**Introduction to Human Anatomy and Physiology**

|  |  |  |
| --- | --- | --- |
|  | **Definition** | **Example** |
| **Anatomy** |  |  |
| **Physiology** |  |  |

**Function First, Form Follows (FFFF)**

* What do you think this means? Write your thoughts below.  
  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
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* What did the Greeks say it means?

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**Practice/Pre-Lab**

* 1. Think of any type of tool (cooking, construction, etc.).
  2. Each tool is designed a specific way in order to perform a specific task.
     + Identify a specific function of that tool
     + Identify the specific part of that tool that allows it to perform that function

|  |  |  |
| --- | --- | --- |
| **Tool** | **Specific Function** | **Specific Part** |
| *Spatula* | *Can slide under pancakes* | *Flat surface* |
| *Screwdriver* | *Can be held easily* | *Slim handle* |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Characteristics of Life**

\**Read Section 1.3 and 1.4 in your textbook and use the information to fill in this page of notes.*

**Just Remember – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!**

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- increase in size without change in shape
  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- new organisms or new cells
  3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- gettingoxygen, removing of CO2  (not strictly breathing)
  4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- reaction to change, inside OR outside the body
  5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- movement of “stuff” through cell membranes **into** fluids
  6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- movement of “stuff” **within** body fluids - one place to another
  7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- removal of wastes from metabolic reactions
  8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- change of position of body part or internal organ
  9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- changing nutrients into chemically different forms
  10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- breakdown of food into simpler forms

**Requirements of Living Things**

Life depends on the availability – QUALITY and QUANTITY - of the following:

|  |  |
| --- | --- |
| **Substance** | **What it does for the body** |
| 1*. Water* | *Metabolic reactions, transport of substances, temperature regulation* |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

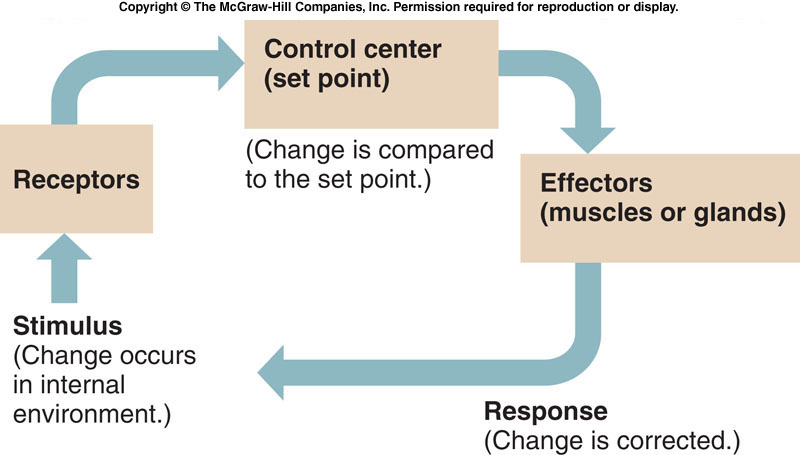
**Homeostasis   
  
Homeostasis -** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – process in which the presence of a stimulus initiates a response within the body

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Negative Feedback Mechanism** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

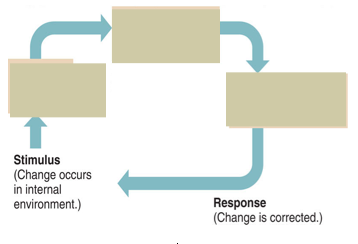
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* Majority the body's homeostatic controls are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

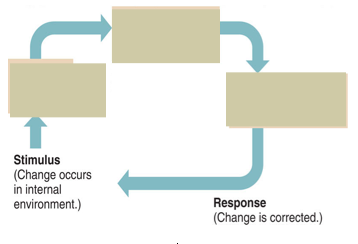
*Example: The classroom thermostat is set at 68° F. Draw a diagram that indicates what happens when the temperature of the room* ***increases*** *and label the necessary components.*

*Include: Control Center, Set Point, Stimulus, Receptor, Effector*

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*Example: The classroom thermostat is set at 68° F. Draw a diagram that indicates what happens when the temperature of the room* ***decreases*** *and label the necessary components.*

*Include: Control Center, Set Point, Stimulus, Receptor, Effector*

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Other Negative Feedback Examples:

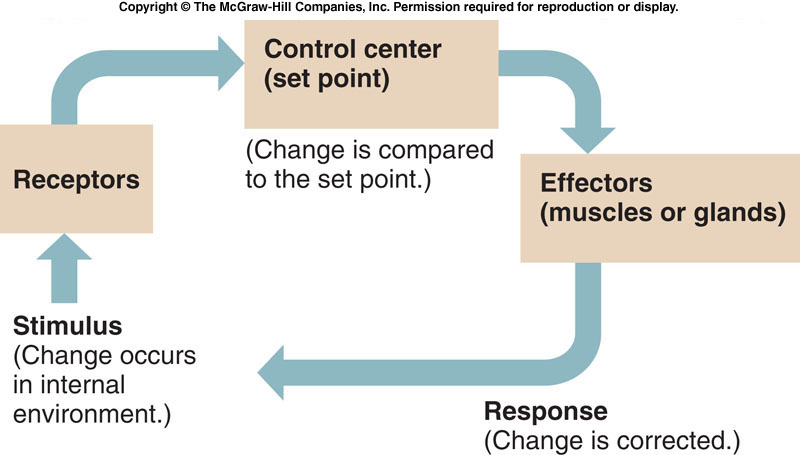
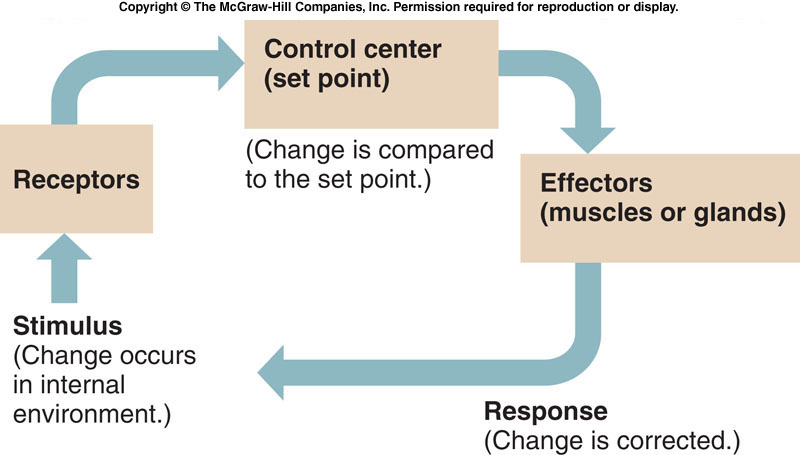
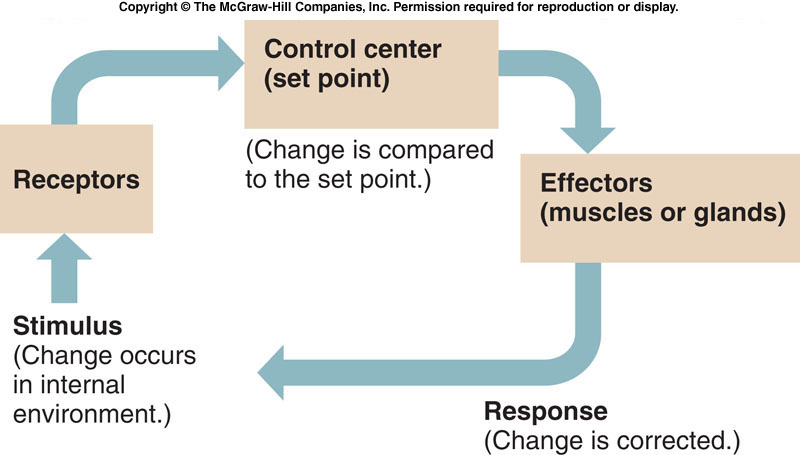
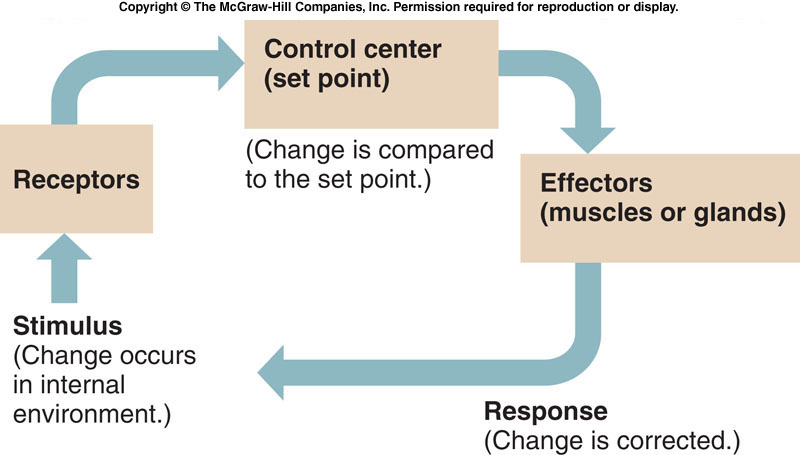
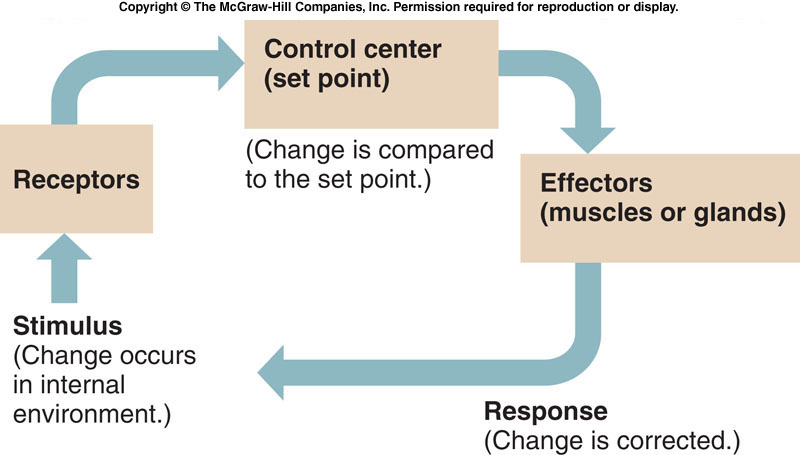
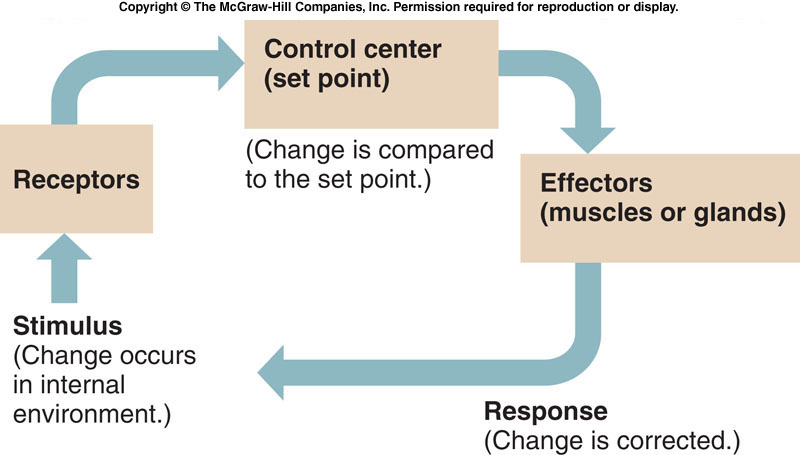
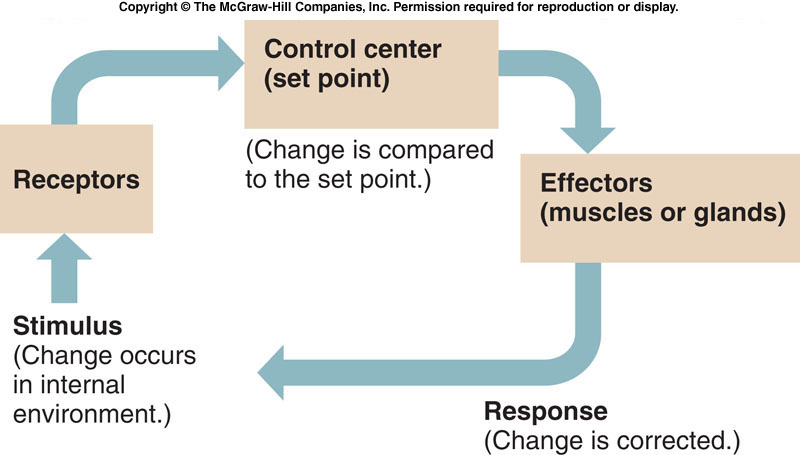
1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Positive Feedback Mechanism -\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Examples:***

* + 1. Nursing – baby sucking releases oxytocin = increased milk production until nursing stops
    2. Birth – oxytocin is released = increased speed of contractions until the baby is born
    3. Blood clotting – platelets cling to injured site and release chemicals to bring more platelets until the bleeding has stopped



**Stimulus** (Change occurs in internal environment)

**Response** (Change is encouraged to continue)

**Levels of Organization**

|  |  |  |
| --- | --- | --- |
| **Level** | **Definition** | **Example** |
| 1*. Organelle* | *Used to carry out a specific function in the cell* | *Mitochondria, Nucleus, Ribosome* |
| 2. |  |  |
| 3. |  |  |
| 4. |  |  |
| 5. |  |  |
| 6. |  |  |

Pneumonic Device: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

**STATION #1**

**Axial vs. Appendicular** – *Using the diagrams and readings provided:*

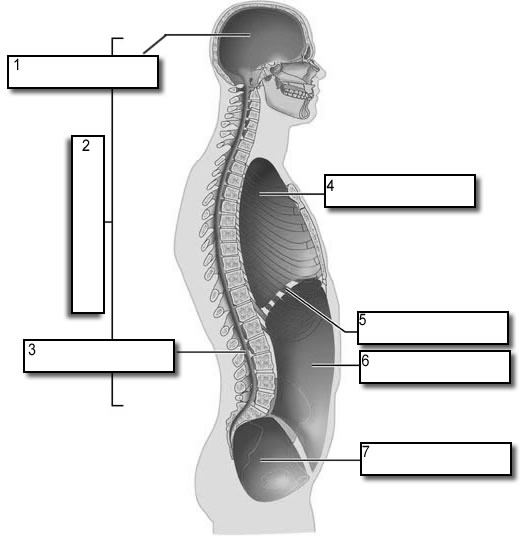
* *Color the Axial Portion of your supermodel skeletons* ***YELLOW***
* *Color the Appendicular Portion of your supermodel skeletons* ***RED***

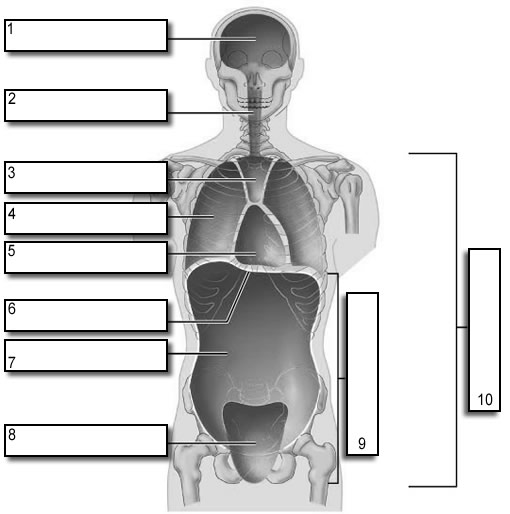
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**Anatomical Position**

Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*\*In the space below, draw a picture of a person (stick or otherwise) in anatomical position.*

**STATION #2**



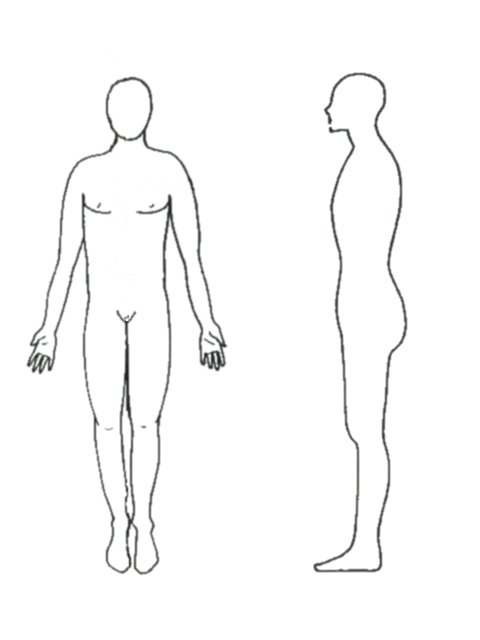
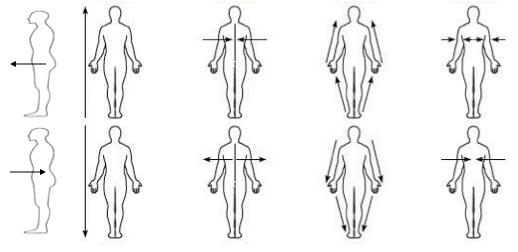
Diaphragm

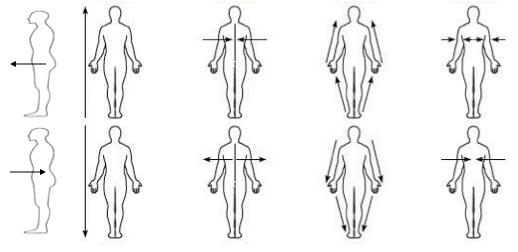
Diaphragm

**Body Cavities** – *Using the diagrams provided, label the body cavities shown below.*

**STATION #3**

**Terms of Relative Position** – *Use the diagrams provided to label the terms of relative position AND provide a brief description/definition of each term.*

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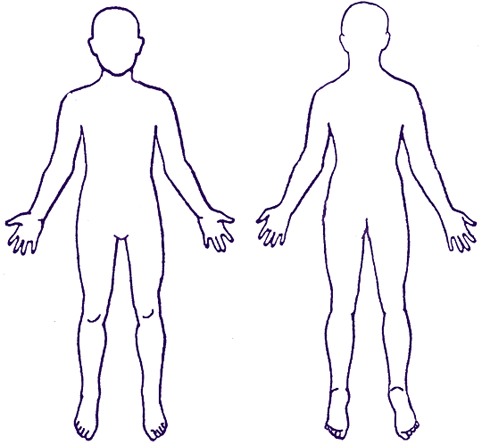
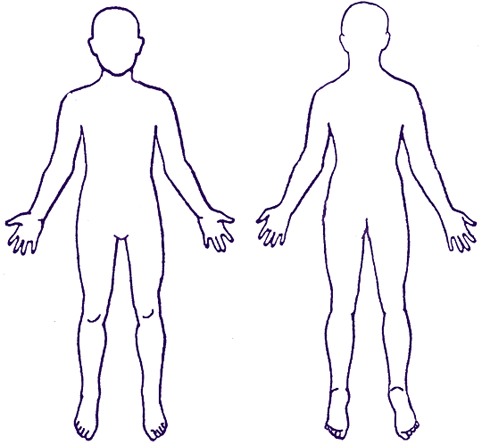
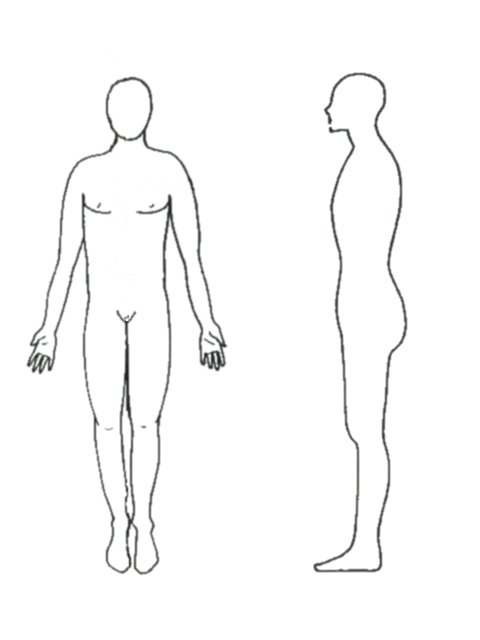
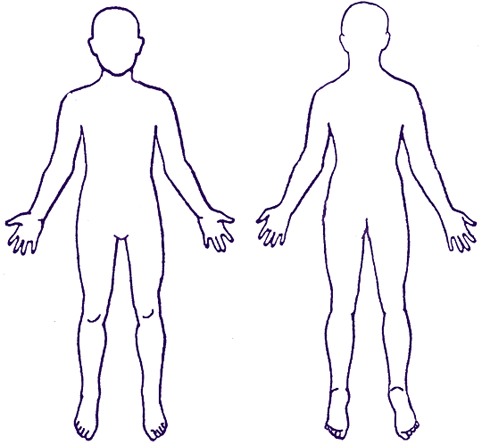
**Body Planes** - *Use the diagrams provided to draw in the three different body planes AND provide a brief description/definition of each term.*

Transverse

Frontal/Coronal

Midsagittal

Sagittal

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**STATION #4**

**Body Regions** – *Use p. 16 and 17 in your textbook to find the anatomical terms for each body region listed below. Then color in the regions marked with an asterik (\*) on your diagrams with the colors indicated.*

* \_\_\_\_\_\_\_\_\_\_\_ - head

\*\_\_\_\_\_\_\_\_\_\_\_ - forehead *(red)*

* \_\_\_\_\_\_\_\_\_\_\_ - eye cavity
* \_\_\_\_\_\_\_\_\_\_\_ - nose

\*\_\_\_\_\_\_\_\_\_\_\_ - mouth *(orange)*

* \_\_\_\_\_\_\_\_\_\_\_ - cheek
* \_\_\_\_\_\_\_\_\_\_\_ - neck

\*\_\_\_\_\_\_\_\_\_\_\_ - chin *(yellow)*

* \_\_\_\_\_\_\_\_\_\_\_ - middle of chest
* \_\_\_\_\_\_\_\_\_\_\_ - armpit

\*\_\_\_\_\_\_\_\_\_\_\_ - arm *(green)*

* \_\_\_\_\_\_\_\_\_\_\_ - ribs
* \_\_\_\_\_\_\_\_\_\_\_ - abdomen
* \_\_\_\_\_\_\_\_\_\_\_ - navel

\* \_\_\_\_\_\_\_\_\_\_\_ - forearm *(blue)*

\* \_\_\_\_\_\_\_\_\_\_\_ - wrist *(purple)*

* \_\_\_\_\_\_\_\_\_\_\_ - finger
* \_\_\_\_\_\_\_\_\_\_\_ - knee
* \_\_\_\_\_\_\_\_\_\_\_ - foot

\* \_\_\_\_\_\_\_\_\_\_\_ - back of head *(blue)*

* \_\_\_\_\_\_\_\_\_\_\_ - point of shoulder

\* \_\_\_\_\_\_\_\_\_\_\_ - spinal column *(green)*

* \_\_\_\_\_\_\_\_\_\_\_ - back

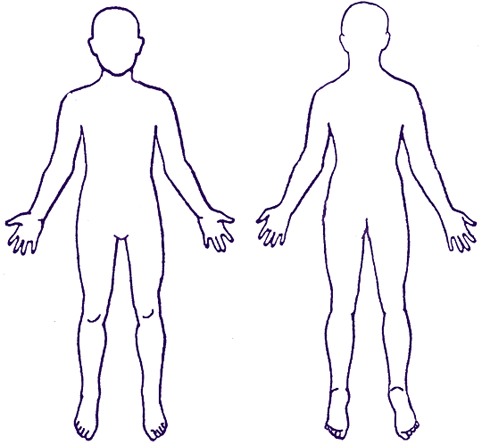
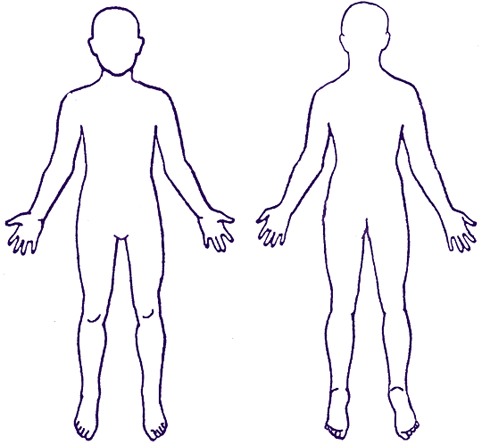
\* \_\_\_\_\_\_\_\_\_\_\_ - lumbar back *(purple)*

* \_\_\_\_\_\_\_\_\_\_\_ - buttocks

\* \_\_\_\_\_\_\_\_\_\_\_ - thigh *(red)*

* \_\_\_\_\_\_\_\_\_\_\_ - back of knee

\* \_\_\_\_\_\_\_\_\_\_\_ - sole of foot *(yellow)*



|  |  |  |
| --- | --- | --- |
| **System Name** | **Major Organs** | **Functions** |
| 1. Integumentary |  |  |
| 2. Skeletal |  |  |
| 3. Muscular |  |  |
| 4. Nervous |  |  |
| 5. Endocrine |  |  |
| 6. Cardiovascular |  |  |

**STATION #5**

**Body Systems** – *Using the cards provided, work with your partner and match each system with its appropriate Structures/Major Organs AND Functions. Once your teacher gives you the okay that all systems are correct, use the information on the cards to fill in your notes.*

|  |  |  |
| --- | --- | --- |
| **System Name** | **Major Organs** | **Functions** |
| 7. Lymphatic |  |  |
| 8. Respiratory |  |  |
| 9. Digestive |  |  |
| 10. Urinary |  |  |
| 11. Reproductive  (male) |  |  |
| (female) |  |  |