Analyzing and Interpreting Data

Students should organize and interpret data through tabulating, graphing, or statistical analysis. Such analysis can bring out the meaning of data - and their relevance - so that they may be used as evidence. Analyzing data in 9–12 builds on K–8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.

Concerns Areas for improvement	Criteria Standards for this performance
Organize the Data	
	Students organize data (e.g. using tables, graphs, and charts). Students describe what each dataset represents.
Identify Relationships	
	Students analyze the data and identify relationships within the datasets using tools, technologies, and/or models (e.g. computational, mathematical). Students apply concepts of statistics and probability (including determining function fits to data, slope, intercept, correlation coefficient for linear fits, and probability measures) to scientific questions. Students use the data as empirical evidence to distinguish between causal and correlational relationships. Students consider limitations of data analysis (e.g. accuracy, any bias in the data resulting from choice of sample, scale, instrumentation, etc.) when analyzing and interpreting data. Students consider limitations of data analysis (e.g. accuracy, any bias in the data resulting from choice of sample, scale, instrumentation, etc.) when analyzing and interpreting data.
Interpreting Data	
	Students use analyzed data as evidence to support explanations about the disciplinary core idea.

Inspired by: Jennifer Gonzalez & Del Lago Academy

	Students describe relationships or causal mechanisms using the relevant crosscutting concept. Students make and evaluate uncertainty in predictions using the relevant crosscutting concept.