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Aim . . . Fire!

The purpose of this investigation was to determine how the projectile engine design (Vesuvius, Mangonel, Rebelorum, and my own creation) affects its besieging abilities.

This experiment involved placing the projectile engine four meters away from the target, and launching the projectile to its target. The target consists of a 9 x 9 wall of wooden blocks. Also there were 5 launches altogether for each prototype, and the data was recorded after each hit/launch.

Data collected showed that prototype 1, 2, and 3 did pass 2 of the 3 design criteria, and prototype 4 passed one. Prototype 1, 2, and 3 failed to pass design criteria 1 (Accuracy) because they were unable to hit the center of the target with an 80% success rate. Prototype 1, 2, and 3 passed design criteria 2 (Precisian) passed because they did hit the target 4/5 times. Prototypes 1, 2, and 3 did pass design criteria 3 (Effectiveness) because on 4/5 trials the prototypes did knock (move from organized position) over at least 5 blocks. Prototype 1 (Vesuvius) produced on average 3 blocks per hit. Prototype 2 (Mangonel) on average knocked over 2.6 blocks per hit, and prototype 3 (Rebelorum) knocked over an average of 3.8 blocks per hit.

These findings lead me to conclude that prototype 3 (Rebelorum) was the most affective because it passed the most design criteria, and it knocked (moved from organized position) over the most blocks out of the three prototypes.