

Gas Unit — The Great Popcorn Explosion

Introduction

Not all species of corn can be used to make popcorn.

There are specific qualities, such as 14 % moisture content and a tough casing that acts as an airtight container.

When the kernel is heated, (the range at which corn's melting point is $178^{\circ}\text{C} - 234^{\circ}\text{C}$), the water turns from liquid to gas, and then the gas expands until the pressure is so great that the casing breaks.

Your Task

You are to estimate the pressure needed to cause the pop in popcorn.

Using the Ideal Gas Law, you should be able to estimate how much pressure is actually needed to cause the casing to break.

You must carry out suitable experiments to gather the relevant data necessary to calculate the result.

A written report will be required.

Your written report must consist of:

- Purpose
- Introduction (including any assumptions you are making in your calculations.)
- Method (Materials and Procedure)
- Data Collection
- Data Analysis
- Conclusion
- Evaluation