Pressure – Volume Relationship in Gases – II

1. A gas at yesterday's atmospheric pressure (95kPa) had a volume of 1 litre. Today's atmospheric pressure is 105 kPa. Do you think the gas occupies more or less space today? What is its new volume?

2. A balloon filled with gas to a pressure of 3atm takes up 5 litres. If the pressure in the balloon drops to 1atm, what is its size in litres now?

3. A gas initially at a pressure of 300 kPa is allowed to expand at a constant temperature until its volume has increase from 100 to 225 cm^3. What is its final pressure?

4. The pressure on 220cm^3 of a gas is 110 kPa. What will be the new volume if the pressure is doubled (keeping temp. constant)?

5. The pressure on 6.00 L of gas is 200 kPa. What will be the volume if the pressure is doubled (keeping temp. constant)?

6. The initial pressure of a gas is 150 kPa. What will be the final pressure if the gas is compressed to half its original volume?

7. A gas measured at 50 kPa occupied 75 liters. It now occupies one-third of that space. How many litres does it now occupy? What is the pressure of the gas now?

8. A gas is measured at 750 mm Hg pressure. What would the pressure become if the gas was allowed to expand to a volume five times greater?

9. The volume of a gas at 2.5 atm pressure is 25 litres. What will be its volume at 1 atm?