

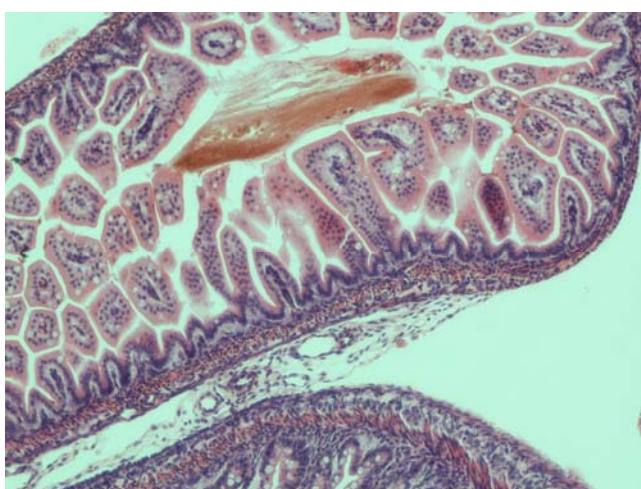
CELLS ONLINE WORKSHEET

TOPIC

ANIMAL TISSUES

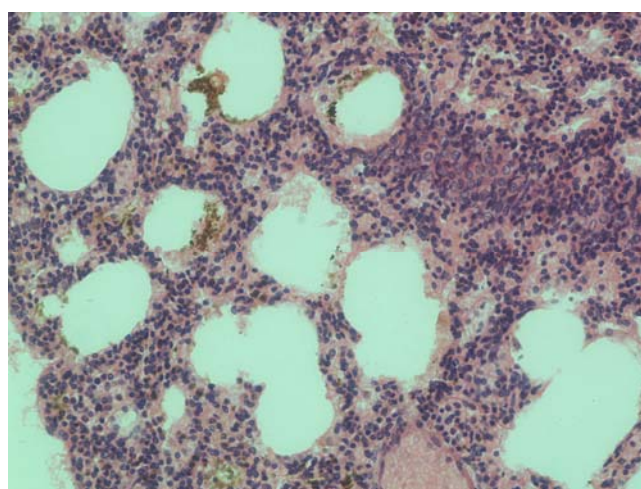
Animals have many different body tissues with different cell types in characteristic arrangements that relate to tissue function. The slides below show tissues from a mouse embryo stained with H&E; Haematoxylin stains the nucleus purple and Eosin stains the cytoplasm red/pink. The tissues were viewed under the light microscope at different magnifications (100-400x magnification). The scale bars show the length on the picture that represents 50µm or 100µm.

Slide A: Small Intestine (100x)



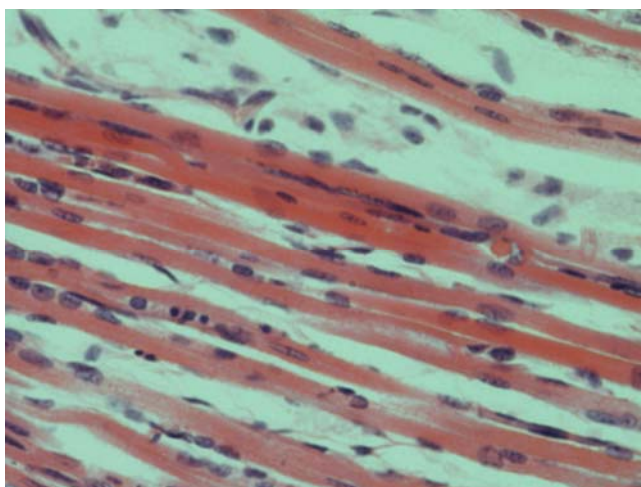
100µm

Slide B: Lung (200x)



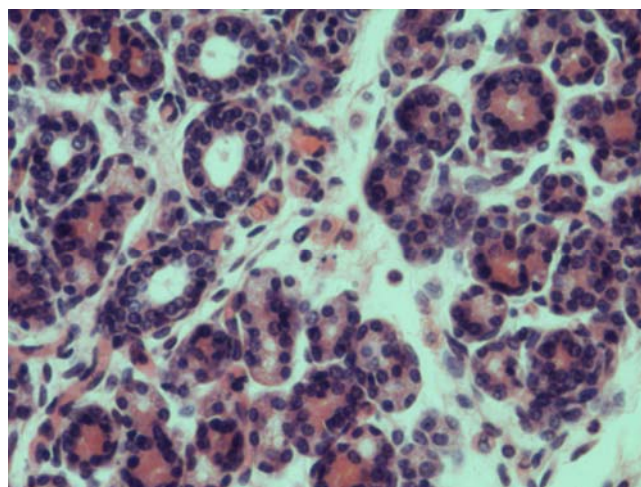
100µm

Slide C: Skeletal Muscle (400x)



50µm

Slide D: Gland Tissue (400x)



50µm

Download this page, place in your notebook and answer the following questions.

Q1: Slide A is a fairly low magnification view of a section of small intestine; you cannot clearly see individual cells. The cells lining the intestine are arranged into 'looping' structures, which have been sliced both in cross section and in longitudinal section (lengthwise). What name is given to these 'loop' structures in the small intestine?

Q2: Imagine there was no label for Slide B. What feature of the tissue that would help you identify it as lung tissue?

Q3: Skeletal muscle is made of many muscle cells (myocytes) that fuse together into long multinucleated muscle fibres, which resemble straps when sliced along the length of the muscle. What do you notice about the location of the nuclei within the muscle fibres?

Q4: Describe the arrangement of the cells in the gland tissue.

Q5: Suggest an advantage and a disadvantage of viewing body tissues like the small intestine at a low magnification.

Q6: Suggest an advantage and a disadvantage of viewing body tissues at a higher magnification.