Name(s)	Project Number
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Project Title
Strength of Cement Blocks

Abstract

Objectives/Goals
To determine if the percentage of sand in cement blocks affects its strength.

Methods/Materials
Different ratios of sand and cement samples were constructed in foil trays and then were left to set. After this step was done, weights were put on top of the cement blocks to see under what load the cement blocks would break. All the observations were recorded on a log sheet.

The experiment was conducted at home using five different ratios of cement and sand. Nine samples for each ratio were used which gave me a total of forty five samples for testing. Each cement block was 13.5 cm in width, 19.8 cm in length, and 1.0 cm in height.

Results
The experiment proved that the cement blocks of 60% cement and 40% sand were the strongest and these samples held an average weight of 174 pounds. The cement and sand ratios of 70 to 30, 50 to 50, and 40 to 60 were the next strongest, holding weights from 110 pounds to 170 pounds. The weakest was the block with 80% cement and 20% sand holding an average of 111 pounds.

Conclusions/Discussion
My hypothesis was that the ratio of 60% cement and 40% sand would be the strongest sample and that the 40% cement and 60% sand would be the weakest. After the experiment was done, I learned that the ratio of 60 to 40 was the strongest. The weakest however, was not the ratio of 40 to 60 that I had predicted, but was the 80% cement and 20% sand sample. These results helped me conclude that using the correct ratio of sand mixed with cement is a very important factor, impacting the strength of the cement blocks.

Summary Statement
My project proves that the ratio of sand mixed with cement affects the strength of cement blocks.

Help Received
My parents and sister helped me collect information, do the experiment and complete the notebook and poster. Ms. Nadeau from Prado View Elementary helped me with suggestions on improving my project.