**BIOLOGY 2022-23 May 5, 2023**

**Today’s Agenda (Day 152)**

1. HOUSEKEEPING ITEMS

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1. Homework Check:

🡪 ACTIVITY: Identify Bacteria

1. Class Activity:

🡪DAY 4: Human Body Systems Project

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🡪 PRESENTATIONS: **Ch 32 🡪 Friday, May 5**

Ch 33 🡪 Monday, May 8

Ch 34 🡪 Friday, May 12

Ch 35 🡪 Monday, May 15

Ch 36 🡪Monday, May 22

Ch 37 🡪 Wednesday, May 31

HOMEWORK:

* READ: Chapter 32 - 36
* COMPLETE:
* **STUDY**: Chapter 32 – 37 Vocabulary Quizzes and Tests

REMINDERS:

* **TEST: Ch 32 🡪May 9**
* **TEST: Ch 33 🡪May 11**
* **QUIZ: Ch 33 & 34 Vocabulary🡪 May 16**
* **TEST: Ch 34 🡪May 23**
* **QUIZ: Ch 35 Vocabulary🡪 May 25**
* **TEST: Ch 35 🡪~~May 30~~ May 30**
* **QUIZ: Ch 36 & 37 Vocabulary🡪 June 2**
* **TEST: Ch 36 🡪June 6**

Chapter 32 Integumentary, Skeletal and Muscular Systems

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Actin | Appendicular skeleton | Axial skeleton | Cardiac muscle | Compact bone | Dermis |
| Epidermis | Hair follicle | Involuntary muscle | Keratin | Ligament | Melanin |
| Myofibril | Myosin | Ossification | Osteoblast | Osteoclast | Osteocyte |
| Red bone marrow | Sarcomere | Sebaceous gland | Skeletal muscle | Smooth muscle | Spongy bone |
| Tendon | Voluntary muscle | Yellow bone marrow |  |  |  |

Chapter 33 Vocabulary – Nervous System

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Action potential | Addiction | Autonomic nervous system | Axon | Cell body | Central nervous system |
| Cerebrum | Cochlea | Cone | Dendrite | Depressant | Dopamine |
| Drug | Hypothalamus | Lens | Medulla oblongata | Neuron | Neurotransmitter |
| Node | Parasympathetic nervous system | Peripheral nervous system | Pons | Reflex arc | Retina |
| Rod | Semicircular canal | Somatic nervous system | Stimulant | Sympathetic nervous system | Synapse |
| Taste bud | Threshold | tolerance |  |  |  |

Chapter 34 Vocabulary - Circulatory, Respiratory & Excretory

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| --- | --- | --- | --- | --- |
| Alveolus | Artery | Atherosclerosis | Breathing | Bronchus |
| Capillary | External respiration | Heart | Internal respiration | Kidney |
| Lung | Pacemaker | Plasma | Platelet | Red blood cell |
| Trachea | Urea | Valve | Vein | White blood cell |

Chapter 35 Vocabulary - Digestive & Endocrine

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aldosterone | Amylase | Antidiuretic hormone | Calcitonin | Calorie |
| Chemical digestion | Cortisol | Endocrine gland | Esophagus | Glucagon |
| Hormone | Insulin | Large intestine | Liver | Mechanical digestion |
| Mineral | Nutrition | Parathyroid hormone | Pepsin | Peristalsis |
| Pituitary gland | Small intestine | Thyroxine | Villus | Vitamin |

Chapter 36 Vocabulary – Human Reproduction and Development

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Adolescence | Adulthood | Amniotic fluid | Blastocyst | Dilation |
| Epididymis | Expulsion stage | Infancy | Labor | Menstrual cycle |
| Morula | Oocyte | Oviduct | Placental stage | Polar body |
| Puberty | Semen | Seminiferous tubule | Urethra | Vas deferens |

Chapter 37 Vocabulary - Immune

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Allergy | Anaphylactic shock | Antibiotic | Antibody | B cell |
| Complement protein | Cytotoxic T cell | Degenerative disease | Endemic | Epidemic |
| Helper T cell | Immunization | Infectious disease | Interferon | Koch’s postulates |
| Lymphocyte | Memory cell | Metabolic disease | Pandemic | Pathogen |
| Reservoir |  |  |  |  |

**BIOLOGY 2022-23 READING GUIDE**

**CH 32 Integumentary, Skeletal, & Muscular System**

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| --- |
| Review pages 936 – 951 in the Glencoe Science *Biology*Textbookand answer the following questions.     1. What four types of tissue make up the integumentary system? 2. List AND describe the two layers of skin shown in the picture below.   Diagram  Description automatically generated   1. Describe the structure of the epidermis. 2. Explain the role of keratin in the epidermis. 3. Describe the structure of the dermis. 4. Explain how hair grows. 5. Explain what happens in the picture below if oil, dirt, and/or bacteria become trapped in the follicles.   Diagram  Description automatically generated   1. List AND describe three functions of the integumentary system. 2. Describe how skin heals from cuts and scrapes. 3. Describe how skin cancer is caused. 4. Explain the difference between the axial skeleton and the appendicular skeleton. 5. Compare and contrast compact bone and spongy bone. 6. Compare and contrast red and yellow bone marrow. 7. Describe how bones are formed. 8. Describe how bones are remodeled. 9. Explain what is happening in the fractured bone below.      1. Explain the role of ligaments in our skeletal system. 2. List AND describe five functions of the skeletal system. 3. List AND describe the three types of muscle. 4. Explain the function of tendons in our muscular system. 5. What is the relationship between the following terms: myofibrils, myosin, actin, and sarcomere? 6. Explain what is illustrated below.   Diagram  Description automatically generated   1. Where does the energy for muscle contraction come from? 2. Compare and contrast slow-twitch and fast-twitch muscles. |

**BIOLOGY 2022-23 TERM PROJECT**

**Human Body Systems Project**

# By Eva McLanahan

Students will work in groups to research one of the eleven body systems as found in *Glencoe Science - Biology* (2008). Research will focus on the structure andfunction of the major organs in the assigned body system. Each group of TWO will be responsible for producingeducational aids to be used in a presentation to the class. In addition, each individual in a group will beresponsible for researching and presenting information on one disease associated with theirassigned body system.

**Primary Learning Outcomes**

* Students will be able to name the eleven human body systems and their functions.
* Students will be able to identify the organs and structural parts present in each system (i.e. circulatory: heart, arteries, veins, and capillaries).
* Students will be able to describe the basic structure of the major organs in each system.
* Students will recognize different diseases associated with the body systems.

**Additional Learning Outcomes**

Students will enhance their research and presentation capabilities.

**Procedures/Activities**

*Step: 1 Duration: 10-15 minutes*

Form groups and assign body system.

*Step: 2 Duration: Varies (three 90 minute class periods)*

Students conduct research on assigned body system and chosen associated disease.

*Step: 3 Duration: Varies (30 – 45 minutes for presentations)*

Groups present the final stage of their project using educational aids.

All students will complete a chart on each body system while listening to the presentations.

**Materials and Equipment**

Reference material, digital device (laptop, tablet), internet

**Total Duration**

3 weeks

* Week 1 – Systems as per Chapters 32 and 33 [Integumentary, Skeletal & Muscular; Nervous]
* Week 2 – Systems as per Chapters 34 and 35 [Circulatory, Respiratory & Excretory; Digestive & Endocrine]
* Week 3 – Systems as per Chapters 36 and 37 [Human Reproduction & Development; Immune]

**Assessment**

Presentation skills, presentation content, completion of body systems chart, vocabulary quizzes, chapter tests

**Human Body Systems Project**

**Objectives:**

* Students will be able to name the eleven human body systems and their functions.
* Students will be able to identify the organs and structural parts present in each system (i.e. circulatory: heart, arteries, veins, and capillaries).
* Students will be able to describe the basic structure of the major organs in each system.
* Students will enhance their research and presentation skills.

**Requirements:**

* Work in PAIRS to research an assigned body system, create education aids, and present information to the class. Information presented during the presentation will be used to fill in a chart that will be used as a study guide for the unit test.
* What to research for your assigned body system(s):
  + List and explain the *functions of the organ system*.
  + Identify and explain the *major organs**and their functions*.
  + Describe the *basic structure of each major organ* in the assigned body system (i.e. lungs: bronchi, bronchioles, and alveoli).
  + Explain specifically, and in detail, how this body system works
  + Find and describe at least 2 interesting facts
  + *Each member must describe a disease AND medical problem associated with their body system*.

Name of disease

Description of disease/mode of action

How it begins

How it affects the body

|  |  |
| --- | --- |
| * Education Aid: You will be required to create an educational aid to supplement the information you have researched. Education aids must include all required information (refer to above), color, images, creativity, organization and neatness. You must choose TWO of the following to complete for your educational aid:  1. Children’s eBook – Create a children’s ebook that would be appropriate for teaching elementary-aged students about your body system. 2. Brochure – Create an informational brochure that could be displayed in a middle school or at a doctor’s office that would educate readers about your body system. 3. PowerPoint – Pretend you are teaching a 6th grade health class. You will create a PowerPoint presentation that you would present to the class to teach them about your body system. It should include at least one appropriate video link (max. 3 minutes in length). 4. Educational Handout – Create a double-sided, 8 ½ x 11” digital handout that could be displayed at a doctor’s office or health fair that provides information to educate others about your body system. 5. 3-D Learning Tool/Model – Create an interactive/hands-on learning tool, geared towards students in 6th grade or younger, which would enable them to understand the overall functioning of your body system and to learn a few key organ system parts/structure and their respective functions. 6. Song/Lyrics – Create an elementary-level song that would enable the learner to remember the major organ system parts, location and their functions. Must include the beat/tune to which the song/lyrics can be sung.  * Presentation:   o Present all required information (see above).   * + Organized and easy to follow.   + All group members participate equally in the presentation.   + Spoken clearly and eye contact with audience. |  |
| **Grading** | **Points** |
| Individual participation in research and presentation | 15 |
| Group works together well and completes assigned tasks on time |  |
| (not disruptive to other groups) | 15 |
| All required information is presented to the class  Educational Aids are effective, meet criteria, and demonstrative of grade-level skills set | 30    30 |
| Presentation | 10 |
|  | **100** |

Diagram

Description automatically generatedHuman Body Systems [**class presentation**]

|  |  |  |  |
| --- | --- | --- | --- |
| **System** | **Major Structures** | **Functions** | **Associated Diseases** |
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Human Body Systems [extension – notes]

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| --- | --- | --- | --- |
| **System** | **Major Structures** | **Functions** | **Associated Diseases** |
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# BODY SYSTEMS PRESENTATION RUBRIC

Name and disease \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- |
|  | **EXCELLENT**  **(4)** | **GOOD**  **(3)** | **FAIR**  **(2)** | **POOR**  **(1)** |
| **CONTENT** | All required information is presented. | Most of the required information is presented. | Some of the required information is presented. | Hardly any required information is presented. |
| **ORGANIZATION** | Presentation is well organized and easy to follow.  Transition between topics is smooth. | Presentation is organized and easy to follow but transition between topics is not smooth. | Presentation is somewhat organized but hard to follow. | Presentation is very unorganized and difficult to follow. |
| **EYE CONTACT** | Eye contact is made throughout the entire presentation. No part of the presentation is read. | Eye contact is made throughout most of the presentation. Some of the presentation is read. | Eye contact is made only during some of the presentation. Most of the presentation is read. | No eye contact is made throughout the entire presentation and all of it is read. |
| **VISUAL AID** | Visual aid is creative, colorful, easy to read, and used effectively. | Visual aid is  colorful, readable and used somewhat effectively. | Visual aid is lacking color, difficult to read, and not used effectively. | Visual aid is not used at all in the presentation. |
| **VOICE** | Presentation is loud and given at a slow pace that’s easy to follow. | Presentation is audible and given at a good pace. | Presentation is barely audible and given at a fast pace. | Presentation is inaudible and given at a pace too fast to follow. |
| **INDIVIDUAL**  **PARTICIPATION** | Individual participated and worked well in his/her group | Individual participated but did not work well in the group | Individual did not present information on topic, but did work well in group | Individual did not participate and did not work well in the group |

TOTAL POINTS = \_\_\_\_\_\_\_\_\_\_\_\_\_ X 5 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

COMMENTS: