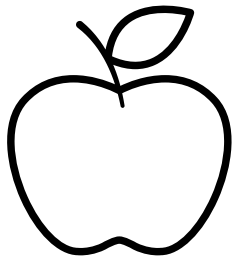




Module 4 Challenge

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Overview of the school district analysis

The purpose of this analysis is to review school budgets and if it affected academic performance. Unfortunately, there was a case of academic dishonesty from grade 9 students at Thomas High School, therefore their math and reading results had to be removed. We decided to remove these marks because false data does not give us an accurate reading. The data will be compared prior and after removing the data to compare how much it impacted the final results.

Results

How is the district summary affected?

	Total Schools	Total Students	Total Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
0	15	39170	24649428	78.985371	81.87784	74.980853	85.805463	65.172326

	Total Schools	Total Students	Total Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
0	15	39,170	\$24,649,428.00	78.9	81.9	74.8	85.7	64.9

The school district summary is barely affected by the elimination of grade 9 student marks from Thomas High School. As you can see the overall passing percentage was only decreased by 0.3.

How is the school summary affected?

Thomas High School	Charter	1635	\$1,043,130.00	\$638.00	83.418349	83.848930	93.272171	97.308869	90.948012
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Thomas High School	Charter	1635	\$1,043,130.00	\$638.00	83.350937	83.896082	66.911315	69.663609	65.076453
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The school summary is affected greatly on the percentage passing math and percentage passing reading section which brings the overall passing percentage down from 91% to 65%.

How does replacing the ninth graders' math and reading scores affect Thomas High School's performance relative to the other schools?

Thomas High School remains in second place, removing 9th grade math and reading scores had no effect.

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Cabrera High School	Charter	1858	1081356	582.0	83.061895	83.975780	94.133477	97.039828	91.334769
Thomas High School	Charter	1635	1043130	638.0	83.418349	83.848930	93.272171	97.308869	90.948012
Griffin High School	Charter	1468	917500	625.0	83.351499	83.816757	93.392371	97.138965	90.599455

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
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How does replacing the ninth-grade scores affect the following:

Math and reading scores by grade

Only affects the 9th grade column and row THS because NaN is in replacement of the data.

Scores by school spending

Thomas High School falls into the \$630-\$644 spending range. The passing math and passing reading percentage dropped resulting in an overall passing percentage fall of 7%.

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Spending Ranges (Per Student)					
<\$584	83.5	83.9	93	97	90
\$585-629	81.9	83.2	87	93	81
\$630-644	78.5	81.6	73	84	63
\$645-675	77.0	81.0	66	81	54

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Spending Ranges (Per Student)					
<\$584	83.5	83.9	93	97	90
585-629	81.9	83.2	87	93	81
630-644	78.5	81.6	67	77	56
645-675	77.0	81.0	66	81	54

Scores by school size

Thomas High School falls in the Medium size school range. Again, experiencing a fall in passing math and passing reading percentage, which led to an overall deduction in passing percentage by 6%.

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
School Size					
Small (<1000)	83.8	83.9	94	96	90
Medium (1000-1999)	83.4	83.9	94	97	91
Large (2000-5000)	77.7	81.3	70	83	58

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
School Size					
Small(<1000)	83.8	83.9	94	96	90
Medium(1000-1999)	83.4	83.9	88	91	85
Large (2000-5000)	77.7	81.3	70	83	58

Scores by school type

Thomas High School is categorized as a Charter school. The affect removing all grade 9 marks from Thomas High School was substantial with an overall passing percentage drop of 3%.

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
School Type					
Charter	83.5	83.9	94	97	90
District	77.0	81.0	67	81	54

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
School Type					
Charter	83.5	83.9	90	93	87
District	77.0	81.0	67	81	54

Summary

Overall the four major changes are the school scores by spending fell 7% in overall passing percentage, score by school size dropped 6% in overall passing percentage, score by school type which represents all charter schools fell 3% for overall passing percentage and the overall school summary passing percentage fell from 91% to 65%. These are all major changes that occurred when grade nine student's reading and math scores from Thomas High School were replaced with NaNs.