**Combined Gas Law Fun!**

Answer the following questions using the combined gas law. But do it in a fun way!

1) I have a gas at a pressure of 1.5 atm and a temperature of 298 K. If I heat the gas to a temperature of 398 K, what will the pressure inside the container be?

2) In problem 1 I didn’t tell you what the volume of the container was. Does it matter? Explain why or why not.

3) Cats have lungs. If the lungs of a cat have a volume of 750 mL, what will the volume of the lungs be if I heat the cat from 311 K to 401 K?

4) Explain why the experiment from problem 3 would be ineffective in demonstrating the combined gas law.

5) I have a water bottle in my office that’s been sitting in the fridge for a long time. If the initial volume of the water bottle was 500 mL, the initial temperature was 283 K, and the initial pressure inside the bottle was 1.0 atm, what would the volume of the bottle be if the temperature decreased to 273 K and the pressure inside the bottle was 0.90 atm?