

## Data Crunchers

1. **DESCRIPTION**: Data Science is an important part of an engineer or scientist's ability to understand the world around them. Teams should be able to create and interpret data tables, bar graphs, line graphs, pie charts, and pictographs and perform simple experiments to collect data, graph their results and make predictions.
2. **ESSENTIAL STANDARDS ALIGNMENT**: Measurement & Data is a unifying concept for all grade levels across the Common Core Standards. It also aligns with 5.P.1 and Science as Inquiry in the Essential Standards for all grades.
3. **TEAM OF UP TO**: 2
4. **MAXIMUM TIME**: 60 min.
5. **TEAMS**: Must bring writing utensils.
6. **EVENT LEADERS**: Must provide tests and student response sheets for each team. Event leaders may also provide items such as: rulers, calculators, meter tapes, meter sticks, triple beam or electronic balances, beakers, Erlenmeyer flasks, graduated cylinders, thermometers, objects to measure and various types of graphs and data sets to be analyzed.
7. **SAFETY REQUIREMENTS**: None
8. **IMPOUND**: No
9. **THE COMPETITION**: This event will be run in a station format. Teams will demonstrate understanding in any or all of the following ways:
  - a. Collect data (e.g. number of water drops various coins can hold) and represent that data in a correctly labeled graph or data table.
  - b. Plot data points, make and interpret data tables, draw and interpret graphs, including what trends can be predicted from the data shown.
  - c. Make estimates of data between or beyond the data points given.
  - d. Calculate fractions or percentages based on charts, tables or data.
  - e. Calculate the mean, median, and mode for a set of data.
  - f. Distinguish between accuracy and precision and identify outliers in a set of data.
10. **SCORING**: Points will be awarded for the accuracy of responses. Ties will be broken by the accuracy or quality of answers to selected questions chosen by the event leader prior to competition.
11. **EVENT RESOURCES**:  
See the Event Resources tab on our website at [www.sciencenc.com](http://www.sciencenc.com) for instructions, videos and more.