

Hot Tub Design

Lab A

Perry is designing a hot tub that he will locate behind his house. He has 36 square designer tiles to use for the bottom of his hot tub. He wants to use all of the tiles, but he does not yet know how he will arrange them to form the base of the hot tub. If his hot tub will be rectangular, how many different rectangles with an area of 36 square tiles does he have to choose from?

Use the square tiles provided to find as many rectangular configurations as you can. Remember to record the length and the width of each rectangle you find. Assume that Perry's yard is big enough to accommodate any rectangular design you create and that it matters which dimension is the width and which is the length.

Local Crisis

Lab B

Health officials in Parsnipville are concerned about the recent outbreak of the flu. While scientists are working hard to find a vaccine, the town leaders are turning to you to predict how many people will be sick over time. They hope to find a vaccine in a week. Here are the facts: The epidemic started on Day 0 when Velma and Stanley returned from their exotic vacation with symptoms of the flu. Each day, a sick person infects two additional people. The town of Parsnipville has 3800 citizens.

Use the beans (or other material) provided by your teacher to represent the people infected with the flu. Start with two beans to represent Velma and Stanley. Then carefully add two beans to each existing bean to represent the growth of the disease. Collect (and record) data for how many people will be sick each day for a few days.

Sign on the Dotted Line

Lab C

Certain legal documents, such as those used when buying property, sometimes require up to 50 signatures! How long do you think that might take? To find out, collect data as one person of your team signs his or her first name. Have another team member use a stop watch to time how long, in seconds, it takes to neatly sign his or her first name 2, 3, 5, 7, and 10 times. Be sure to record the time it takes for each number of signatures. In order to collect good data, be sure to have your team member practice signing his or her first name a few times before you start. This is not a speed competition, but rather a way to collect typical data for one person's signature.