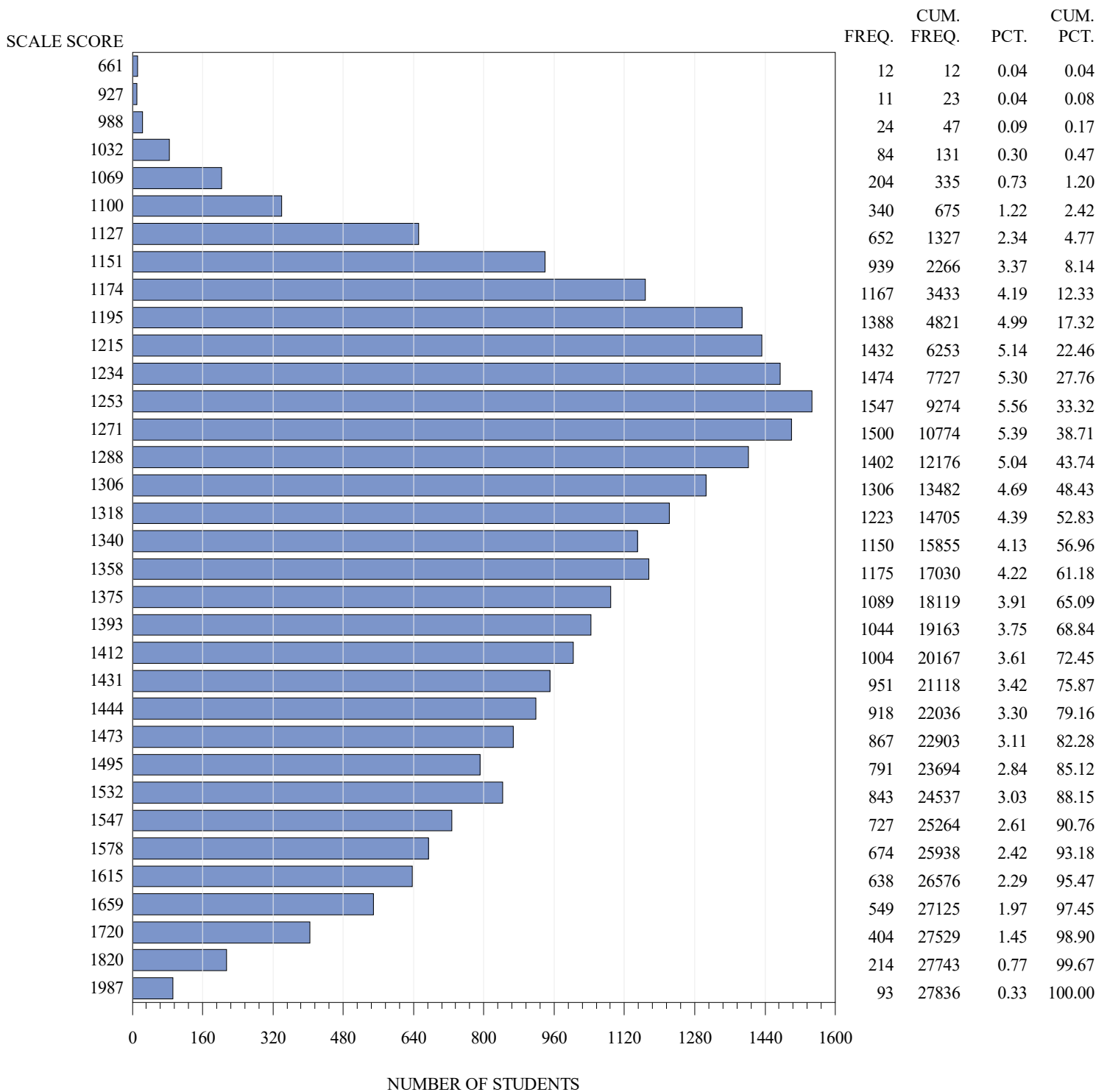
**Figure B.7.20. Spring 2021 STAAR Spanish Grade 5 Mathematics
Frequency Distribution of Scale Scores
All Students**



Notes:

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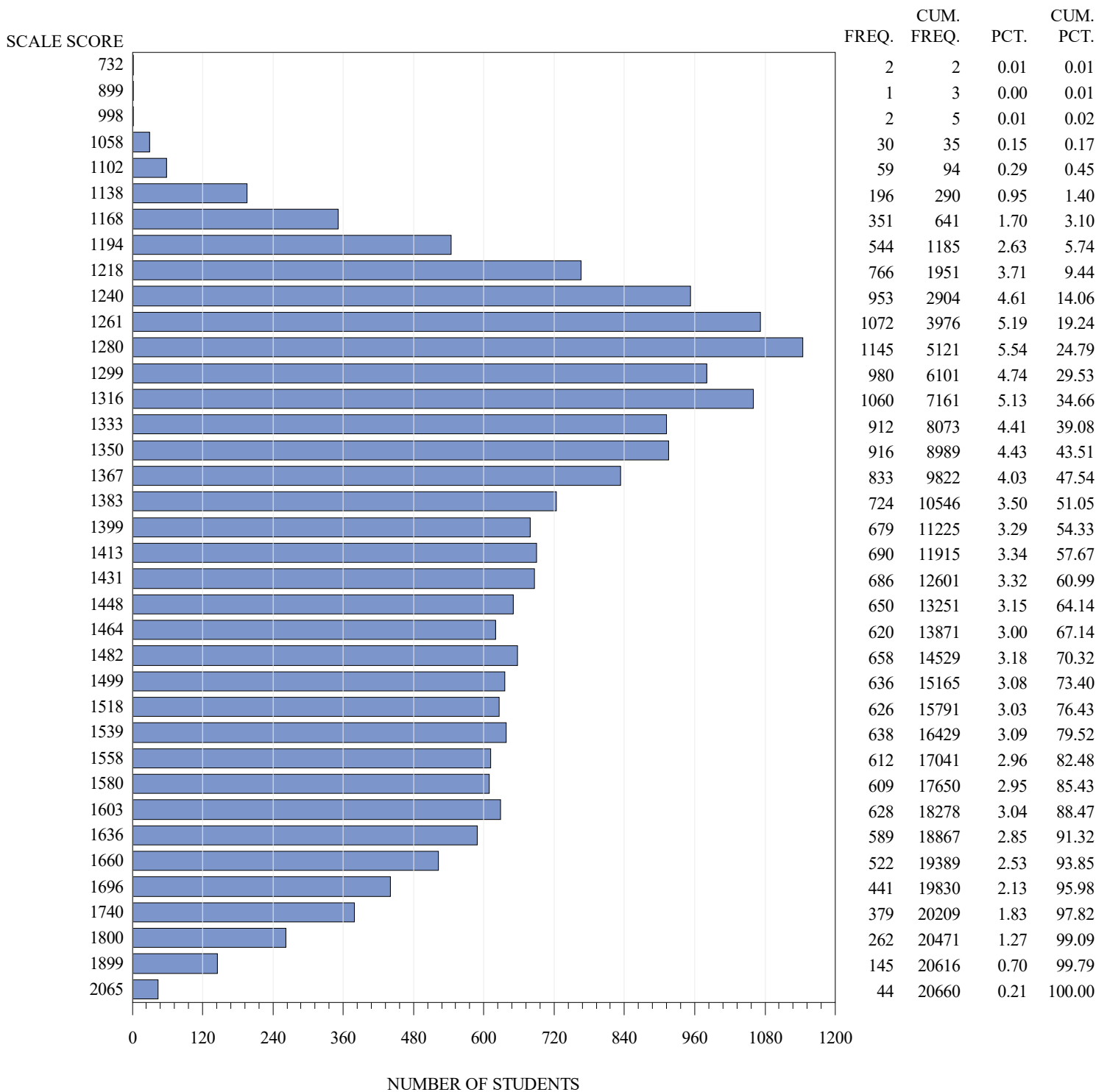
**Figure B.7.21. Spring 2021 STAAR Spanish Grade 3 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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

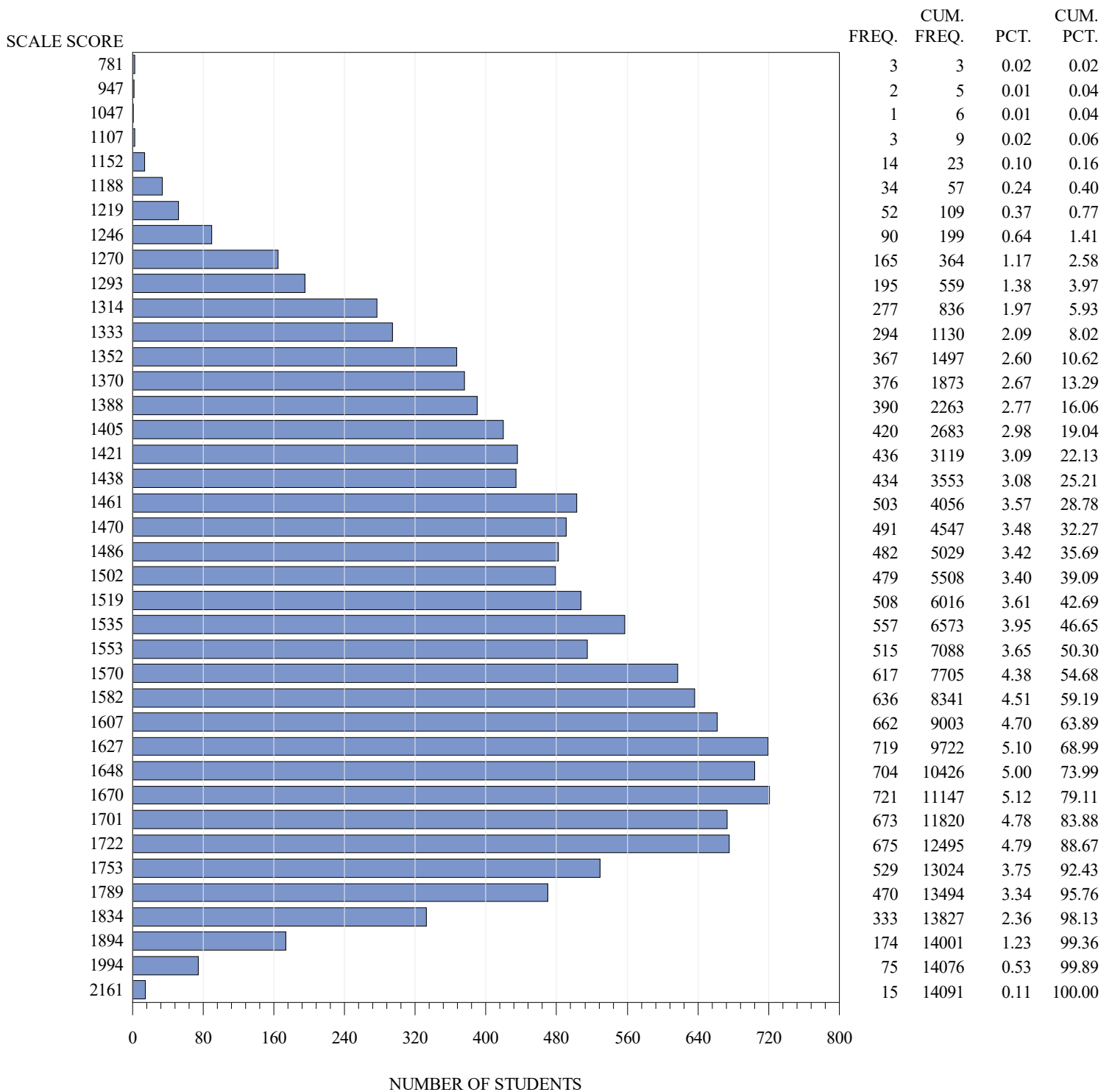
**Figure B.7.22. Spring 2021 STAAR Spanish Grade 4 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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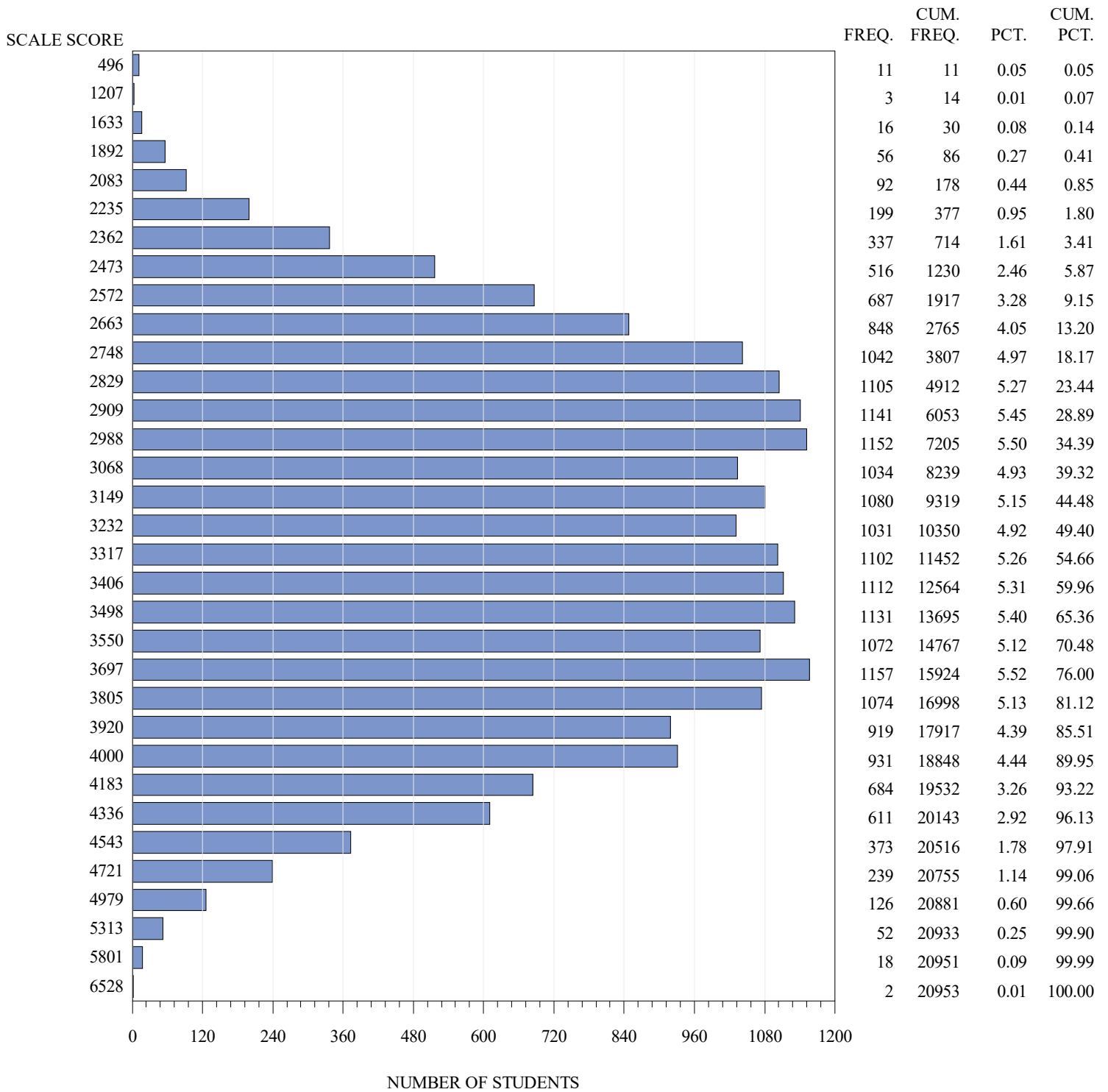
**Figure B.7.23. Spring 2021 STAAR Spanish Grade 5 Reading
Frequency Distribution of Scale Scores
All Students**



Notes:

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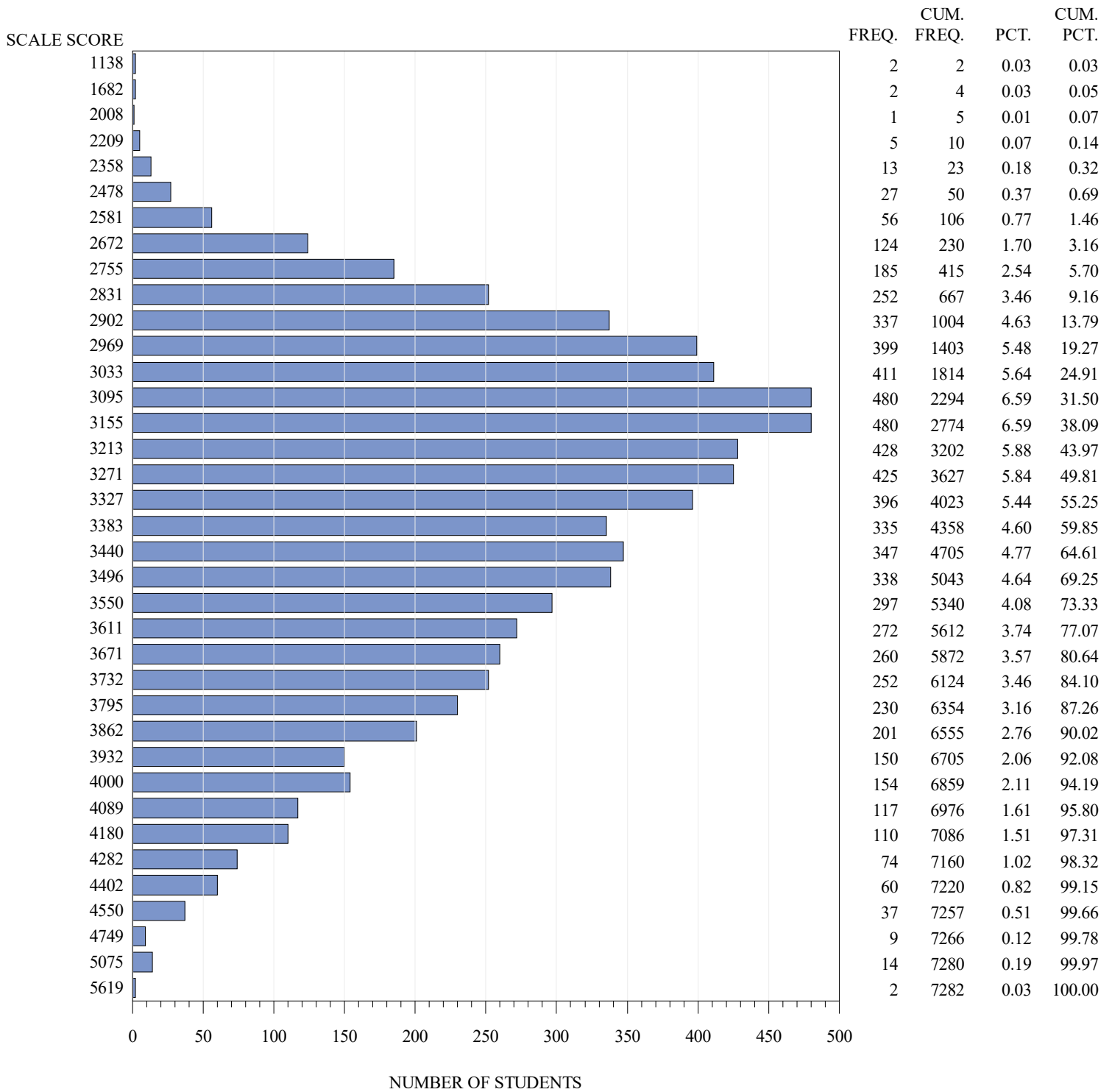
**Figure B.7.24. Spring 2021 STAAR Spanish Grade 4 Writing
Frequency Distribution of Scale Scores
All Students**



Notes:

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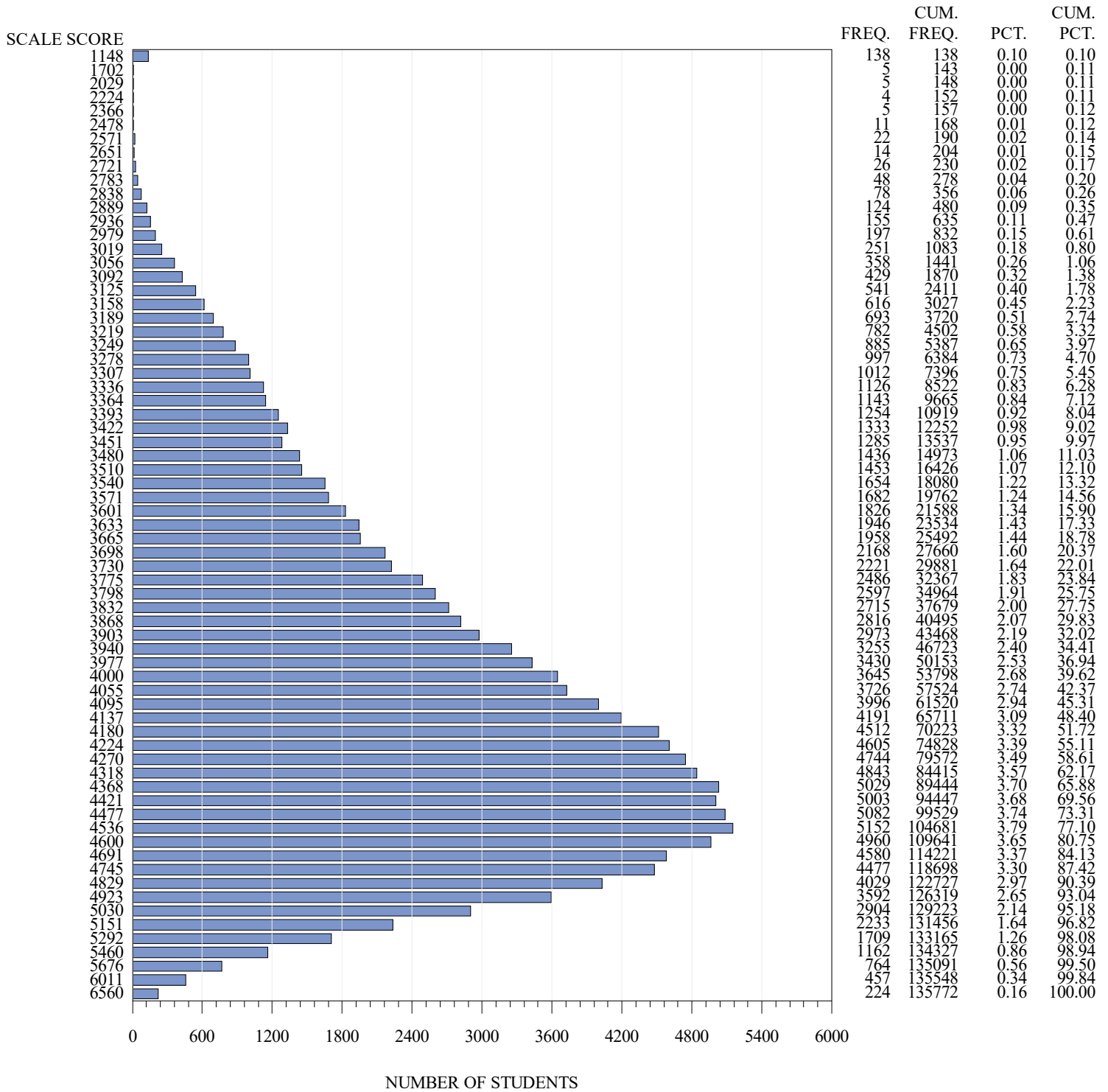
**Figure B.7.25. Spring 2021 STAAR Spanish Grade 5 Science
Frequency Distribution of Scale Scores
All Students**



Notes:

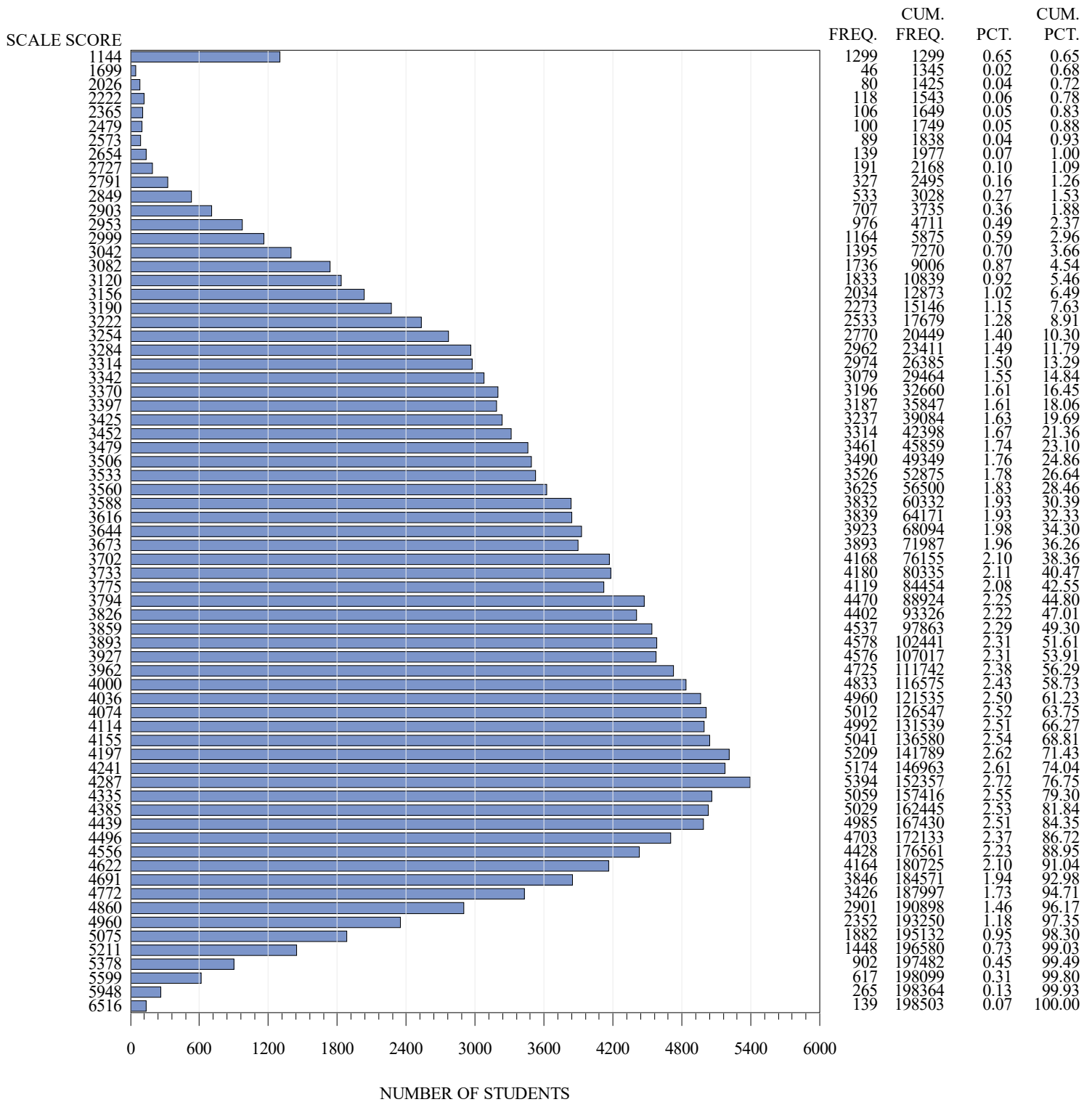
Students who took the braille or the ASL or the paper STAAR with Embedded Supports version of the test are not included in the frequency distribution tables.

**Figure B.7.26. Spring 2021 STAAR EOC English I
Frequency Distribution of Scale Scores
Paper Students**



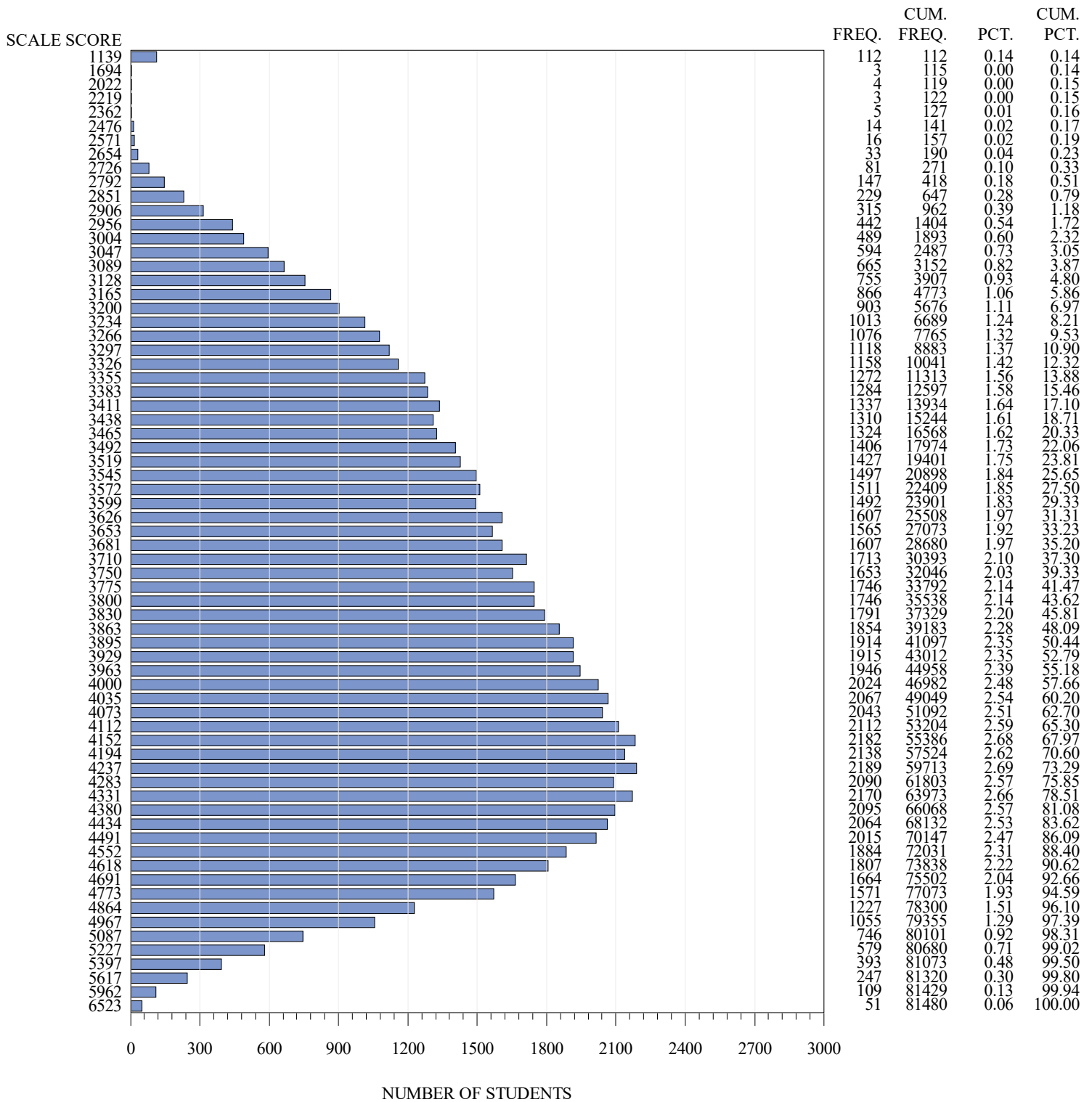
Notes:
Students who took the braille or the paper STAAR with Embedded Supports version of the test are not included in the frequency distribution tables.

**Figure B.7.27. Spring 2021 STAAR EOC English I
Frequency Distribution of Scale Scores
Online Students - Primary Base Form**



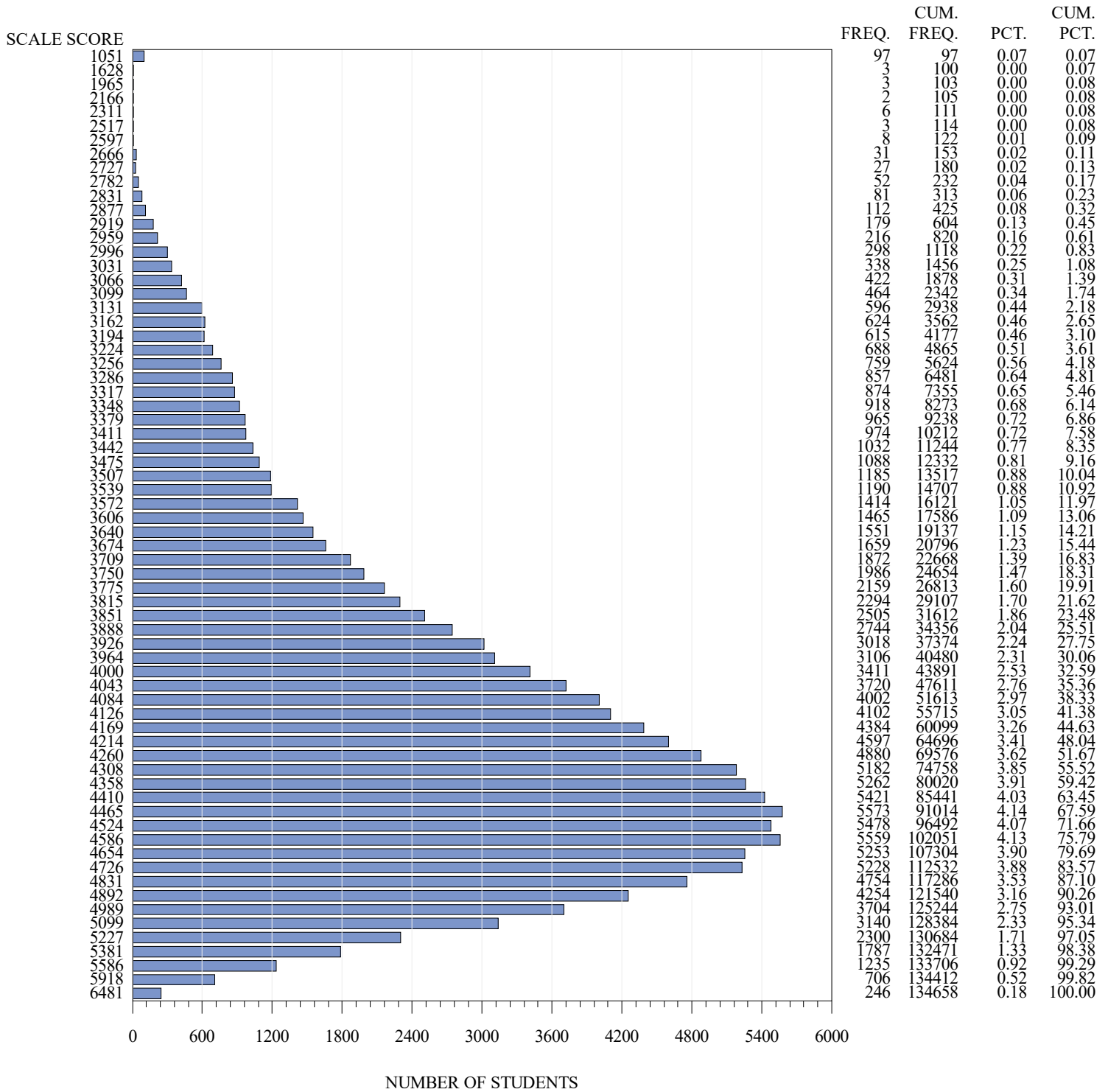
Notes:
Students who took the braille or the ASL version of the test are not included in the frequency distribution tables.

**Figure B.7.28. Spring 2021 STAAR EOC English I
Frequency Distribution of Scale Scores
Online Students - Second Base Form**



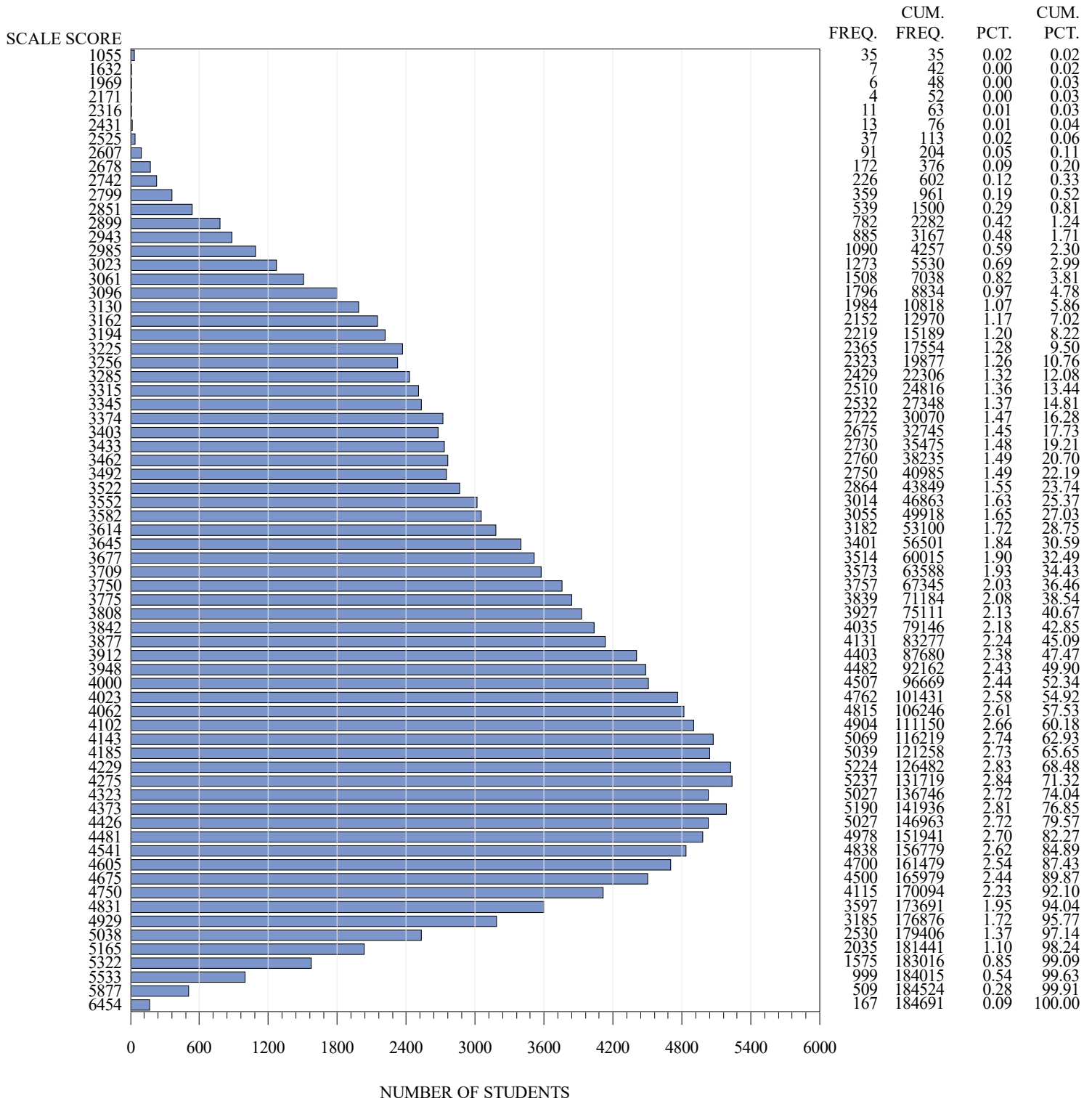
Notes:
Students who took the braille or the ASL version of the test are not included in the frequency distribution tables.

**Figure B.7.29. Spring 2021 STAAR EOC English II
Frequency Distribution of Scale Scores
Paper Students**



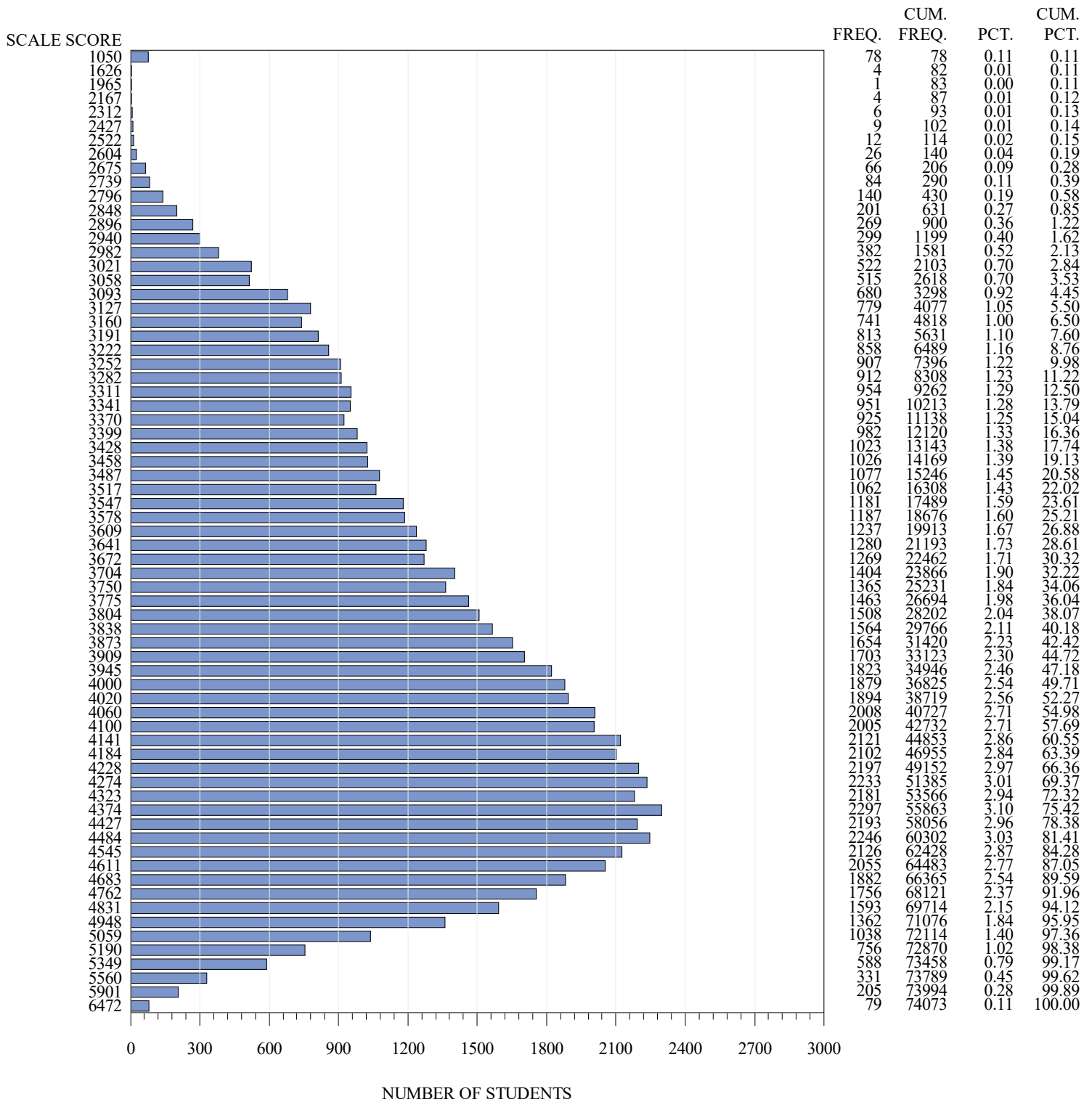
Notes:
Students who took the braille or the paper STAAR with Embedded Supports version of the test are not included in the frequency distribution tables.

**Figure B.7.30. Spring 2021 STAAR EOC English II
Frequency Distribution of Scale Scores
Online Students - Primary Base Form**



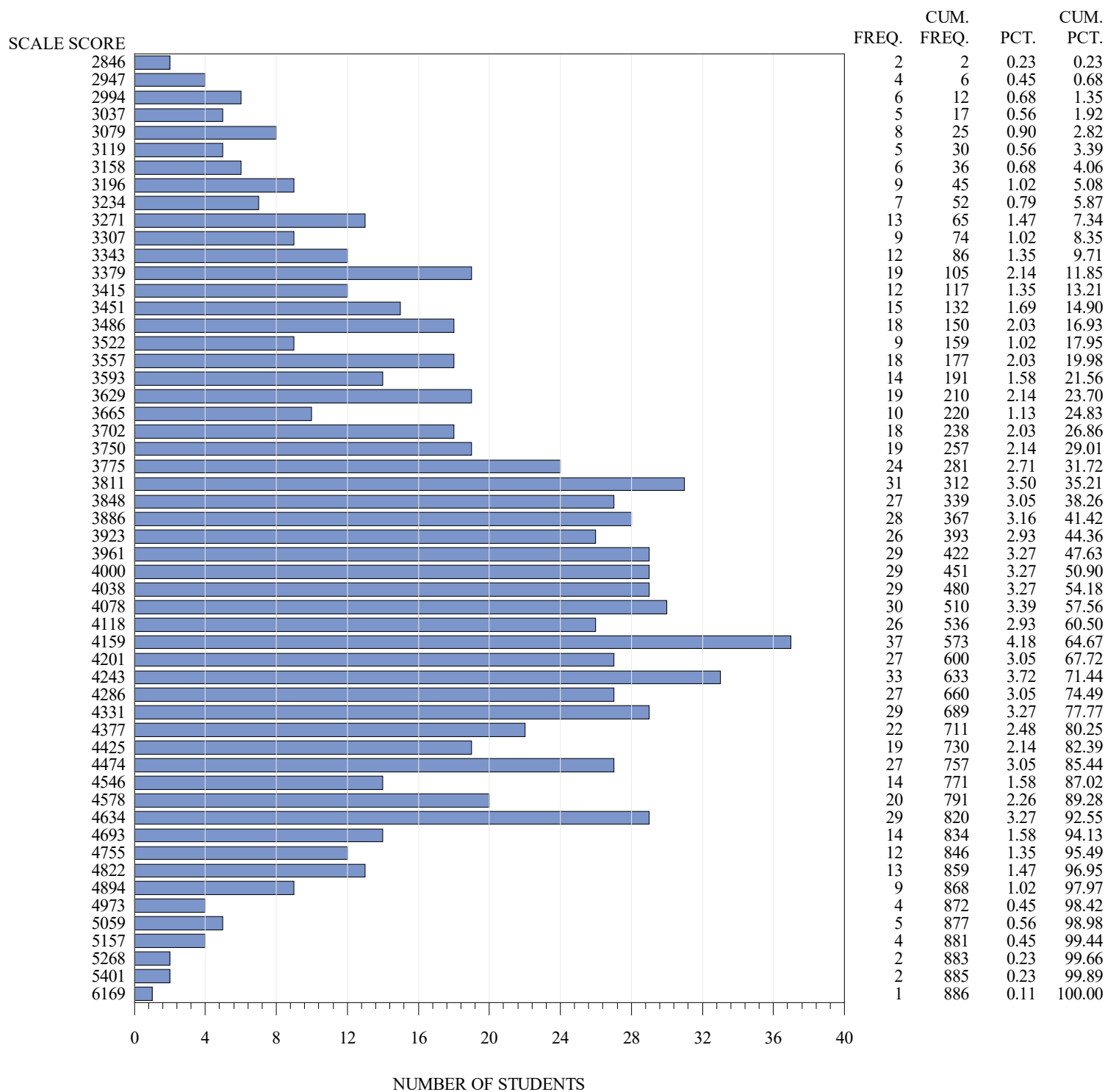
Notes:
Students who took the braille or the ASL version of the test are not included in the frequency distribution tables.

**Figure B.7.31. Spring 2021 STAAR EOC English II
Frequency Distribution of Scale Scores
Online Students - Second Base Form**



Notes:
Students who took the braille or the ASL version of the test are not included in the frequency distribution tables.

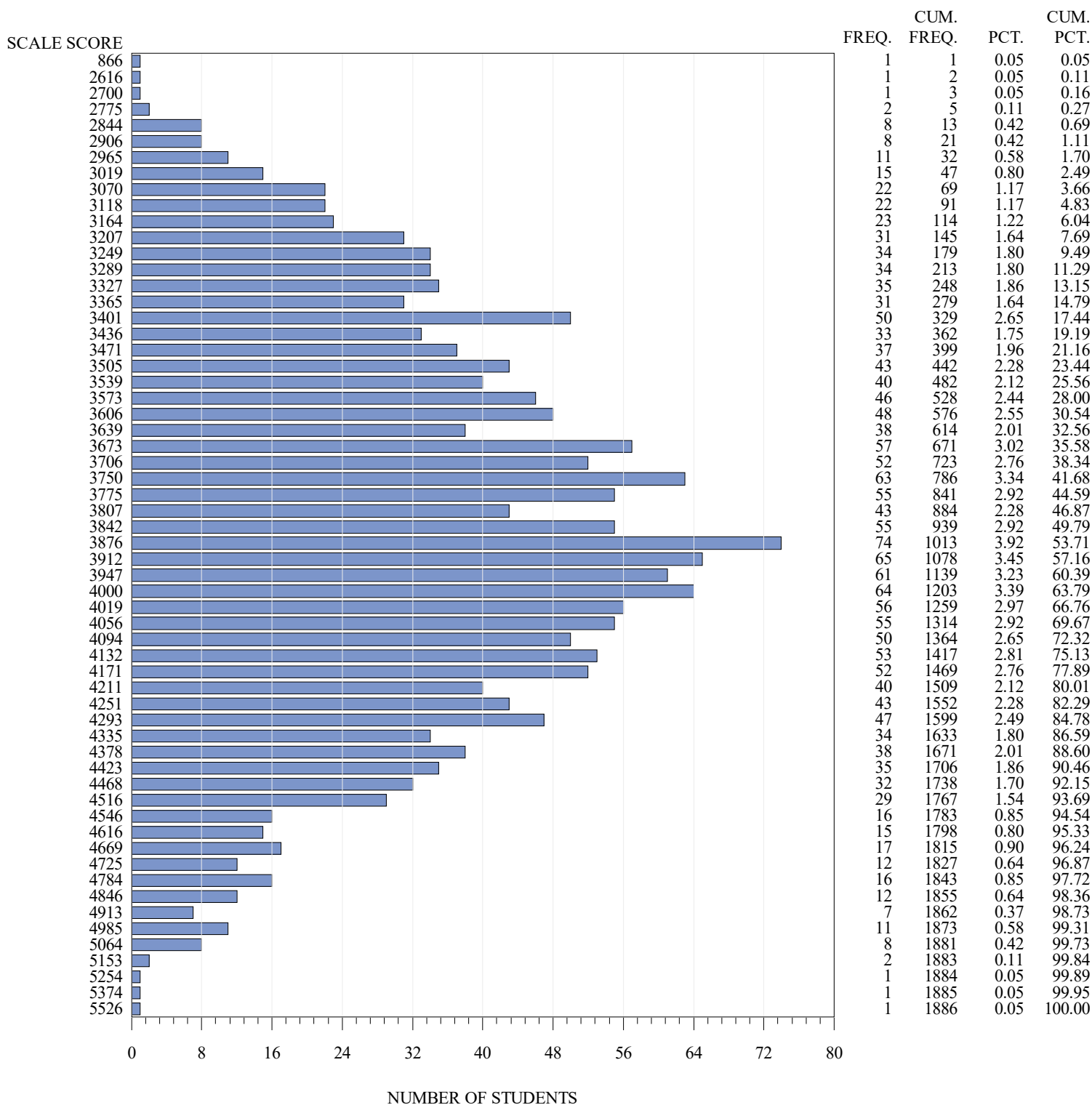
**Figure B.7.32. Spring 2021 STAAR EOC English III
Frequency Distribution of Scale Scores
Paper Students**



Notes:

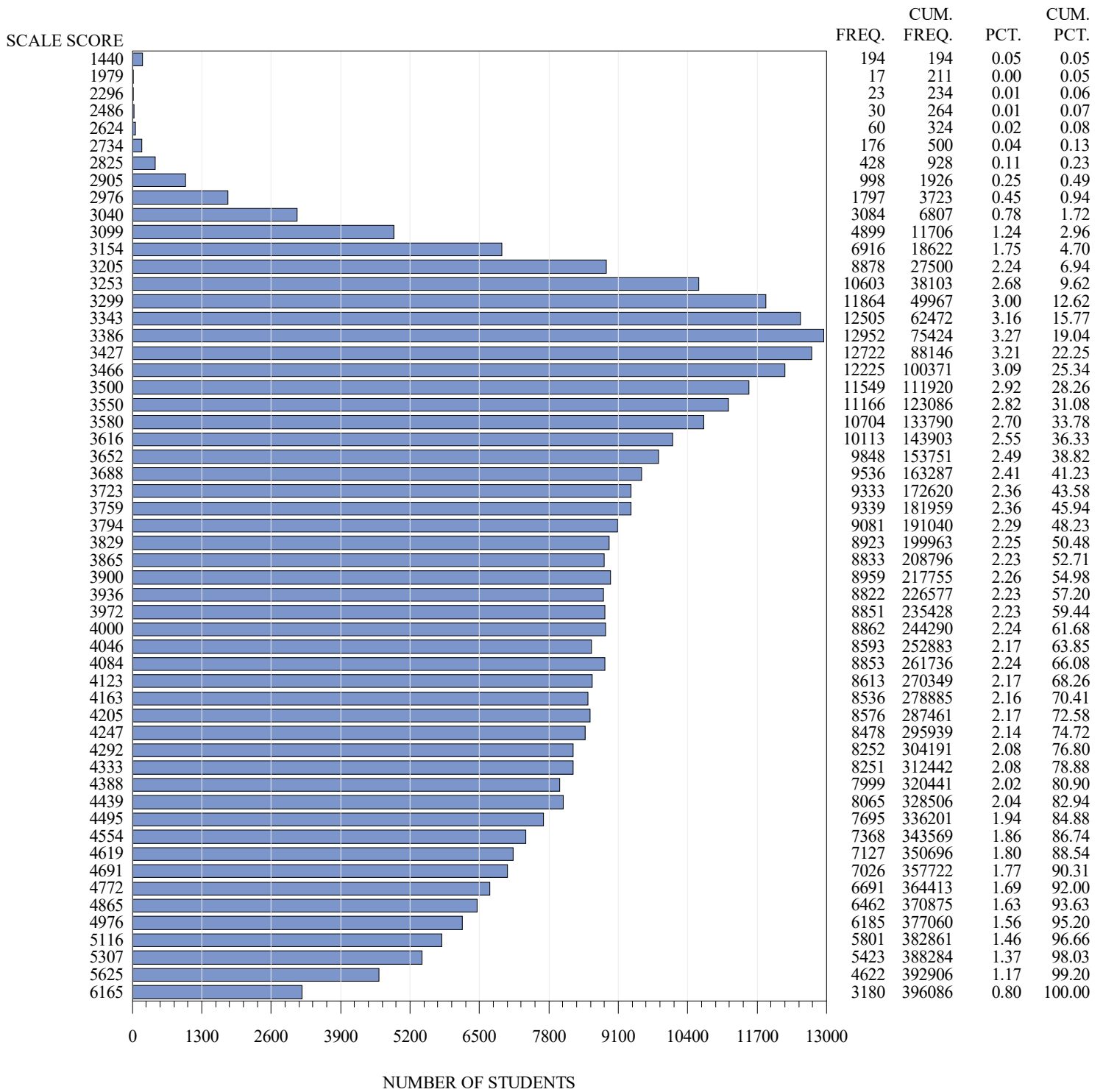
Students who took the braille or the paper STAAR with Embedded Supports version of the test are not included in the frequency distribution tables.

**Figure B.7.33. Spring 2021 STAAR EOC English III
Frequency Distribution of Scale Scores
Online Students**



Notes:
Students who took the braille or the ASL version of the test are not included in the frequency distribution tables.

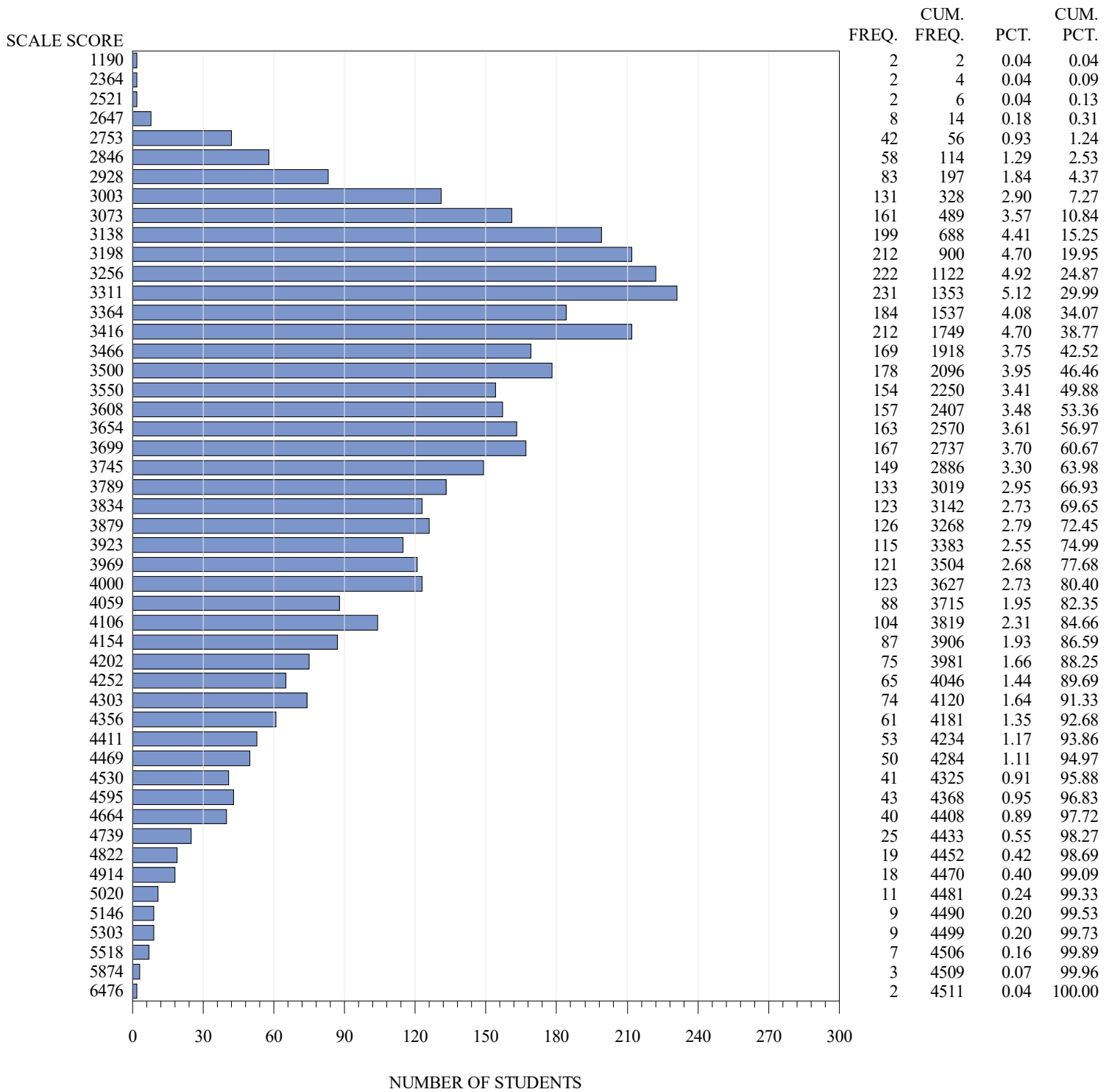
**Figure B.7.34. Spring 2021 STAAR EOC Algebra I
Frequency Distribution of Scale Scores
All Students**



Notes:

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

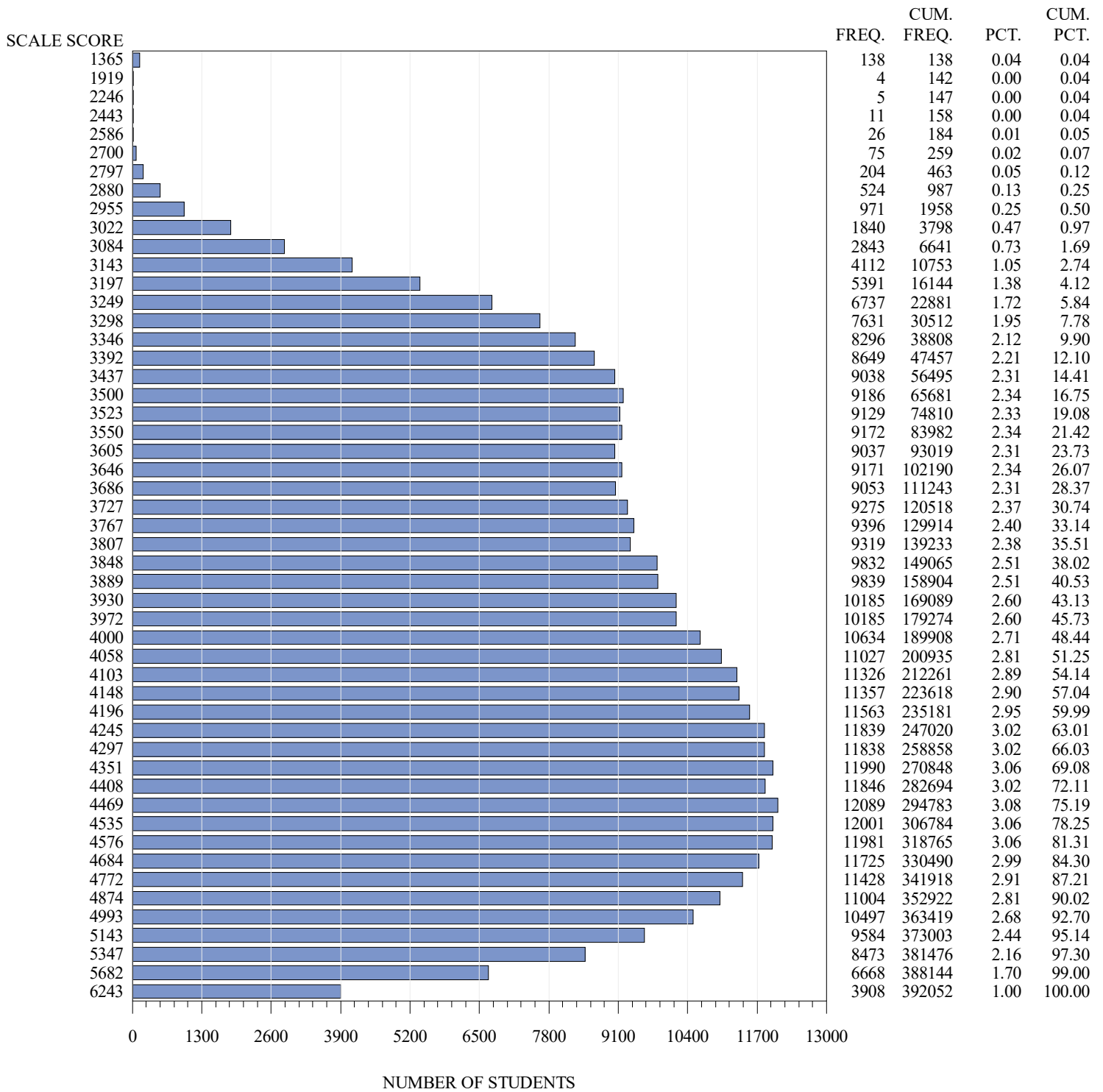
**Figure B.7.35. Spring 2021 STAAR EOC Algebra II
Frequency Distribution of Scale Scores
All Students**



Notes:

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

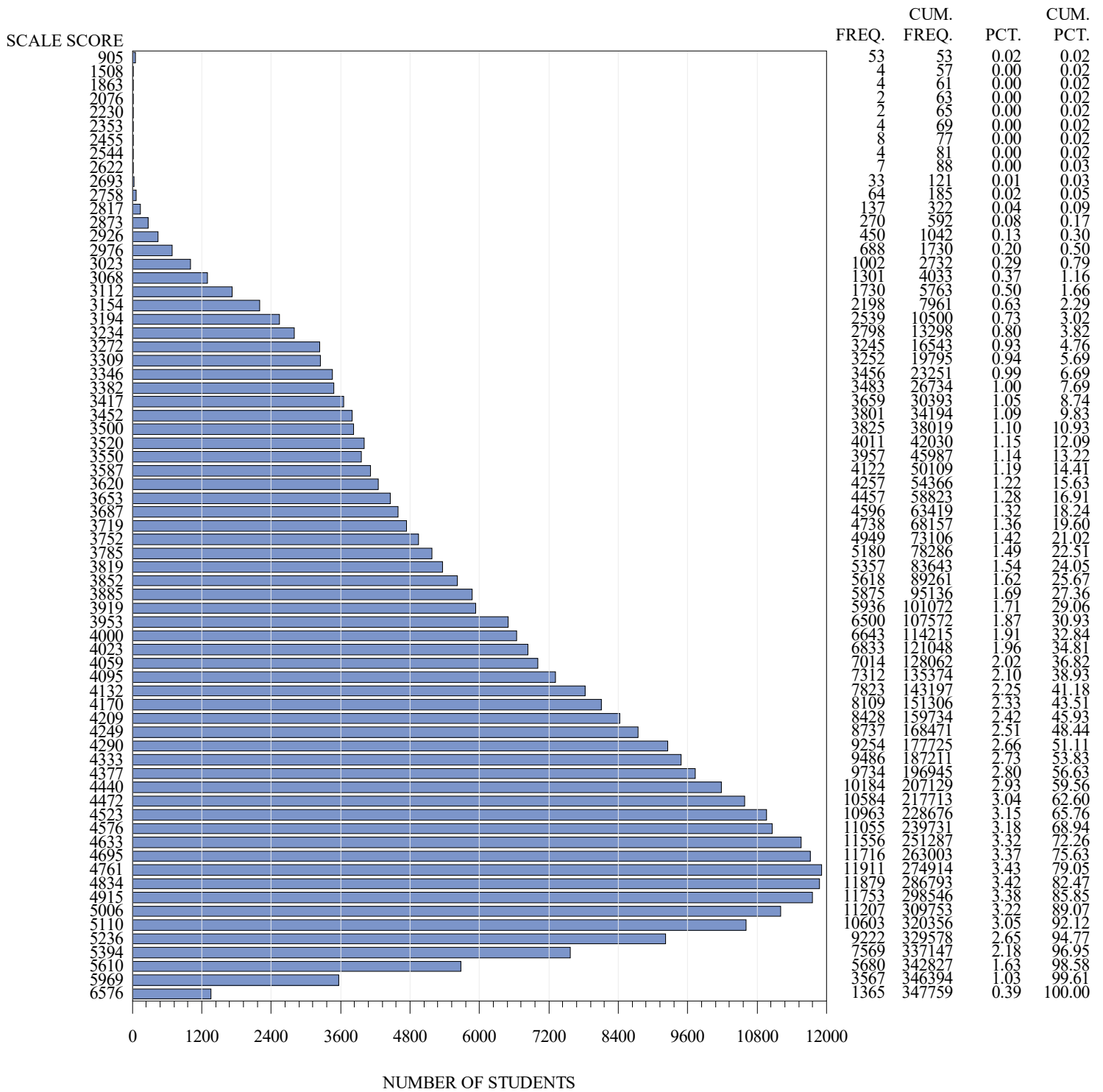
**Figure B.7.36. Spring 2021 STAAR EOC Biology
Frequency Distribution of Scale Scores
All Students**



Notes:

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

**Figure B.7.37. Spring 2021 STAAR EOC U.S. History
Frequency Distribution of Scale Scores
All Students**



Notes:

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