We have been asked to analyze the district-wide standardized test results.

We had access to every student's math and reading scores, as well as various information on the schools they attend.

Our responsibility was to aggregate the data to and showcase obvious trends in school performance.

Here 3 trends that can help understanding the performance of the schools:

1. First Trend : **Scores by School Spending**

This table breaks down school performances based on average Spending Ranges (Per Student

|  | **Average Math Score** | **Average Reading Score** | **%Passing Math** | **%Passing Reading** | **%Overall Passing** |
| --- | --- | --- | --- | --- | --- |
| **Per Student Budget** |  |  |  |  |  |
| **<$585** | 83.455399 | 83.933814 | 93.460096 | 96.610877 | 95.035486 |
| **$585-615** | 83.599686 | 83.885211 | 94.230858 | 95.900287 | 95.065572 |
| **$615-645** | 79.079225 | 81.891436 | 75.668212 | 86.106569 | 80.887391 |
| **$645-675** | 76.997210 | 81.027843 | 66.164813 | 81.133951 | 73.649382 |

When we look at the data in this table, we can notice that the less the school spent on students, the better are the results.

May be the responsible of the schools who spent a lot on students should work with the ones who spent less to review the fields on which they spent too much money than it is necessary.

1. Second Trend : **Scores by School Size**

This table breaks down school performances based on a reasonable approximation of school size (Small, Medium, Large).

|  | **Average Math Score** | **Average Reading Score** | **%Passing Math** | **%Passing Reading** | **%Overall Passing** |
| --- | --- | --- | --- | --- | --- |
| **Total Students** |  |  |  |  |  |
| **<1000** | 83.821598 | 83.929843 | 93.550225 | 96.099437 | 94.824831 |
| **1000-2000** | 83.374684 | 83.864438 | 93.599695 | 96.790680 | 95.195187 |
| **2000-5000** | 77.746417 | 81.344493 | 69.963361 | 82.766634 | 76.364998 |

The data in this table shows that the schools with a number of students less than 2000 have better results than the schools with more than 2000 students.

We can say that the number of students affects the results of the school. Thus, it is better to have schools with less than 2000 students to have an overall passing grade greater than 90%.

1. First Trend: **Scores by Type of School**

This table breaks down school performances on school type (Charter vs. District).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | **Average Math Score** | **Average Reading Score** | **%Passing Math** | **%Passing Reading** | **%Overall Passing** | | --- | --- | --- | --- | --- | | **School Type** |  |  |  |  |  | | **Charter** | 83.473852 | 83.896421 | 93.620830 | 96.586489 | 95.103660 | | **District** | 76.956733 | 80.966636 | 66.548453 | 80.799062 | 73.673757 | |
|  |
|  |
|  |

With this table we see that “Charter” type Schools have better results than the “District” type ones.

In conclusion we can say that if a school is a Charter Type school with less than 2000 students and spent less than $585 per student, this school has more chance to have good results in Math and Reading with an overall passing grade greater than 90%.