

Combined Gas Law Worksheet

- 1) If I initially have 4.0 L of a gas at a pressure of 1.0 atm, what will the volume be if I increase the pressure to 2.0 atm?
- 2) A toy balloon has an internal pressure of 1.05 atm and a volume of 0.10 L. If the temperature where the balloon is released is 30°C , what will happen to the volume when the balloon rises to an altitude where the pressure is 0.65 atm and the temperature is -10°C ?
- 3) A small research submarine with a volume of 1.0 $\times 10^5$ L has an internal pressure of 1.0 atm and an internal temperature of 27°C . If the submarine descends to a depth where the pressure is 150 atm and the temperature is 7°C , what will the volume of the gas inside be if the hull of the submarine contracts?
- 4) People who are angry sometimes say that they feel as if they're on fire. If a calm person with a lung capacity of 2.5 liters and a body temperature of 37°C gets angry, what will the volume of the person's lungs be if their temperature rises to 39°C . Based on this, do you think it's likely they will explode?