Analyzing and Interpreting Data

Elements of Student Performance
High School

Science & Engineering Practice 4

Organize Data
Organize data (e.g. using tables, graphs, and charts). Describe what each dataset represents.
Identify Relationships
Analyze the data and identify relationships within the datasets using tools, technologies, and/or models (e.g. computational, mathematical) 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. Use the data as empirical evidence to distinguish between causal and correlational relationships. 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. Compare and contrast various types of data sets (e.g. self-generated, archival) to examine consistency of measurements and observations.
Interpreting Data
Use analyzed data as evidence to support explanations about the disciplinary core idea. Describe relationships or causal mechanisms using the relevant crosscutting concept. Make and evaluate uncertainty in predictions using the relevant crosscutting concept.

HS-PS2-1 / HS-LS3-3 / HS-LS4-3 / HS-ESS2-2 / HS-ESS3-5