|  |  |  |  |
| --- | --- | --- | --- |
| 1. protects organs  2. provides shape,  support  3. stores materials  (fats, minerals)  4. produces blood  cells  5. allows movement | Fights off foreign  invaders in the  body | Allows for  movement by  contracting | Transport materials  to and from cells |
| 1. barrier against  Infection (1st line  of defense)  2. helps regulate  body temp.  3. removes  excretory waste  (urea, water)  4. protects against  sun’s UV rays  5. produces vitamin D | 1. take in food  (ingestion)  2. digest food into  smaller molecules  and absorb  nutrients  3. remove  undigestable food  from body (feces) | 1. stores and  carries WBC’s  that fight  disease  2. collects excess  fluid and returns  it to blood (2nd  circulatory  system-reaches  places other one  can’t – between cells | Takes in oxygen  and removes carbon  dioxide and water |
| 1. removes waste  products from  cellular  metabolism (urea,  water, CO2)  2. filters blood | Allows organisms to  reproduce which  prevents their  species from  becoming extinct. | Regulates body  activities using  hormones. Slow  response, long  lasting  Glands | 1. gathers and  interprets  information  2. responds to  information  3. helps maintain  homeostasis |

**PRIMARY FUNCTIONS: these are scrambled—find out which organ system each belongs to – write into your booklet**

|  |  |  |  |
| --- | --- | --- | --- |
| Bones  Cartilage  ligaments | Glands  \*Hypothalamus  \*Pituitary  \*Thyroid  \*Thymus  \*Adrenal  \*Pancreas  \*Ovaries  \*Testes  Glands produce hormones | White Blood  Cells  \*T cells  \*B cells  -produce antibodies  \*Macrophages  Skin | Mouth,  esophagus,  stomach,  Small Intestine,  Large intestine,  rectum,  anus  Salivary glands,  pancreas,  liver,  gall bladder |
| Brain  Spinal cord  Nerves  Nerve cells =  neurons  hypothalamus | SKIN  \*Epidermis  \*Dermis  - sweat gland  - sebaceous  gland (oil)  - hair follicle  - blood  vessels  - nerves | Heart  Veins  Arteries  Capillaries  Red blood cells | Cardiac muscle  Smooth muscle  Skeletal muscle  tendons |
| Nose  Trachea  Bronchi  Bronchioles  Alveoli  lungs | Ovaries  \*produce eggs  Testes  \*produce  sperm | Kidneys  Ureters  Bladder  Urethra  Lungs  Skin – sweat  glands  Liver (produces  urea) | Lymph (liquid  part of blood –  plasma, when  it’s in lymph  vessels)  Lymph Vessels  Lymph Nodes  Contain WBCs |

MAJOR ORGANS INVOLVED: --these are scrambled—find out which organ system each belongs to – write into booklet

**INTERACTING SYSTEMS: -- these are scrambled – find out which organ system each belongs to- write into the blooklet**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. w/respiratory – deliver O2 from lungs to cells and drop off CO2 from cells to lungs  2. w/digestive – absorb and deliver digested nutrients to cells  3. w/excretory – kidneys filter cellular waste out of blood for removal  4. w/nervous – brain controls heartbeat  5. w/endocrine – transports hormones | 1. w/muscular – allow  movement  2. w/circulatory –  produce blood cells  3. w/immune – produce  white blood cells  4. w/circulatory and  respiratory – protects  it’s organs | Controls all other  systems  Hypothalamus – maintains homeostasis by working  with all systems | 1. w/circulatory – takes  in O2 for delivery to  cells and removes CO2 brought from cells  2. w/excretory – removes excretory waste  3. w/nervous – controls  breathing  4. w/muscular –  diaphragm controls breathing |
| 1. w/excretory – removes  cellular waste  2. w/nervous – controls  body temperature  (sweating, goose bumps)  3. w/immune – prevents  pathogens from entering | 1. w/circulatory – filters  waste out of blood  2. w/lungs – removes  excretory waste  3. w/integumentary –  removes excretory waste | 1. w/circulatory –  transports WBCs to  fight invaders  2. w/lymphatic – has lots of WBCs to fight  invaders, spleen filters  bacteria/viruses out of  blood  3. w/skeletal – WBCs  made in bone marrow  4. w/integumentary –  prevents invaders from  getting in | 1. w/skeletal – allow  movement  2. w/digestive – allow  organs to contract to push  food through  3. w/respiratory –  diaphragm controls  breathing  4. w/circulatory – controls  pumping of blood (heart)  5. w/nervous – controls all  muscle contractions |
| 1. w/circulatory –  transports hormones to  target organs  2. w/nervous – maintain  homeostasis, hormone  release  3. w/reproductive –  controlled by hormones  4. w/skeletal – controls  growth of bones | 1. w/endocrine – controls production of sex cells  2. w/muscular – uterus  contracts to give birth –  controlled by hormones | 1. w/circulatory – absorb & deliver the digested  nutrients to the cells  2. w/muscular – control the contractions of many of the digestive organs to pass food along  3.w/nervous – hypothalamus  maintains homeostasis by  triggering appetite  (stomach growling) | 1. w/immune – holds lots of White Blood Cells (WBC) to fight  pathogens  2. w/circulatory – to  transport materials to  and from cells |

Body Diagrams:-these are scrambled - find out which organ system each belongs to – draw and label into booklet

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| assist in anatomy, biology, and human science | assist in anatomy, biology, and human science | assist in anatomy, biology, and human science | assist in anatomy, biology, and human science |
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