**EOC Biology Test Review**

**Compare and Contrast**

**Grade Value: 1 Project Grade**

**Part I Directions:**

* Select a partner to work with. You will need at least one text book.
* Complete the two sample activities

**Part II Directions:**

* Look at the two compare and contrast examples on **page 3.**
* Look up the terms/processes in each set of words included in the list provided.
* With your partner, discuss how each of these terms/processes are similar and how they are different.
* **Each student** should create his/her own table **or** Venn Diagram for each set that shows how these terms/processes compare to one another and how they differ. Use the two examples provided on page 3 as a guide.
* Options: You may create flashcards/a google slide presentation/other if that is more helpful. PLEASE CLEAR IT WITH ME FIRST.

**NOTE:**

Use this assignment as part of your review for the EOC Biology Test. You can look at additional practice questions on my website- under “EOC resources” on the resources page. If you complete practice questions and can show your work you will get **10 points extra credit**.

**Use the link below to find Review Games and Animations:**

Note: This takes you to several websites, but there is an abundance of good info here. [**http://sites.google.com/site/msputrinoscollegebiologyclass/system/app/pages/sitemap/hierarchy**](http://sites.google.com/site/msputrinoscollegebiologyclass/system/app/pages/sitemap/hierarchy)

**Sample Activity One:**

**ESSENTIAL QUESTION**: How does the use of the scientific method help scientists perform valid research?

**KEY VOCABULARY**: data, independent variable, dependent variable, control, constants, hypothesis

**STUDENT TASKS**:

1. Identify and describe the steps of the scientific method.
2. Explain why a scientist’s research and conclusions must be repeatable in order to be valid.
3. How do “controls” in an experiment assist in validating the results?
4. George is experimenting with plants for his science fair project. His bean plant receives “Miracle-Grow” fertilizer and his corn plant receives “Rapid-Grow” fertilizer. They both receive the same temperature and amount of sunlight. He measures their growth after four weeks. How would you improve George’s experiment to make it valid?

**Sample Activity 2: Human Impact on the Biosphere**

**ESSENTIAL QUESTION**: How have humans affected our planet’s biodiversity in both positive and negative ways?

**KEY VOCABULARY**: biodiversity, extinction, Endangered Species Act, habitat degradation, global warming

**STUDENT TASKS**:

1. Compare the effectiveness of protecting a species habitat with protecting just the species organism.
2. Humans affect the environment in various ways. Fill in the effects of these human activities in the table below.

|  |  |
| --- | --- |
| **Human Activity** | **Environmental Impact** |
| Use of fossil fuels |  |
| CFCs from aerosol spray cans |  |
| Habitat destruction |  |
| Endangered Species Act |  |
| Habitat preservation |  |
| Invasive Species |  |
| Sustainable Development |  |

**Example of Venn Diagram:**

**Example of Chart/Table:**

**Complete the following chart showing a comparison of photosynthesis and cellular respiration:**

|  |  |  |
| --- | --- | --- |
| Comparing Photosynthesis and Cellular Respiration | | |
|  | **Photosynthesis** | **Cellular Respiration** |
| **Function** |  |  |
| **Stores Energy in Sugar or Releases Energy from Sugar** |  |  |
| **Organelle** |  |  |
| **Equation** |  |  |
| **Reactants** |  |  |
| **Products** |  |  |
| **Performed By** |  |  |
| **Stages** |  |  |
| **Final Amount of Sugar/ATP Produced** |  |  |

**PART II: Word Set List:** Compare and Contrast the terms included in this list.

1. Manipulative or “Independent” Variable vs. Responding or “Dependent” Variable vs. Controlled variable
2. Control Group vs. Experimental Group
3. Carbohydrate vs. Lipid vs. Protein vs. Nucleic Acid
4. Active Transport vs. Passive Transport
5. Diffusion vs. Osmosis
6. Stem cell vs specialized cell
7. Plant Cell vs. Animal Cell
8. The Cell Cycle vs. Mitosis
9. Mitosis vs. Meiosis
10. Trait vs. allele
11. Dominant Allele vs. Recessive Allele
12. Phenotype vs. Genotype
13. Homozygous vs. Heterozygous
14. P generation vs. F1 Generation vs. F2 Generation
15. Monohybrid Cross vs. Dihybrid Cross vs. Test Cross
16. Incomplete Dominance vs. Codominance
17. Single Gene Trait vs. Polygenic Trait
18. DNA vs. RNA
19. mRNA vs. tRNA vs. tRNA
20. DNA Replication vs. Transcription vs. Translation
21. Codon vs. Genetic Code
22. Gene vs. Central Dogma of Biology
23. Gene Mutation vs. Chromosomal Mutation
24. Biotechnology vs. Genetic Engineering
25. Transgenic Organism vs. Cloned Organism
26. Genetically Modified Food vs. Food that is Not Genetically Modified
27. Gene Replacement Therapy vs. Cloning
28. PCR vs. Electrophoresis vs. Restriction Enzymes vs. The Human Genome Project
29. Autotroph vs. Heterotroph
30. Population vs. Community vs. Ecosystem
31. Habitat vs. Niche
32. Food Chain vs. Food Web
33. The movement of energy through an ecosystem vs. The movement of nutrients through and ecosystem
34. Biomass vs. Primary Productivity
35. Producer vs. Consumer vs. Decomposer
36. Mutualism vs. Commensalism vs. Parasitism
37. Primary Succession vs. Secondary Succession
38. Renewable Resource vs. Nonrenewable Resource
39. Greenhouse Effect vs. Global Warming
40. Darwin’s Theory of Evolution vs. Lamarck’s Theory of Evolution
41. Darwin’s work vs. Mendel’s work
42. Adaptation vs. Fitness
43. Weather vs Climate
44. Solar radiation absorption at equator vs reflection at poles
45. Earth’s rotational patterns vs revolutional patterns
46. Binomial Nomenclature vs. Common Names for Organisms
47. Domain vs. Kingdom
48. Classifying organisms using Cladogram vs. Older Classification Methods