Chart 1A: 5th Grade Science versus Reading Proficiency Rates – Ohio Schools, 2013-14
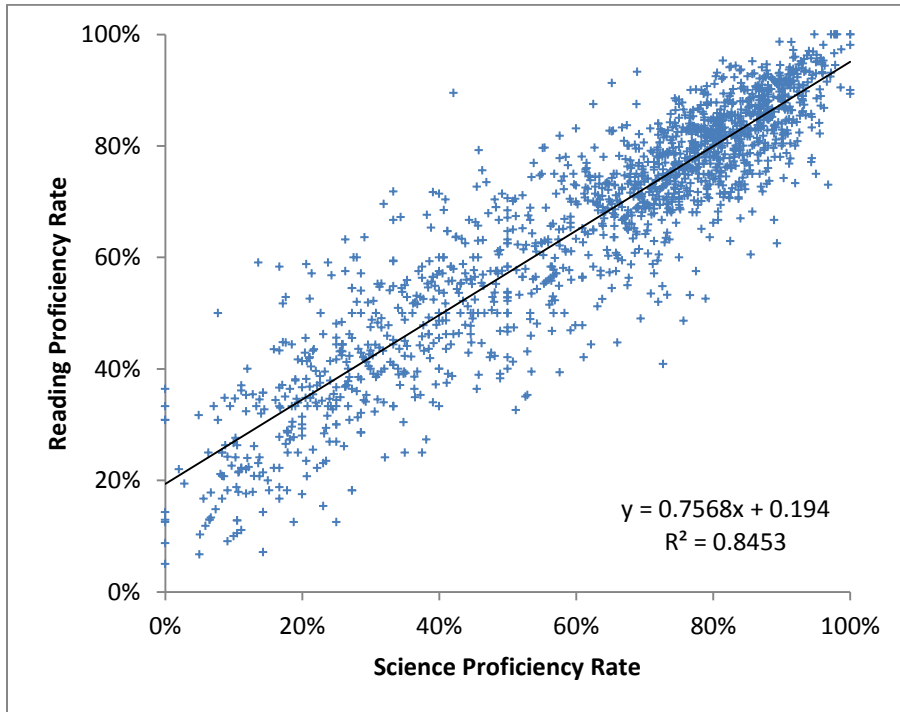

y = 0.7568x + 0.194
R² = 0.8453

Chart 1B: 5th Grade Science versus Math Proficiency Rates – Ohio Schools, 2013-14

y = 0.7954x + 0.1235
R² = 0.8185
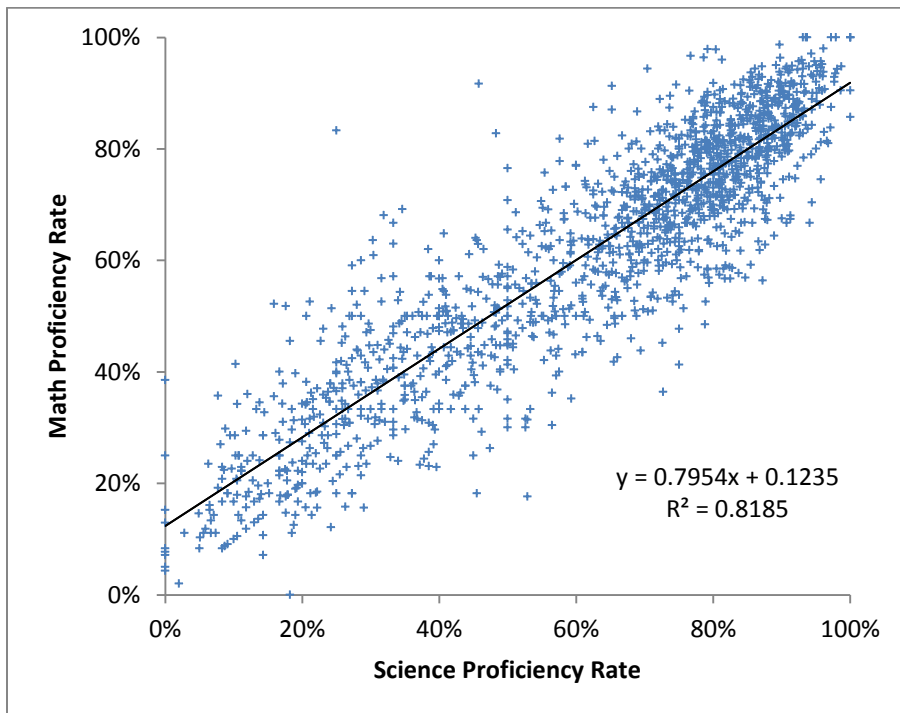
Chart 2A: 8th Grade Science versus Reading Proficiency Rates – Ohio Schools, 2013-14

$y = 0.5269x + 0.5127$
$R^2 = 0.7424$
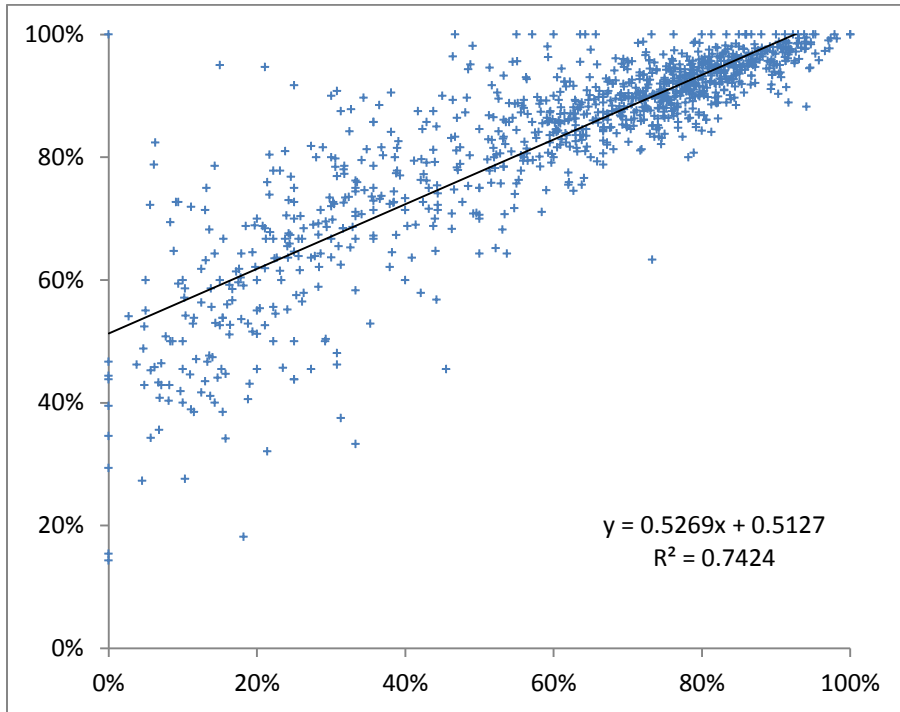
Chart 2B: 8th Grade Science versus Math Proficiency Rates – Ohio Schools, 2013-14

$y = 0.7438x + 0.2976$
$R^2 = 0.8113$

Math Proficinecy Rate

Science Proficiency Rate
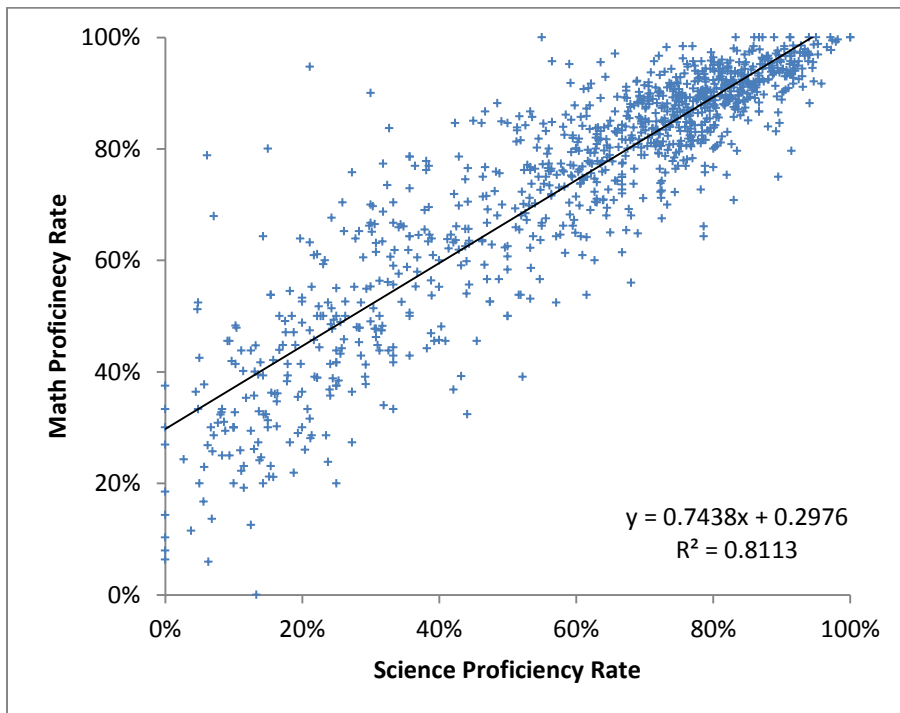
Chart 3A: 10th Grade Social Studies versus Reading Proficiency Rates – Ohio Schools, 2013-14

$y = 0.603x + 0.3917$
$R^2 = 0.7986$

Chart 3B: 10th Grade Social Studies versus Math Proficiency Rates – Ohio Schools, 2013-14

$y = 0.9312x + 0.0503$
$R^2 = 0.8534$
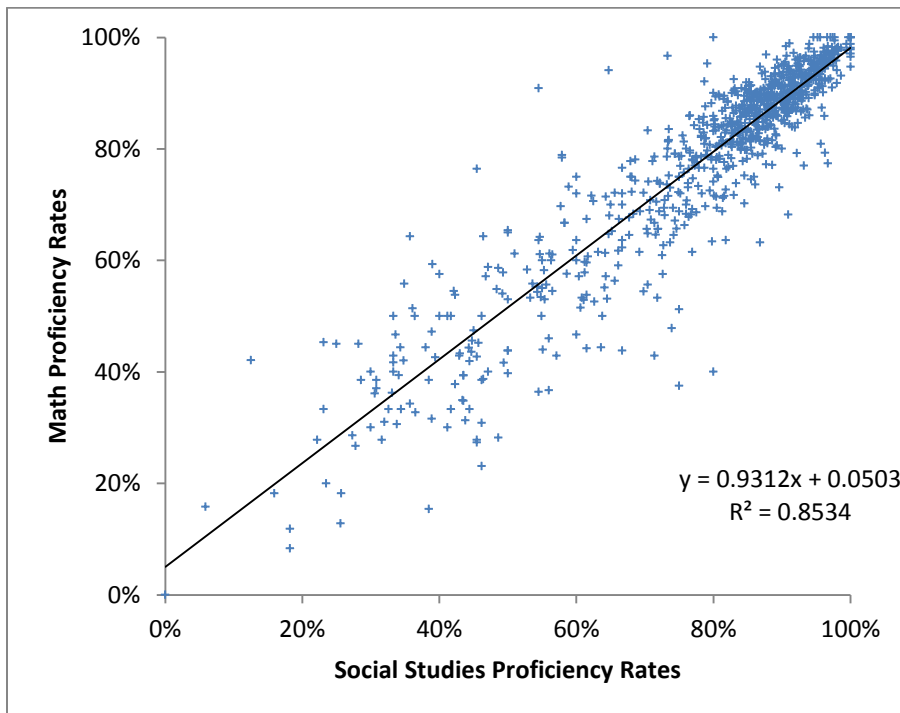
Chart 4A: 10th Grade Science versus Reading Proficiency Rates – Ohio Schools, 2013-14

$y = 0.5243x + 0.4846$
$R^2 = 0.769$
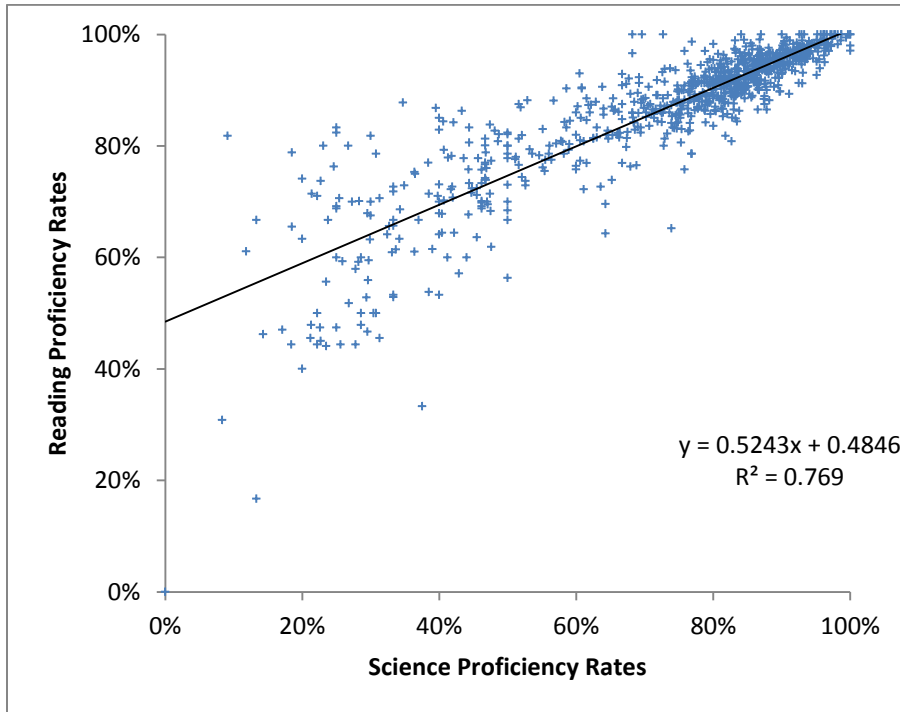
Chart 4B: 10th Grade Science versus Math Proficiency Rates – Ohio Schools, 2013-14
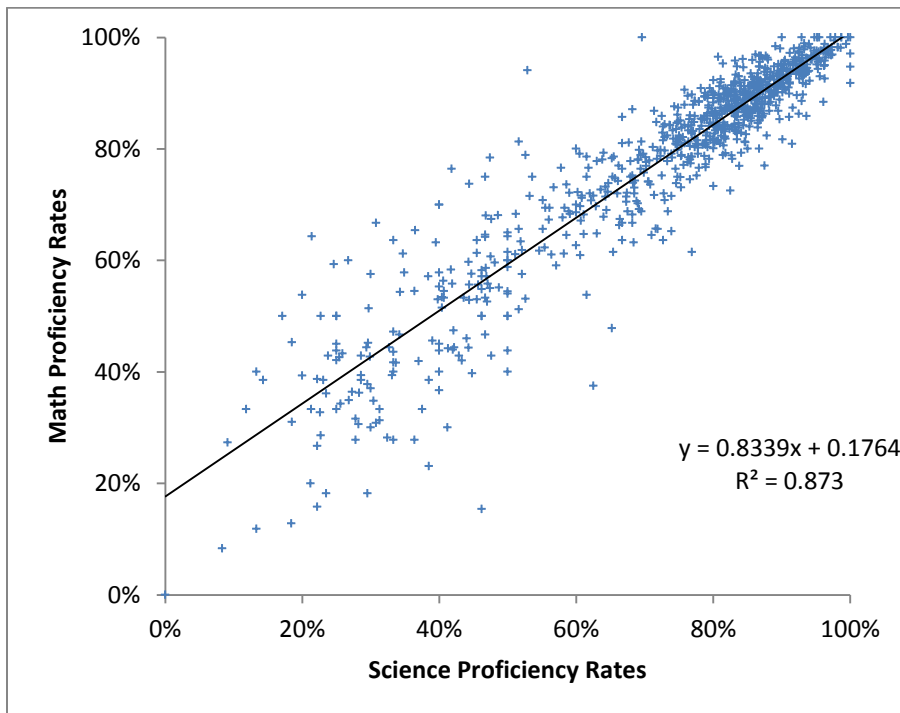

$y = 0.8339x + 0.1764$
$R^2 = 0.873$

Table 1: Correlations between science/social studies and math and reading proficiency rates – Ohio schools, 2013-14

		Math	Reading
5th Grade	**Science**	0.90	0.92
8th Grade	**Science**	0.90	0.86
10th Grade	**Science**	0.93	0.88
10th Grade	**Social Studies**	0.89	0.93

Note: Correlation coefficients measure the strength and direction of the linear relationship between two variables (e.g., science proficiency of students in School X and math proficiency of students in School X). Coefficients can range from -1.0 to +1.0, with -1 indicating a perfect negative correlation and +1 indicating a perfect positive correlation; 0 indicates no correlation at all. Table 1 indicates that science and social studies test results are strongly correlated to math and reading results (nearing 1.0, or perfect positive correlation).