**Biology 30 Animal System Project**

In this project, your group task will be to teach the rest of the class about the topic that you choose. To teach the class you should have some type of presentation (multimedia, video, role play, etc.) and some sort of key point informational document that can be given to all other students. Please note that these projects will make up your course information on each of these topics, so you should try to be sure to meet the objectives for each topic in the list below.

1. **Describe the functions and functioning of nervous systems**
2. Describe the structure of a neuron. Jill
3. Explain how neurons transmit impulses within and between themselves. Alex
4. Compare the complexity of nervous systems in the planaria, earthworm, and human. Josie
5. Contrast the functions of the central nervous system and the peripheral nervous system in humans. Tristan
6. Compare the structure of the brains of reptiles and humans. Garth
7. **Explain how the human endocrine system influences body development and maintenance**
8. Describe the general structure of hormones. Alexi
9. Describe the influence of the pituitary gland on body processes and on other glands. Justin
10. Discuss the relationship between insulin and the body's control of blood sugar levels in the two forms of diabetes. Taylor
11. Outline the functions of hormones produced by several other glands. Sarah
12. **Describe how nutrients and oxygen are moved to the body cells.**
13. Review the principles of diffusion and active transport. Bailey
14. Contrast passive transport systems, as in the cnidaria, with active transport systems, such as the human blood circulation system. Cole
15. Compare open circulation systems, as in the grasshopper, with the closed systems of vertebrates. Harry
16. Compare the efficiencies of hearts with one, two, three, and four chambers. Paige
17. Describe the blood circulation pattern and vessels in the mammalian systems Jordyn
18. **Explain the functioning of the human circulation system**.
19. Describe the functions of the heart, lungs, kidneys, and liver in the circulation system . Brett
20. Describe the ABO and Rh typing systems for human blood. Nic
21. Consider the role of the blood in the immune system and the effect of the human immunodeficiency virus on the T4 cells of the blood. Natasha
22. Research the use of artificial hearts, heart transplants, and circulation machines used during open-heart surgery. Gabby
23. Discuss respiration by relating the activity to the physical structure like the lungs and blood and the cells fed by the blood.
24. **Compare reproductive strategies among animal phyla.**
25. Contrast the advantages and disadvantages of asexual reproduction with those of sexual reproduction. Matt
26. Compare external fertilization with internal fertilization. Emily
27. Describe fertilization in the earthworm. Dylan
28. Compare the amniotic egg of reptiles and birds with the structures which form in the uterus of a pregnant mammal. Sierra
29. **Discuss human reproductive strategies.**
30. Describe the production of semen in humans. Sheldon
31. Describe the human female reproductive cycle from ovulation to either menstruation or implantation. Winter
32. Trace the major developmental events from implantation of a fertilized egg to the birth of a human baby. Payton
33. Identify the biofeedback mechanisms which are important in the regulation of the female reproductive cycle. Ayla
34. Describe how the use of the hormones found in birth control pills alters the reproductive cycle. Rachel and Jordan
35. Discuss the relationship between the diet and health of the mother and the development of the fetus. Tiegen
36. Investigate some technologies related to reproduction, such as **in vitro** fertilization, use of fertility drugs, birth control, amniocentesis, genetic screening of prospective parents, sperm banks, etc. Mackenzie and Wyatt

Some points of note for you finished product:

1. Take a look at the objectives and try to respond in a very clear, concise manner. Some of these topics can have entire text books written about them, so try to grab the key points, make it brief, and get the key meanings! Sometimes, the use of diagrams and visuals can make your descriptions a lot easier!
2. Once you think you are done, take your project and compare it to the objectives listed. Be sure that each one has been met and if you are unsure, you probably need to go back and get more information on the objectives that do not seem clear. If you do not feel comfortable explaining the topic, you need to do more work and find more!

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| CATEGORY | **4** | **3** | **2** | **1** |
| **Objectives** | All Objectives are met and exceeded. | All Objectives are met. | One Objective was not completely met. | More than one Objective was not completely met. |
| **Content** | Covers topic in-depth with details and examples. Subject knowledge is excellent. | Includes essential knowledge about the topic. Subject knowledge appears to be good. | Includes essential information about the topic but there are 1-2 factual errors. | Content is minimal OR there are several factual errors. |
| **Organization** | Content is well organized using headings or bulleted lists to group related material. | Uses headings or bulleted lists to organize, but the overall organization of topics appears flawed. | Content is logically organized for the most part. | There was no clear or logical organizational structure, just lots of facts. |
| **Mechanics** | No misspellings or grammatical errors. | Three or fewer misspellings and/or mechanical errors. | Four misspellings and/or grammatical errors. | More than 4 errors in spelling or grammar. |
| **Sources** | Source information collected for all graphics, facts and quotes. All documented in desired format. | Source information collected for all graphics, facts and quotes. Most documented in desired format. | Source information collected for graphics, facts and quotes, but not documented in desired format. | Very little or no source information was collected. |
| **Originality** | Product shows a large amount of original thought. Ideas are creative and inventive. | Product shows some original thought. Work shows new ideas and insights. | Uses other people's ideas (giving them credit), but there is little evidence of original thinking. | Uses other people's ideas, but does not give them credit. |