

**Lab 1: Return to the Microscope**

- ▶ Terms in Marieb *Lab Manual* Figs. 1.2a and b
- ▶ Terms in Marieb *Lab Manual* Fig. 1.3a
- ▶ Terms in Marieb *Lab Manual* Fig. 1.4
- ▶ Terms in Marieb *Lab Manual* Fig. 1.6a and b

Identify the following organs and vessels in the torso model:

- |             |                       |                   |
|-------------|-----------------------|-------------------|
| ▶ brain     | ▶ abdominal vena cava | ▶ thyroid gland   |
| ▶ trachea   | ▶ lungs               | ▶ spleen          |
| ▶ esophagus | ▶ liver               | ▶ kidneys         |
| ▶ heart     | ▶ stomach             | ▶ small intestine |
| ▶ aorta     | ▶ pancreas            | ▶ large intestine |

**Labs 2-3: Tissues**

Be prepared to identify (under the microscope) and provide brief structural/functional characteristics of the following tissues:

*Epithelia:*

- ▶ simple squamous
- ▶ stratified squamous
- ▶ simple cuboidal
- ▶ stratified cuboidal
- ▶ simple columnar
- ▶ pseudostrat. columnar

*Connective:*

- ▶ areolar
- ▶ adipose
- ▶ dense regular
- ▶ dense irregular
- ▶ hyaline cartilage
- ▶ bone (osseous tissue)

*Muscle:*

- ▶ skeletal
- ▶ cardiac
- ▶ smooth

Note: you will be permitted to use your tissue identification key.

**Lab 4: The Integumentary System**

Terms in Marieb *Lab Manual* Figs. 7.1 and 7.2, on both figures and models (if applicable):

- |                       |                   |                      |
|-----------------------|-------------------|----------------------|
| ▶ dermal papillae     | ▶ hair shaft      | ▶ stratum corneum    |
| ▶ dermis              | ▶ hypodermis      | ▶ stratum granulosum |
| ▶ eccrine sweat gland | ▶ papillary layer | ▶ stratum lucidum    |
| ▶ epidermis           | ▶ reticular layer | ▶ stratum spinosum   |
| ▶ hair follicle       | ▶ sebaceous gland |                      |
| ▶ hair root           | ▶ stratum basale  |                      |

Be able to identify on prepared slides:

- |                        |                   |                      |
|------------------------|-------------------|----------------------|
| ▶ dermal papillae      | ▶ hair root       | ▶ stratum granulosum |
| ▶ dermis in general    | ▶ hypodermis      | ▶ stratum spinosum   |
| ▶ eccrine sweat gland  | ▶ sebaceous gland |                      |
| ▶ epidermis in general | ▶ stratum basale  |                      |
| ▶ hair follicle        | ▶ stratum corneum |                      |

Know the tissue types of epidermis and dermis.

Be able to distinguish between thick skin and thin skin (and where each is found on body).

Recognize and distinguish between cutaneous, serous, and mucous membranes on figures (Marieb *Lab Manual* Fig. 8.1) and prepared slides.

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**Lab 5: Introduction to Skeletal Tissues and The Axial Skeleton**

Terms in Marieb *Lab Manual* Figs. 9.1, 9.2, and 9.3

Explain what happens when bones are acid-treated and baked.

Identify on sawed bone:

- ▶ compact bone
- ▶ spongy bone
- ▶ yellow marrow
- ▶ epiphysis
- ▶ periosteum
- ▶ articular cartilage

Identify on prepared slides or model:

- ▶ central (Haversian) canal
- ▶ lacuna
- ▶ lamella
- ▶ canaliculi
- ▶ osteon

Identify on prepared slides of developing long bones (endochondral ossification):

- ▶ epiphyseal plate
- ▶ bony spicules
- ▶ dividing chondrocytes

Identify on prepared slides and be able to provide locations in the body and functional characteristics:

- ▶ hyaline cartilage (incl. chondrocyte, matrix, lacuna, and perichondrium)
- ▶ elastic cartilage
- ▶ fibrocartilage

Identify the following bones and bone markings of the skull:

Bone	Associated Markings
frontal	▶ coronal suture
parietal	▶ sagittal suture
temporal	▶ squamous suture                      ▶ mandibular fossa ▶ external acoustic meatus        ▶ petrous region ▶ zygomatic process                ▶ jugular foramen ▶ mastoid process                   ▶ carotid canal ▶ styloid process                    ▶ internal acoustic meatus
occipital	▶ lambdoid suture ▶ foramen magnum ▶ occipital condyles
sphenoid	▶ greater wings ▶ sella turcica ▶ lesser wings ▶ optic canals
ethmoid	▶ crista galli ▶ cribriform plates ▶ perpendicular plate ▶ lateral masses
mandible	▶ mandibular condyle ▶ coronoid process ▶ mandibular ramus ▶ angle
maxilla	▶ palatine processes
lacrimal (from figures only)	
palatine	
zygomatic	
nasal	
vomer	
inferior nasal conchae	
hyoid	

Identify the following bones and bone markings of the vertebral column:

Bone	Associated Markings
vertebra	<ul style="list-style-type: none"> <li>▶ body</li> <li>▶ vertebral arch</li> <li>▶ spinous process</li> <li>▶ transverse process</li> <li>▶ vertebral foramen</li> <li>▶ superior articular process</li> <li>▶ inferior articular process</li> <li>▶ intervertebral foramina</li> <li>▶ intervertebral disc</li> </ul>
cervical vertebrae	<ul style="list-style-type: none"> <li>▶ cervical curvature</li> <li>▶ transverse foramina</li> <li>▶ C<sub>1</sub>: lateral masses</li> <li>▶ C<sub>2</sub>: dens</li> </ul>
thoracic vertebrae	<ul style="list-style-type: none"> <li>▶ thoracic curvature</li> </ul>
lumbar vertebrae	<ul style="list-style-type: none"> <li>▶ lumbar curvature</li> </ul>
sacrum	<ul style="list-style-type: none"> <li>▶ sacral curvature</li> </ul>
coccyx	

Be able to recognize scoliosis, kyphosis, and lordosis (Marieb *Lab Manual* Fig. 10.11).

Be able to identify whether curvatures are primary or secondary.

Identify the following bones and bone markings of the bony thorax:

Bone	Associated Markings		
sternum	<ul style="list-style-type: none"> <li>▶ manubrium</li> <li>▶ body</li> <li>▶ xiphoid process</li> </ul>		
ribs	<table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 50%;"> <i>Types:</i> <ul style="list-style-type: none"> <li>▶ vertebrosteral</li> <li>▶ vertebrochondral</li> <li>▶ vertebral</li> </ul> </td> <td style="vertical-align: top; width: 50%;"> <i>Markings:</i> <ul style="list-style-type: none"> <li>▶ head</li> <li>▶ neck</li> <li>▶ tubercle</li> <li>▶ shaft</li> <li>▶ costal cartilages</li> </ul> </td> </tr> </table>	<i>Types:</i> <ul style="list-style-type: none"> <li>▶ vertebrosteral</li> <li>▶ vertebrochondral</li> <li>▶ vertebral</li> </ul>	<i>Markings:</i> <ul style="list-style-type: none"> <li>▶ head</li> <li>▶ neck</li> <li>▶ tubercle</li> <li>▶ shaft</li> <li>▶ costal cartilages</li> </ul>
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**Lab 6: The Appendicular Skeleton**

Identify the following bones and bone markings of the pectoral girdle and upper extremity:

Bone	Associated Markings
clavicle	<ul style="list-style-type: none"> <li>▶ acromial end</li> <li>▶ sternal end</li> </ul>
scapula	<ul style="list-style-type: none"> <li style="width: 50%;">▶ coracoid process</li> <li style="width: 50%;">▶ superior border</li> <li style="width: 50%;">▶ acromion</li> <li style="width: 50%;">▶ medial border</li> <li style="width: 50%;">▶ glenoid cavity</li> <li style="width: 50%;">▶ lateral border</li> <li style="width: 50%;">▶ spine</li> </ul>
humerus	<ul style="list-style-type: none"> <li style="width: 50%;">▶ greater and lesser tubercles</li> <li style="width: 50%;">▶ capitulum</li> <li style="width: 50%;">▶ deltoid tuberosity</li> <li style="width: 50%;">▶ coronoid fossa</li> <li style="width: 50%;">▶ trochlea</li> <li style="width: 50%;">▶ olecranon fossa</li> </ul>
radius	<ul style="list-style-type: none"> <li style="width: 50%;">▶ head</li> <li style="width: 50%;">▶ ulnar notch</li> <li style="width: 50%;">▶ neck</li> <li style="width: 50%;">▶ styloid process</li> <li style="width: 50%;">▶ radial tuberosity</li> </ul>
ulna	<ul style="list-style-type: none"> <li>▶ coronoid process</li> <li>▶ olecranon process</li> <li>▶ trochlear notch</li> <li>▶ styloid process</li> </ul>
carpals (as a group)	
metacarpals (as a group)	
phalanges (as a group)	

Identify the following bones and bone markings of the pelvic girdle and lower extremity:

Bone	Associated Markings
pelvic (coxal) bone	<ul style="list-style-type: none"> <li>▶ <i>ilium</i>: iliac crest, anterior superior &amp; posterior superior spines, iliac fossa</li> <li>▶ <i>ischium</i>: ischial tuberosity, ischial spine, greater &amp; lesser sciatic notches</li> <li>▶ <i>pubic bone</i>: obturator foramen, pubic crest</li> </ul>
femur	<ul style="list-style-type: none"> <li>▶ head</li> <li>▶ greater and lesser trochanters</li> <li>▶ lateral and medial epicondyles</li> <li>▶ lateral and medial condyles</li> <li>▶ linea aspera</li> </ul>
patella	
tibia	<ul style="list-style-type: none"> <li>▶ lateral and medial condyles</li> <li>▶ medial malleolus</li> <li>▶ tibial tuberosity</li> </ul>

Bone	Associated Markings
fibula	▶ lateral malleolus
talus	
calcaneus	
remaining tarsals (as a group)	
metatarsals (as a group)	
phalanges (as a group)	

On an articulated pelvis or skeleton, be able to identify:

- ▶ true pelvis
- ▶ false pelvis
- ▶ pelvic brim
- ▶ pubic symphysis
- ▶ pubic arch
- ▶ acetabulum

Be able to distinguish between a male and female pelvis.