

Paulyna Alcorn
Tone It Down

The purpose of this investigation was to discover which common material: polystyrene foam, polyurethane padding, ceiling tile, a Styrofoam cooler, and fiberglass would sound proof an alarm clock's sound level the greatest. The original hypothesis was that the Styrofoam cooler would sound proof the alarm clock the most. This experiment was conducted by cutting and taping the materials onto the inside of the 12x12" cardboard box and onto two parallel flaps of the box. Then the alarm clock would be set 5 minutes away from the previous time and set into the middle of the box. Afterwards the flaps of the box would be taped shut with the two parallel flaps with material as the bottom two. After taping the box, set the sound level meter on top of the box, and as the alarm clock is going off record the sound level shown on the meter every ten seconds, repeat this twenty times for each material. The control was the volume of the alarm clock, which was 74.9 decibels. Each material did lower the alarm clocks' sound level by at least twenty decibels. The conclusions from this experiment were that the ceiling tile decreased the sound level more than the other materials to an average of 44.885, while the Styrofoam cooler lowered to an average of 55.4 decibels, so hypothesis was rejected. Extensions that could be added onto the investigation could be additional materials and locate a sound proofed room so no outside movement would be detected while testing.