

Tutoring Two: Learning to Make Data Tables

Use these data to create data tables following the Guidelines for Making a Data Table and Checklist for a Data Table.

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.

[illegible]

Number of Coils	Number of Paperclips
5	3, 5, 4
10	7, 8, 6
15	11, 10, 12
20	15, 13, 14

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.

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>.)

Speed (mph)	Driver	Car	Engine	Date
407.447	Craig Breedlove	Spirit of America	GE I47	8/5/63
413.199	Tom Green	Wingfoot Express	WE I46	10/2/64
434.22	Art Arfeno	Green Monster	GE I70	10/5/64
468.719	Craig Breedlove	Spirit of America	GE I70	10/13/64
526.277	Craig Breedlove	Spirit of America	GE I70	10/15/65
536.712	Art Arfeno	Green Monster	GE I70	10/27/65
555.127	Craig Breedlove	Spirit of America, Sonic 1	GE I70	11/2/65
576.553	Art Arfeno	Green Monster	GE I70	11/7/65
600.601	Craig Breedlove	Spirit of America, Sonic 1	GE I70	11/15/65
622.407	Gary Gebelich	Blue Flame	Rocket	10/23/70
633.468	Richard Noble	Thrust 2	RR RG 146	10/4/83
763.035	Andy Green	Thrust SSC	RR 5000	10/15/97

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YASH YASH YASH YASH YASH YASH YASH YASH YASH YASH YASH YASH YASH YASH YASH
YASH YASH YASH YASH YASH YASH using a car with a water clock set to release a drop**

in a unit of time and a meter stick. The car rolled down an inclined plane. Three trials were run. Create a data table with an average distance column and an average velocity column, create an average distance-time graph, and draw the best-fit line or curve. Estimate the car's distance traveled and velocity at six drops of water. Describe the motion of the car. Is it going at a constant speed, accelerating, or decelerating? How do you know?

Time (drops of water)	Distance (cm)
1	10,11,9
2	29, 31, 30
3	59, 58, 61
4	102, 100, 98
5	122, 125, 127