

Lab 2: Digestive & Respiratory Systems

Abdominal & Thoracic Cavities pp.148-154, p.156 questions 6, 7, 11-13, 16, 17, 19
Lung Structure & Function pp. 200-201, p.213 questions 1-3
Spirometer, Aerobic Respiration pp. C43-44, C45

Pg. 148-149 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. 150-151 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), *Esophagus* (muscular tube behind trachea)
- compare with demo pig

Pg.150-151 Thoracic Cavity

- use your pig to locate the following structures: *heart*, *lungs*, *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. 200-201 Lungs

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

Pg.C45 Aerobic Respiration

- Read about respiration and then visit stations in the back of the lab
- Preserved fish showing operculum and gills
- How do fish breathe 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?
- Optional *spirometer* demo; I will explain terms and you can decide if you wish to experiment with the machine
- fill out table on p.C45 comparing respiration of different organisms

Pg. 152-154 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 than 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 155