

Respiratory System

Name _____

Date _____

The respiratory systems of pigs and humans are very similar. Thus, by observing fetal pig respiratory structures, you can see what your own respiratory system is like.

The respiratory system may be divided into two general areas or regions. First, several structures are located in the oral (mouth) cavity. The remaining organs are located in the thoracic (chest) cavity.

In this investigation, you will

- a. dissect your fetal pig to study the respiratory system.
- b. identify the fetal pig's respiratory organs and structures.
- c. observe the extensive branching pattern of air passages in the lungs.
- d. label diagrams of the pig and human respiratory organs.

Materials

fetal pig scissors pencil

Procedure

Part A. Oral Cavity

- Study Figure 62-1 to become familiar with the oral cavity structures of a fetal pig.
- With scissors, cut along each side of your pig's mouth to drop the lower jaw. This is necessary to observe the structures located in the back of the mouth.
- Locate the structures listed in Table 62-1 and shown in Figure 62-1 in your fetal pig. If all structures shown are not visible, extend the cuts to expose all of the mouth. You may need to cut through the jawbones.
- Label the following structures in Figure 62-1: tongue, hard palate, soft palate, nares, esophagus, epiglottis, glottis, nasopharynx.

Part B. Chest Cavity

- Extend the cut in your pig's chest cavity made during removal of the heart. Continue cutting in a straight line along the middle of the chest up to the chin.
- Locate the trachea, a long tube composed of ringlike sections extending along the middle of the chest cavity.
- Push aside muscle attached to the anterior (or top) portion of the trachea. A slight bulge in the trachea is the larynx, or voice box.
- Cut lengthwise into the larynx with scissors. Vocal cords should be visible.
- Locate the left and right lungs. These organs are composed of soft tissue and have many lobes which occupy most of the chest cavity.
- Remove any tissue covering the lower portion of the trachea. The trachea branches into each lung. These branches are the left and right bronchi.

Between the chest and abdominal cavity is a very thin muscle. This muscle, called the diaphragm, separates the thoracic cavity from the abdominal cavity and aids in inhaling and exhaling.