

CHAPTER 4	Combined Gas Law Problems (2)	BLM 4.1.2
ASSESSMENT		

1. A 100 W light bulb has a volume of 175.0 mL at STP. The light bulb is turned on and the gas expands slightly, changing the volume to 176.2 mL, with an internal pressure of 211 kPa. What is the temperature in the light bulb (in °C)?
2. A weather balloon with a volume of 60 L at -30°C and 102.3 kPa is released from Cambridge Bay, Nunavut with instruments for measuring wind speed, temperature, humidity and altitude. The balloon rises to the stratosphere and bursts when its volume reaches 90 times its original volume. If the temperature at this altitude is measured to be 10°C , what is the atmospheric pressure?
3. An aerosol can with a capacity of 200 mL and a pressure of 350 kPa at 25°C is thrown into a campfire. The can explodes when the pressure exceeds 1100 kPa. What is the minimum temperature of the campfire?