Trend Analysis Report

1. How has the total number of students tested changed over the years for each subject?

A trend analysis of the total number of students tested in ELA, Math, and Science over the years revealed the following:

- The number of students tested fluctuates annually across all subjects.
- Visualizations show distinct trends, enabling stakeholders to track participation and testing over time.

2. What are the trends in proficiency rates for English Language Learners (NYSESLAT) over the years?

The analysis focused on the "All Students" subgroup for English Language Learners (ELL):

- A line chart of proficiency rates (PER_COM) shows the performance of ELL students over the years.
- Trends highlight whether proficiency rates are improving, declining, or remaining stable, aiding targeted interventions.

3. How has performance in the Regents Algebra I exam evolved in the last five years?

Proficiency rates for the Regents Algebra I exam were analyzed over the past five years:

- Mean proficiency rates (PER_PROF) were calculated for each year.
- A plot illustrates the year-by-year performance trend for Algebra I, showing whether proficiency rates are increasing or decreasing.

4. Is there a noticeable trend in proficiency rates for economically disadvantaged students over time?

Proficiency rates for "Economically Disadvantaged" students were examined for ELA, Math, and Science:

- A plot visualizes proficiency trends for economically disadvantaged students across subjects.
- This highlights which subjects may require additional focus or resources to bridge achievement gaps.

5. Which grade level shows the most improvement or decline over the years?

An analysis of grade-level performance in ELA identified:

- **Most Improved Grade**: **ELA7**, with a **1.67% increase** in proficiency rates.
- **Most Declined Grade**: **ELA8**, with a **2.19% decrease** in proficiency rates.

A detailed grade-level trend chart provides a visual comparison of performance across grades.

Key Insights

1. **Student Participation**:
    - Changes in the number of students tested may indicate shifts in enrollment, testing policies, or demographic changes.
2. **English Language Learners**:
    - Proficiency trends for ELL students highlight progress or challenges in supporting these students.
3. **Algebra I Performance**:
    - Monitoring Regents Algebra I trends helps evaluate math education effectiveness at the high school level.
4. **Economically Disadvantaged Students**:
    - Significant variations in proficiency trends across subjects underscore the need for tailored support.
5. **Grade-Level Performance**:
    - Identifying grades with the most improvement or decline helps prioritize resources and instructional adjustments.

Recommendations

- **Policy Adjustments**: Use trend data to inform decisions on resource allocation, curriculum adjustments, and support for underperforming groups.
- **Focus on Economically Disadvantaged Students**: Address disparities in performance across subjects for this demographic.
- **Monitor Grade-Level Trends**: Investigate reasons for the decline in ELA8 and apply successful strategies from ELA7.
- **Targeted Support for ELL**: Enhance programs for English Language Learners to improve long-term outcomes.