# Open Chemistry Online – Post Quiz #9 (OpenStax Ch: 9.3)

Table

Description automatically generatedA sample of hydrogen gas was collected over water at 21 oC and 1.00 atm pressure.

Figure 1: Vapor pressure of water at temperatures from 18-29 degrees C

1. What gases are present in the collection flask?
2. State/calculate the partial pressures of all gases in the system in mmHg. You may consult the vapor pressure table to the right
3. Calculate the mole fraction of all gases in the system.
4. If the temperature of the lab was a bit higher (say 25 oC) how would the volume in the collection flask change? If there is an effect, would it be a small effect or a large effect?

Assume a fully flexible container so the pressure in the collection flask is still 1.0 atm, and that that the gas collection reaction is otherwise identical.