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Increasing the Size of Microwave Popcorn JUSTIN SMOYER, BRETT FOWLER, PAULL QUINN, Kutztown University — Each year Americans consume approximately 17 billion quarts of popcorn. Since the 1940s, microwaves have been the heating source of choice for most. By treating the popcorn mechanism as a thermodynamic system, it has been shown mathematically and experimentally that reducing the surrounding pressure of the unpopped kernels, results in an increased volume of the kernels [Quinn et al, http://xxx.lanl.gov/abs/cond-mat/0409434 v1 2004]. In this project an alternate method of popping with the microwave was used to further test and confirm this hypothesis. Numerous experimental trials where run to test the validity of the theory. The results show that there is a significant increase in the average kernel size as well as a reduction in the number of unpopped kernels.

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