

WORK DONE BY AND ON A GAS – ISOTHERMAL PROCESSES

Part 1: Expansion and compression at constant pressure.

Try to answer the following questions:

- 1) Based on what you saw in the video, why does the balloon inflate when you place the bottle in the warm water bowl?
- 2) Based on what you saw in the video, why does the balloon deflate when you place it in the water+ice bowl?
- 3) Is this an isobaric (constant pressure) process? In your opinion, what's the value of the constant pressure exerted on the balloon?

Part 2: Isothermal compression and expansion.

- 1) What happens to the pressure when you compress the air in the syringe?
- 2) What happens to the volume of the air when you stop pushing on the piston of the syringe?
- 3) Do you think that the pressure and volume variation are related? How?
- 4) Is this process happening at constant temperature? Try to justify your answer.