

Lab 8 Notes:

Circulatory System, Part II: Respiratory System and Heart Anatomy

RESPIRATORY SYSTEM

The respiratory system is closely tied to the circulatory system in both the shark and the cat. Read the respiratory sections for both the shark (pp. 166-168) and the cat (pp. 364-369).

Be able to identify the following structures and their functions in the **shark** (pp. 166-168):

Gill arches	Gill rakers
Spiracle	Internal gill slits
Gill chambers	Parabranchial chambers
Septal gills	Interbranchial septum
Primary gill filaments	Holobranchs
Hemibranchs	

Be able to identify the following structures and their functions in the **cat** (pp. 364-369):

External nares	Nasal cavity*
Choanae*	Nasopharynx*
Laryngopharynx*	Trachea
Primary bronchus	Secondary bronchus
Tertiary bronchus	Right anterior lobe of lung
Right medial lobe of lung	Right posterior lobe of lung
Accessory lobe	Caval fold
Left anterior lobe of lung	Left medial lobe of lung
Left posterior lobe of lung	Mediastinal septum

** Use the illustrations in the manual (e.g., page 358, figure 37.3) to elucidate the position of any structures that are not visible or accessible in the specimens.*

HEART ANATOMY

This week we will also examine the detailed anatomy of a typical mammalian heart, using sheep hearts. Read pp. 381-386 in your lab manuals. Know the path of blood flow through the heart. Know where the blood goes next after passing through these structures (e.g., where does blood go next after passing through the left ventricle?).

Be able to identify the following structures and their functions in the **shark**:
Atrium, ventricle, and conus arteriosus.

Be able to identify the following structures and their functions in the **cat**:
Right and left atrium, right and left ventricle, pulmonary trunk.

Be able to identify the following structures and their functions on the **sheep heart**:

Right and left atrium
Pulmonary artery and vein
Aorta
Atrioventricular groove
Interventricular septum
Bicuspid valve
Aortic semilunar valve
Chordae tendinae
Trabeculae carneae
Left and right auricles

Right and left ventricle
Pulmonary trunk
Anterior & posterior vena cava
Interventricular groove
Tricuspid valve
Pulmonary semilunar valve
Moderator band
Papillary muscles
Left and right myocardium
Apex