Jesse Santala

The Force: How Much Does It Take?

The purpose of this experiment was to determine which variety of wood (out of Oak, Maple, and Walnut) is the hardest. The scientist accomplished this by figuring how much force it takes to drive a nail into each of the three different varieties of wood. This experiment will provide information on how hard each piece of wood actually is. The data will help construction workers decide which wood they should use for their construction projects. The researcher became interested in this science fair product while he read about it on a science fair idea web site. The first thing that the researcher did in the procedure was retrieved sample blocks of the three wood varieties. Next he laid out several nails and the wood blocks on the table in the order that the trials were performed. After that, the scientist salvaged the nail gun that was to be used for driving in the nails. Next an air hose was found and plugged into the nail gun. The very next thing to do was to turn on the air compressor and set the air pressure to sixty-five pounds per square inch (psi) and began the experimental procedures. Next to be started were the three trials. One nail was driven into each piece of wood, each trial. So, three nails total were driven into each piece of wood. A centimeter ruler was used to determine the depth each nail plunged into the blocks. The researcher took notes between trials, noting how far each nail entered into each piece of wood each time. The researcher's hypothesis was proven as incorrect. It was predicted that the Maple wood would be the strongest, but it turned out that the Walnut was the hardest of the woods tested and the Red Oak resulted in begin the softest.