

NATIONAL PARTNERSHIP FOR QUALITY AFTERSCHOOL LEARNING

www.sedl.org/afterschool/toolkits Use these data to create data tables following the Guidelines for Making a Data Table and Checklist for a Data Table. Example 1: Pet Survey (GR 2–3) Ms. Hubert’s afterschool students took a survey of the 600 students at Morales Elementary School. Students were asked to select their favorite pet from a list of eight animals. Here are the results. Lizard 25, Dog 250, Cat 115, Bird 50, Guinea pig 30, Hamster 45, Fish 75, Ferret 10 Example 2: Electromagnets—Increasing Coils (GR 3–5) The following data were collected using an electromagnet with a 1.5 volt battery, a switch, a piece of #20 insulated wire, and a nail. Three trials were run. Safety precautions in repeating this experiment include using safety goggles or safety spectacles and avoiding short circuits.

Example 3: pH of Substances (GR 5–10) The following are pH values of common household substances taken by three different teams using pH probes. Safety precautions in repeating this experiment include hooded ventilation, chemical-splash safety goggles, gloves, and apron. Do not use bleach, ammonia, or strong acids with children. Lemon juice 2.4, 2.0, 2.2; Baking soda (1 Tbsp) in Water (1 cup) 8.4, 8.3, 8.7; Orange juice 3.5, 4.0, 3.4; Battery acid 1.0, 0.7, 0.5; Apples 3.0, 3.2, 3.5; Tomatoes 4.5, 4.2, 4.0; Bottled water 6.7, 7.0, 7.2; Milk of magnesia 10.5, 10.3, 10.6; Liquid hand soap 9.0, 10.0, 9.5; Vinegar 2.2, 2.9, 3.0; Household bleach 12.5, 12.5, 12.7; Milk 6.6, 6.5, 6.4; Household ammonia 11.5, 11.0, 11.5; Lye 13.0, 13.5, 13.4; and Sodium hydroxide 14.0, 14.0, 13.9; Anti-freeze 10.1, 10.9, 9.7; Windex 9.9, 10.2, 9.5; Liquid detergent 10.5, 10.0, 10.3; and Cola 3.0, 2.5, 3.2 Teaching tip: The pH scale is from 0 to 14. Have students make two data tables, one with the data as given and one with the pH scale 0 to 14 with the substances’ average pH in rank order on the scale (Battery acid at the lower end and Sodium hydroxide at the upper end) or create a pH graphic organizer. 1 © 2006 WGBH Educational Foundation. All rights reserved.

Example 4: Automobile Land Speed Records (GR 5-10) In the first recorded automobile race in 1898, Count Gaston de Chasseloup-Laubat of Paris, France, drove 1 kilometer in 57 seconds for an average speed of 39.2 miles per hour (mph) or 63.1 kilometers per hour (kph). In 1904, Henry Ford drove his Ford Arrow across frozen Lake St. Clair, MI, at an average speed of 91.4 mph. Now, the North American Eagle is trying to break a land speed record of 800 mph. The Federation International de L’Automobile (FIA), the world’s governing body for motor sport and land speed records, recorded the following land speed records. (Retrieved on February 5, 2006, from <http://www.landspeed.com/lsrinfo.asp>.)



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