

Casey Huz
Film Canister Cannon

What type of household spray is the best propellant? My science fair project is set to answer this and is a basic set up of a piece of wood with a film canister lid glued to it and igniter source going into the lid. The igniter, when clicked, will put out a spark and ignite the propellant from the household sprays and send the film canister into the air. My goal is to learn more about propulsion and about equations and their use in science. Of the four types of sprays that I used, I think that hairspray will be the best propellant because it has the best and most flammable components. I conducted the experiment by using the launcher pad I constructed and spraying different household sprays into them, then launching the canisters and measuring the time of flight. I launched the canisters with each spray four times then averaged the results. From there I used equations to find the velocity, maximum height, kinetic energy, and potential energy and used the results from these to find the best propellant. The results were somewhat surprising; the hairspray did the best, body spray came in second, the air freshener spray came in third, and the bug spray came in last. The bug spray managed to come in last because it wouldn't light at all. I figured this happened because the bug spray uses the wrong type of alcohol and was too much of a liquid spray.