You're Hot Then You're Cold

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The purpose of this project is to provide an innovative solution to the use of thermochromic paint in all facets of everyday life, but specifically roofing. With this use of thermochromic powder, we will use a model of an attic we have created, record temperatures within using thermometer probes that will record the radiant energy given off by heat lamps. We will then observe the results of the temperatures of each structure. The attics are constructed with a sheet of galvanized tin coated with different paints for a specific outcome. One with regular black paint; posing as a negative control, one with the thermochromic powder mix with mod podge; posing as a positive control, a gray thermochromic powder mix with mod podge; posing as another positive control, and the last structure with clear mod podge coating to serve as another negative control as well. An setup will be created to record how each structure reacts to different forms of radiant energy/areas. The setup will consist of a computer hooked up to a Vernier MiniQuest with three Vernier thermometers that will insert into the back of each “attic”. The structures will be placed side by side, the hypotenuse facing the lamps. The graph will be set to record for 30-40 minutes. Finally, the graphs on our software will be analyzed to ultimately determine the importance of thermochromic paint as a roofing paint to accommodate different weather conditions and climates.