All About that Bass

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The purpose of the project is to determine if fire extinguishers can be made using only sound waves to combat fire. My hypothesis was that sound waves with any frequency will extinguish a fire. The materials used for the test were as follows: cardboard cylinder, car speaker amplifier, supply charger, speaker wire, duct tape, aluminum foil, cell phone, music, alcohol, pine wood, dishtowel, skillet, lighter, metric tape measure, plywood, fabric. The researcher produced a sound wave extinguisher by covering a cardboard tube with aluminum foil and securing the cylinder to the speaker amplifier. The sound wave extinguisher was used to combat fires produced using wood, fabric, and alcohol. The results were recorded and analyzed to arrive at a proposed conclusion. Using physics, the researcher explored sound and fire in depth and learned that the smaller number hertz, the more power there is to extinguish a flame. The researcher learned that using consistent bass the fire can be extinguished, but using a song with lyrics that contains bass but not consistent sound waves will not extinguish a fire. To extinguish a fire, the oxygen particles must be separated and this weakens the fire and causes the flame to be extinguished. My hypothesis was wrong because only low frequency sound waves will extinguish a fire.

Awards Won: