Station #1

Music may help people relax. Darius got two groups of people together. He took everybody’s pulse and blood pressure. Then he allowed one group to listen to soothing music while the other group sat in silence. After the song was over, he measured everyone’s pulse and blood pressure again.

Station #2

Cars get better gas mileage when their tires are properly inflated. Sayeema wanted to test if this was true, so she filled the gasoline tank in her car, inflated the tires to the car maker’s suggested pressure, drove her car, and then calculated the miles per gallon. The next time she filled the car’s tank with gasoline, she reduced the pressure of air in her tires. Once again she drove the car over the same roads and calculated the miles per gallon. She tried the process again with tires that were inflated a little more than the suggested pressure.

Station #3

Preservatives such as salt help keep food fresh. Imaan made 18 loaves of bread using the same recipe and baking method. In nine of them, she used no salt. In the other nine, she used salt. After the loaves were baked, she placed each of the loaves in a plastic bag and left them close together on the counter in her kitchen. Each day she looked at them to see if any mold had started to grow.

Station #4

Baking soda is an ingredient in chocolate chip cookies, but not much of it is used in the recipe compared to other ingredients such as flour. James did not think the small amount could be important to the taste of the cookies. He made four batches of cookies using the same recipe. One batch had no baking soda, one had half the amount called for in the recipe, one had the required amount, and one had double the amount. After making the cookies, he had 25 people do a taste test and rate the cookies from delicious to disgusting.

Station #5

Emily made four paper helicopters. Each was made out of a different kind of paper. She flew each one several times in the hallway and recorded how long each stayed in the air.

Station #6

Ethan filled 10 cups of the same size with equal amounts of water. He divided the cups into five groups of two cups each. The groups were placed in five different locations around his house. After two weeks, he measured the remaining water to determine how much had evaporated, by measuring how much water remained in each cup.

Station #7

Whether paint is oil-based or water-based could determine how long it takes to dry. Liliana found two pieces of the same kind of pine wood and painted one with oil-based blue paint and the other with water-based blue paint. Then she timed how long it took for each piece to dry.

Station #8

Caffeine may make people more alert. Devin tested 100 people by using their scores in the same video game. Fifty of the people drank a can of regular Brand X caffeinated soda half an hour before they played the game. The other 50 drank a similar amount of Brand X caffeine-free soda before playing. He recorded each person’s score on the game.

Station #9

Richelle made an air-pressure device that could launch potatoes. She added air to the device using her bicycle tire pump. For 10 launches, she used 10 pumps of air. For another 10 launches, she used 20 pumps of air. For the final 10 launches, she used 30 pumps of air. After launching a potato, she carefully measured how far it traveled.

Station #10

Malcolm had always heard that plants grow better if you talk to them. He purchased 10 of the same kind of plant, measured the height of each one, and made two groups of plants that he kept in similar conditions. He talked to one group for a half an hour each day but did not talk to the other group. After three weeks, he measured and recorded the height of each plant again.