Lab 2: Digestive & Respiratory Systems

Abdominal & Thoracic Cavities pp.164-170, p.170 questions 6, 7, 11-13, 16, 17, 19
Lung Structure & Function pp. 216-217, p.230 questions 1-3
Spirometer, Aerobic Respiration pp. C45-46, C47

Pg. 164-165 Incisions

-Disregard directions for incisions and questions, I will demonstrate the incisions to the entire lab!
-We will use blunt probe and scissors to follow dissection patterns similar to p.149

Pg. 166-167 Neck Region

-After dissection, be sure to find the following structures: ***Thymus*** (2 tan glands on each half of the larynx), ***Thyroid*** (small circular gland between thymus halves), ***Larynx*** (smooth cartilage like a box), *Trachea* (ribbed cartilage) and ***Esophagus*** (muscular tube behind trachea) -compare with demo pig.

Pg. 166-167 Thoracic Cavity

-use your pig to locate the following structures: ***heart, lung, and diaphragm***
-compare with demo pig
-dissecting scope showing ***branchioles*** and ***alveoli*** (delivery of gas and exchange of gas)
-slides of normal lung tissue and tissue from lungs of a coal miner; what are the impacts of lung tissue (air spaces) being filled with foreign material?

Pg. 216-217 Lungs

-read about lung structure and function and answer questions 1 & 2

Pg.C47 Aerobic Respiration

-Read about respiration and then visit stations in the back of the lab
-Preserved fish showing operculum and gills
-How do fish breather underwater? See live goldfish
-Observe live and preserved frogs; How do frogs breathe? Do they gulp air or use a diaphragm to regulate flow of air?
-model of how diaphragm and lungs work; what happens when you push up or pull down on the diaphragm? Do humans gulp air?
-fill out table on p.C47 comparing respiration of different organisms
-***Optional*** *spirometer* demo (C45-C46); I will explain terms and you can decide if you wish to experiment with the machine.

Pg. 168-169 Abdominal Cavity

-what structure divides the thoracic and abdominal cavity?
-use your pig to locate the following structures: ***liver, stomach, pancreas, small intestine, large intestine, gall bladder, spleen, duodenum, cecum, rectum, anus***
-What does each of these structures do?
-Compare size and texture of each of the organs
-TEXTURE IS EVERYTHING, if texture changes between structures located next to one another then they are likely different things.
-compare with demo pig and manual images
-trace the path of food from mouth to anus
-dissecting scope with section of small intestine cut open to expose the *villi*; What is the importance of increasing surface area? (think of the alveoli in the lungs)

Human Anatomy review can be found on pg 171