

Name: _____

SNC 2D Tissue and structure exploration activity using fetal pigs

Part A: Exploration of the Thoracic Cavity

Using the information below locate the structures in bold, colour them in the diagram to the right and indicate the colour you selected by colouring the box (□) that corresponds to the structure.

1. The structures visible on the heart are the two **atria** □(12,13), and **ventricles** (14 and 15) □

2. The most obvious vessel on the front of the heart is the **pulmonary trunk** □(1) . It curves upward and joins the **aorta** (2) □ . A vessel which arches from the heart and curves around to go to the lower part of the body where it is called the **abdominal aorta** (9) □ . The part of the aorta that supplies the body with blood.

Identify by number and label the following on the image to the right

Aorta _____

Right Atrium _____

Left Atrium _____

Ventricles (2 numbers) _____



Part C: The Respiratory System

Use Fig 6, the labeled fetal pig diagram to complete the diagram of the human respiratory system to the right.

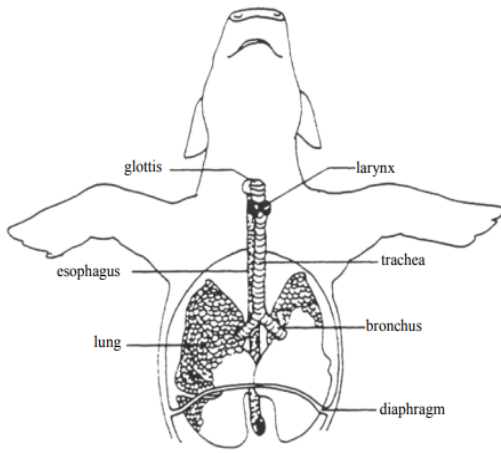
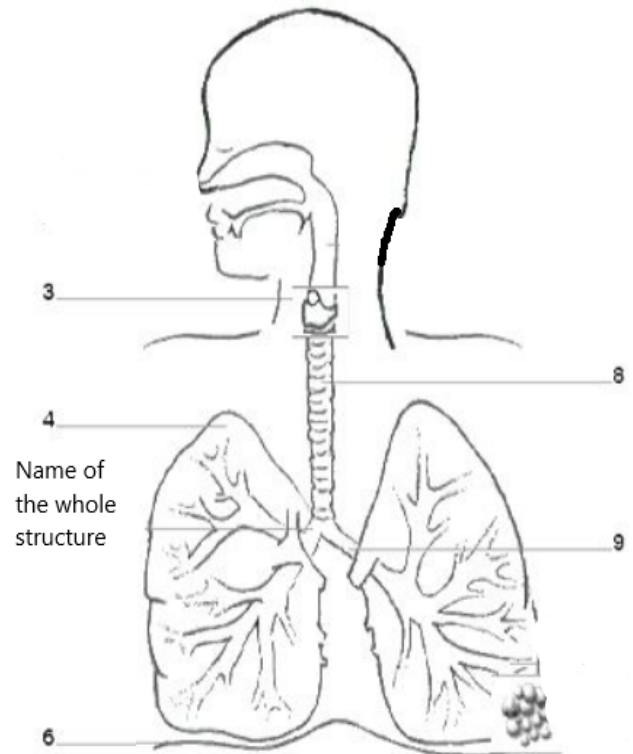


Figure 6. Thoracic Cavity

Directions: Use the vocabulary learned in class to label the parts of the respiratory system.



Read the text on the next page and answer the following questions about the respiratory system.

1. The lungs are found in what body cavity? (see previous question)

2. Locate two spongy **lungs** on the left and right side of the heart.

3. Name the tissue that covers and protects the lungs

4. Give the function of the larynx.

5. What keeps the trachea from collapsing?

6. Where is the diaphragm & give its function.

7. Name the large tubes that enter the lungs.

8. Name the smaller tubes that branch from these?

9. _____ Muscle to aid breathing (separates abdominal and thoracic cavity)

10. What is the function of the epiglottis?

Parts of the Respiratory System

Each of the parts has a specific job. The parts of the respiratory system include the following:

- The **diaphragm** is a sheet of muscle that spreads across the bottom of the rib cage. When the diaphragm contracts, the chest volume gets larger and the lungs take in air. When the diaphragm relaxes, the chest volume gets smaller and air is pushed out of the lungs.
- The nose and nasal cavity filter, warm, and moisten the air you breathe. The nose hairs and mucus produced by the cells in the nose catch particles in the air and keep them from entering the lungs. When particles in the air do reach the lungs, what do you think happens?
- Behind the nasal cavity, air passes through the **pharynx**, a long tube. Both food and air pass through the pharynx.
- The **larynx**, also called the "voice box," is found just below the pharynx. Your voice comes from your larynx. Air from the lungs passes across thin tissues in the larynx and produces sound.
- The **trachea**, or windpipe, is a long tube that leads down to the lungs, where it divides into the right and left **bronchi**. Open rings of cartilage keep the trachea from collapsing. The bronchi branch out into smaller bronchioles in each lung. Each lung is covered with a covering of protective cells called the pleural membranes.
- Since food goes down the pharynx, how is it stopped from entering the trachea? A flap of tissue called the **epiglottis** closes over the trachea when food is swallowed to prevent choking or inhaling food.
- The bronchioles lead to the alveoli. **Alveoli** are the little sacs at the end of the bronchioles. They look like little bunches of grapes. Oxygen is exchanged for carbon dioxide in the alveoli. **Gas exchange** is the name we give to the process that allows oxygen to enter the blood and carbon dioxide to move out of the blood - the two gasses are "exchanged."
- Both lungs are covered with a layer of protective cells called the **pleura**. This layer cushions the lungs and reduces any friction that may develop between the lung, rib cage, and chest cavity.