

## HUMAN BODY SYSTEMS RESEARCH PROJECT

**Objective:** Your objective is to prepare a PowerPoint presentation AND a poster OR 3-D model to educate your classmates about one of the body systems that makes up the human body. You will work in teams of about 4 people and will be assigned one of the following body systems to research:

Immune System

Nervous System

Respiratory System

Skeletal System

Cells

### **Part A:**

Students will create a PowerPoint that covers the organs in one system of the body.

- Each slide in the PowerPoint will highlight one organ and its purpose and functions and identify cells and tissues within at least one organ in the system.
- The slides will be sequentially organized to show how the whole system works together.
- Students will plan, create and present ppt presentation on the human body system to class

### **Part B (Option 1):**

Students will create an outline poster of a human body and include all the organs within one system of the body.

- Students will illustrate each body system and organs.
- Students will include the purpose and functions of each organ in the body system and identify cells and tissues within at least one organ in the system.
- Students will plan, create, and present outline poster on the human body system to class.

### **Part B (Option 2):**

Students will create a 3-D model of the human body outline and the organs within one system of the body.

- Each organ will be labeled and include an explanation of its function.
- Students will plan, create, and present 3-D Model on the human body system to class

## Research

The following websites will be a good start to your research: **I will have them linked to my wiki.**

[http://www.stcms.si.edu/hbs/hbs\\_student.htm](http://www.stcms.si.edu/hbs/hbs_student.htm)

[http://kidshealth.org/kid/htbw/htbw\\_main\\_page.html](http://kidshealth.org/kid/htbw/htbw_main_page.html)

<http://www.imcpl.org/kids/guides/health/index.html>

<http://www.fi.edu/learn/heart/systems/systems.html>

<http://www.sciencenetlinks.com/interactives/systems.html>

(Fun interactive game)

## Project Rubric

Use this rubric as a checklist to help you earn an A+ on your project!

### Part A: PowerPoint Presentation: 40 points

- Title slide and title 2
- 8 slides contain the necessary information 3
- at least 5 graphics 5
- Identifies the major organs and their functions 10
- Describes the basic structure of at least one major organ in the body system 10
- Describes a disease associated with their body system 5
- 5 fun facts about your system 5

### Part B: Poster or Model: 50 points

- Title and Name 2.5
- Outline of body 2.5
- Diagram of major organs in anatomically correct locations 20
- Labels of major organs 10
- Neat, easy to understand colorful and creative 15

## Body System Checklist

### Circulatory System

- Major functions of circulatory system
- Diagram that includes the major parts - heart, artery, vein, capillary - and list the function(s) of each.
- Describe each of the components of blood- red blood cells, white blood cells, platelets, & plasma
- Describe the path blood travels through your body
- Explain how your body system works with other systems in the body. Use 2 examples.
- Find 5 fun facts about your body system.
- Describe two diseases associated with your body system

### Nervous System

- Description and major functions of the central nervous system and peripheral nervous system.
- Diagram that includes the major parts - brain, spinal cord, nerves, and neurons - and list the function(s) of each.
- Describe the path a nerve impulse travels throughout your body from stimulus to response.
- Explain how your body system works with other systems in the body. You will need at least 2 examples.
- Find 5 fun facts about your body system.
- Describe 2 diseases associated with your body system.

### Cell

- Difference between animal and plant cells
- Diagram with the parts of the animal cell - Cell wall, cytoplasm, nucleus, mitochondria, vacuoles
- Possibly a diagram of a plant cell with the parts of a plant cell
- Description of each part of the cell and explain what each part of the cell does
- Five fun facts about cells
- 2 diseases that are associated with cells in the body

## **Respiratory System**

- Major functions of respiratory system
- Diagram that includes the major parts - trachea, lungs, diaphragm, epiglottis, larynx, vocal cords - and list the function(s) of each.
- Describe the “breathing” process.
- Explain how your body system works with other systems in the body. You will need at least 2 examples.
- Find 5 fun facts about your body system.
- Describe 2 diseases associated with your body system.

## **Skeletal System**

- Major functions of skeletal system
- Diagram that includes the major parts -bones, ligaments, and tendon - and list the function(s) of each. NOTE: Your diagram should also include the following bones in the body: cranium, clavicle, humerus, scapula, sternum, rib, vertebra, ulna, radius, carpals, metacarpals, phalanges, pelvis (may list parts), femur, patella, tibia, fibula, tarsals, and metatarsals.
- Describe each of the following joints and where they are located: hinge, pivot, and ball-and-socket. You may include other joints as well.
- Explain how your body system works with other systems in the body. You will need at least 2 examples.
- Find 5 fun facts about your body system.
- Describe 2 diseases associated with your body system.

## **Immune System**

- Major functions of the immune system
- Diagram that includes the major parts of the system - Lymph nodes, tonsils, bone marrow, spleen, adenoids, thymus.
- Describe each of the parts of the immune system
- Explain how your body system works with other systems in the body. You will need at least 2 examples.
- Find 5 fun facts about your body system.
- Describe 2 diseases associated with your body system.

