<table>
<thead>
<tr>
<th>Tissue</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythrocytes</td>
<td>Blood smear (1000x magnification)</td>
<td>[Image 280x300 to 305x321]</td>
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<tr>
<td>Cancellous Bone</td>
<td>Compact bone, Haversian canal</td>
<td>[Image 315x60 to 331x82]</td>
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<tr>
<td>Fibrocartilage Bone</td>
<td>Compact bone, Rib (1x)</td>
<td>[Image 352x177 to 377x198]</td>
</tr>
<tr>
<td>LYMPHOID ORGAN</td>
<td>Compact bone, Haversian canal</td>
<td>[Image 315x60 to 331x82]</td>
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<tr>
<td>EMPTY SPACE IN THE BODY</td>
<td>Compact bone, Haversian canal</td>
<td>[Image 315x60 to 331x82]</td>
</tr>
<tr>
<td>SKIN</td>
<td>Compact bone, Haversian canal</td>
<td>[Image 315x60 to 331x82]</td>
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1. The plasma cell is easily recognized by its chunky, squarish shape, intensely stained cytoplasm and by its characteristic “clock face” pattern of chromatin distribution in the nucleus. They are abundant in the bone marrow and the outer layers of the dermis of the skin, where the white blood cells (lymphocytes) spend much of their time. When the immune system is activated they begin producing large numbers of lymphocytes.

2. Eosinophils are much less common than neutrophils, accounting for 1-6% of leukocytes in circulating blood. Eosinophils have a bilobed nucleus and the cytoplasm is filled by large blue-purple specific granules. Basophils are also phagocytic, but function largely like mast cells. A basophil is characterized by a lobed nucleus and it is filled by large blue-purple specific granules. Here you can see the distinct granules against the purple nucleus.

3. A 400x magnification of basophil from a human shows the characteristic granulation.

4. Spongy bone shown at a magnification of (100x). Normal spongy bone is another picture of this tissue.
<table>
<thead>
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<tr>
<td><img src="image1.jpg" alt="Image 1" /></td>
<td><img src="image2.jpg" alt="Image 2" /></td>
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<td><img src="image5.jpg" alt="Image 5" /></td>
<td><img src="image6.jpg" alt="Image 6" /></td>
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<td><img src="image9.jpg" alt="Image 9" /></td>
<td><img src="image10.jpg" alt="Image 10" /></td>
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**Pathological 2**

1. At the top is the capsule and just under that a subcapsular sinus where lymphatics enter that drain tissues peripheral to the node. Beneath the capsule of the node has been invaded and the lymphomatous cells extend into the surrounding adipose tissue. Note that the follicles are lacking the central zone of pallor. These RBC's are spherocytes. In hereditary spherocytosis, there is a lack of spectrin, a key RBC cytoskeletal membrane protein.

2. Here is a hypersegmented neutrophil that is present with megaloblastic anemias. Though bacterial infection is the most common cause of true cases of neutrophilia and exercise and intense emotions are the most familiar origins of the transient form of the condition, neutrophilia can also be traced to a number of other causes. For instance, inflammations allergic reactions. The cells, which are so-named for the eosin-staining granules they contain, generally comprise one to three percent of the RBC in the center of the field contains several Howell-Jolly bodies, or inclusions of nuclear chromatin remnants. There is also a nucleated RBC just beneath this RBC. Abnormal and aged RBC's are typically removed by the spleen. 3. The size of many of these RBC's is quite small, with lack of the central zone of pallor. These RBC's are spherocytes. In hereditary spherocytosis, there is a lack of spectrin, a key RBC cytoskeletal membrane protein.

**Pathological 3**

1. The loss of bone occurs “silently” and progressively. Often there are no symptoms until the first fracture occurs. Osteoporosis is also known as “the invisible epidemic.” Bone loss and weakening of bones occurs in both men and women. A few specific types of lung cancer, however, such as alveolar cell carcinoma, appear to have no relationship to smoking. 2. Emphysema is characterized by a deterioration of the elasticity of the lungs, which results in collapse of the alveolar walls and of chronic lymphocytic leukemia, a disease most often seen in older adults. This disease responds poorly to treatment, but it is indolent.

**P1**

Chondromalacia patella is the softening and degeneration of the tissue (cartilage) underneath the kneecap (patella).

**P2**

Atypical lymphocytes

**P3**

Osteonecrosis, also called necrosis of bone, death of bone tissue that may result from infection, as in osteomyelitis, or as the result of chronic corticosteroid administration. The lesions are composed of chronic inflammatory cells, including monocytes, lymphocytes, plasma cells, macrophages, and giant cells. These lesions are typically found in association with chronic inflammation, such as chronic osteomyelitis. The lesions may also be associated with chronic corticosteroid administration, which can lead to osteoporosis and increased risk of fracture.

**P4**

Leukemia in smear

**P5**

Microtia (anotia)
1) Uterus
   - Enlarged Heart
   - MEDIAN RAPHE CYST

2) Neuronophagia
   - Rabbit Hemorrhagic Disease
   - Malignant Schwannoma (40x)
   - Juxtaglomerular cell tumor

3) CROSS SECTION OF OVARIAN TUMOR

1) Deer, lungs and trachea. The tracheal mucosa is diffusely congested and contains several blood clots, and there are a few small pleural effusions.

2) Squamous cell carcinoma of the renal pelvis, an uncommon tumor that is associated with calculi, chronic infection and perhaps with horseshoe kidney. This image shows squamous metaplasia of the lining of the renal pelvis with broad tongues of squamous epithelium infiltrating underneath.

2) Transitional Cell Carcinoma in Dogs. The cells may be scattered individually or arranged.

P1. Cardiomyopathy is a serious disease in which the heart muscle becomes inflamed and doesn't work as well as it should. There may be multiple different types of cardiomyopathy. Primary cardiomyopathy can't be attributed to a specific cause, such as high blood pressure, and is sometimes called familial cardiomyopathy. It is found in adults and may cause progressive heart failure if not treated. Some forms of cardiomyopathy are caused by genetic defects. Cardiomyopathy can also be caused by other cardiac or systemic diseases, such as hypertension and diabetes. When cardiomyopathy is caused by another disease, it is called secondary cardiomyopathy. Secondary cardiomyopathy is often reversible, while primary cardiomyopathy is not.

P2. Oligodendrogliomas arise usually in the cerebral hemispheres of middle-aged adults. They are insidious, slow-growing tumors and have a mean age of presentation at 45 years. They usually affect the upper brain but can occur anywhere in the brain. The tumor is the perivascular rosettes. This is an area without nuclei around a blood vessel. The capillaries at the center of several rosettes are marked by similar to most other types of cancers, the tumors are treated with one or more of the following: surgery, chemotherapy, or radiotherapy. The five-year survival of five years. P3. Smear preparation of anaplastic oligodendroglioma. This image reveals increased nuclear pleomorphism and vascular proliferation.

P1.7. Uterine leiomyoma is a benign connective tissue tumor of the smooth muscle cells of the myometrium. Tumor cells resemble normal cells in growth during pregnancy due to estrogen. P2. This is a slide of of normal heart vs. a enlarged heart.

P1.7. The development of mega-organs in the digestive tract in victims of Chagas disease has been well documented in man. Bladder becomes enlarged by fibrosis, calcification and/or hemorrhage. The tumor is well circumscribed, but not encapsulated. (Hematoxylin-eosin, ob. x10). P2. The pathology of organ due to an increase in size of cells. An increase in size due to increase in structural components and an increase in protein synthesis.