Data Crunchers

1. **DESCRIPTION**: Teams will demonstrate their understanding of metric measurement by estimating and measuring length (meter), mass (gram), fluid volume (liter), angles, and temperature (Celsius). Teams should also be able to create and interpret data tables, bar graphs, line graphs, pie charts, and pictographs **and make basic calculations that include time, money, fractions and percentage**.

2. **ESSENTIAL STANDARDS ALIGNMENT**: Measurement & Data is a unifying concept for all grade levels across the Common Core Standards. It also aligns with 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 NOTHING to the competition.

6. **EVENT LEADERS**: Must provide writing instruments and student response sheets for each team. Event leaders may also provide items such as: rulers, calculators, protractors, meter tapes, meter sticks, balances of any kind, beakers, graduated cylinders, thermometers, objects to measure and various types of graphs to be analyzed.

7. **SAFETY REQUIREMENTS**: None

8. **IMPOUND**: No

9. **THE COMPETITION**: This event will be run in a station format. Teams will rotate through stations that assess any or all of the following topics:
   a. Estimate or measure the angle degree, mass, volume, length, area, or temperature of various objects in metric units to the precision requested.
   b. Understand relative scale of metric units and which is appropriate for measurement (mg, g, kg, mm, cm, m, km, mL, L, kL, ^{o}C, ^{o}K, cm^2, cm^3) in different scenarios.
   c. Collect data (e.g. number of water drops various coins can hold) and represent that data in a correctly labeled graph or data table.
   d. Plot data points, make and interpret data tables, draw and interpret graphs, including what trends can be predicted from the data shown.
   e. Make estimates of data between or beyond the data points given.
   f. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
   g. **Calculate the amount of time between two events (No time zone calculations).**
   h. **Calculate fractions or percentages based on charts, tables or data.**
   i. **Solve problems that involve the use of money.**

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**:
    http://www.sciencenc.com/event-help/DataCrunchers.php