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*Analyzing the Effects of Various Materials on a Magnetic Field*

The purpose of this investigation was to determine the effect of different materials on the pull strength of a magnet. I hypothesized that the material would not affect the strength of the magnet's field. This experiment involved placing a material between a magnet and a probe and measuring the strength of the magnet's field (gauss). Air and an empty plexi-glass tank were used as controls. The magnet's field was measured in millitesla and converted into gauss. The data collected did not support the original hypothesis. These findings lead to the conclusion that when placing different materials in a magnet's field, wood and aluminum make its strength decrease, while water and salt water make it increase. Air control had an average rating of 69.10 gauss, while wood and aluminum had average ratings of 65.23 gauss and 63.32 gauss respectively. The empty plexi-glass tank was rated 55.91 gauss, while water and salt water were rated an average of 56.69 gauss and 58.19 gauss respectively. Therefore, it is reasonable to conclude that when placing materials in a magnet's field, wood and layered aluminum decrease a magnet's strength by 3.87 and 5.78 gauss respectively, compared to air while water and salt water increase it by 0.78 and 2.28 gauss respectively, compared to an empty plexi-glass tank.