

Guided Atmospheric Pressure Inquiry Lab

From what you know about gas, gas pressure, and conversion between different states of matter, you've decided to take on an interesting project. Using only the supplies provided (and without looking it up online), your mission, should you choose to accept it will be to

1. **First** — Crush the soda can without using the force of any part of your body
2. **Second** — A Google or PowerPoint Slide lab report is due by _____. Your goal is to create an engaging report that explains what crushed the can, and how it works at a molecular level.
 - a. You can incorporate words, drawings, cartoons, animations, videos, audio, music, webpages you've created, and any other technique you wish. Inspire me.
 - b. **Scoring: [50 total points]**

Presentation with Google Slides or equivalent:	70%
Explanation for how the can was crushed:	+ 10%
What you learned:	+ 10%
<u>Molecular explanation of the phenomenon:</u>	<u>+10%</u>
Total:	100%

Materials:

1. Empty aluminum can (*e.g.* soda can)
2. Tray with water
3. Alcohol burner or Bunsen burner with fire starter or matches
4. Tongs

Procedure:

You need to create your own procedure.

1. Start by making a guess (hypothesis) about a way to do it.
2. Then design an experiment to test that idea.
3. Try it.
4. Document your results. That can include notes, drawings, pictures, videos, etc.
5. Think about what your results are telling you about your initial hypothesis in step 1.
6. Go back to step 1 and repeat until you succeed.

Possible Relevant Laws and Keywords (*i.e.* Possible Hints)

- Ideal Gas Law ($PV = nRT$)
- Different States of Matter
- Evaporation
- Condensation
- Atmospheric Pressure
- Vapor Pressure (pressure of the vapor in a container)