**Lung Model Lab**

**Introduction:**

The respiratory system consists of lungs and air passages and is part of the cardiopulmonary system that supplies your body with oxygen and nutrients, and removes carbon dioxide and other waste products produced within your cells.

**Materials:**

1 large balloon 1 small balloon  
scissors 1 drinking straw  
1 plastic cup 1 pinch of moulding clay

\***Caution\***: when using scissors, take extra care to not cut yourself or others.

**Procedure:**

1. Cut/ poke a hole in the top of the cup large enough for the straw to fit through.
2. Cut the straw enough that there is one inch inside and outside of the cup.
3. Place a small balloon over the end of the straw.
4. Use a pinch of moulding clay to seal any holes between the balloon and the straw. Let Dry.
5. Place the straw through the cup so the straw and balloon are inside the cup.
6. Seal the straw to the cup using the moulding clay and let dry.
7. Cut off the base of the larger balloon and stretch it out over the rim of the cup, closing off the base of the cup (Hint: you may want to use a partner for this part. 1 to hold the cup, and 1 to place the balloon over the cup).



**Questions:**

1. Explain the role of the internal intercostal muscles and the external intercostal muscles during inspiration and expiration.
2. Given what you have learned about pressure and volume in the lungs and thoracic cavity, why might an individual who has punctured their lung have difficulty breathing?
3. Draw and label a diagram of your model. Explain the role of the diaphragm in respiration and how it contributes to breathing.