

Pre IB/Honors Biology Summer Project

The following terms and phrases are found in the Miami – Dade County Fair Game Principle Document which states all incoming 9th graders prior knowledge.

This project is designed to have incoming 9th graders review the benchmarks for Science (specifically Biology) that were covered during their middle school years.

Each student must do the following in order to receive full credit:

- The student will define each of the following terms in THEIR OWN WORDS
- Student will then illustrate and color an example of each term.
 - For certain words drawing can be something that represents the word
 - Lab set up will be appropriate for the phrase that tells student to create a fictional lab
 - Student can also draw on animal cell and one plant cell with all organelles
- The presentation format must be in book form no larger than 8.5 x 11. Be creative! Materials can include but not limited to index cards (no smaller than 4 x 6), card stock, printer paper (report style), and construction paper.
- Project is due: **August 26 or 27 Depending on their schedule**

1. Scientific Method / Design a basic experiment
2. Systemic Observations
3. Hypothesis
4. Variables
5. Independent Variables
6. Dependent Variables
7. Data (in a Scientific Investigation)
8. Empirical Evidence (in a Scientific Investigation)
9. Replication (in a Scientific Investigation)
10. Repetition (in a Scientific Investigation)
11. Natural Phenomenon
12. Theory
13. Cell Theory
14. Multicellular
15. Scientific Law
16. Homeostasis
17. Reproduction
18. Parts of Animal Cells (cell membrane, nucleus, cytoplasm, mitochondria, and vacuoles)
19. Parts of Plant Cells (cell wall, cell membrane, nucleus, cytoplasm, chloroplast, mitochondria, and vacuoles)
20. Hierarchical organization of organisms (start from atoms)
21. Major Systems of the Human Body: digestive

22. Major Systems of the Human Body: respiratory
23. Major Systems of the Human Body : circulatory
24. Major Systems of the Human Body: reproductive
25. Major Systems of the Human Body excretory:
26. Major Systems of the Human Body: immune
27. Major Systems of the Human Body: nervous
28. Major Systems of the Human Body: musculoskeletal
29. Virus
30. Bacteria
31. Fungi
32. Parasites
33. Evolution
34. Natural Selection
35. Adapt
36. Extinction
37. Fossils
38. Comparative Anatomy
39. Biogeography
40. Molecular Biology
41. Domains
42. Kingdoms
43. Linnaean System
44. Early Earth Atmosphere
45. Atmosphere
46. Law of Superposition
47. Radioactive Dating
48. Photosynthesis (What is needed for it to occur)
49. Cellular Respiration
50. DNA
51. Chromosomes
52. Heredity
53. Sexual Reproduction
54. Asexual Reproduction
55. Meiosis
56. Mitosis
57. Limiting Factors (list 8)
58. Mendel's Laws of Segregation
59. Mendel's Laws of Independent Assortment
60. Punnett Squares
61. Pedigrees
62. Biotechnology
63. Immigration

64. Emigration
65. Carrying Capacity
66. Deforestation
67. Urbanization
68. Desertification
69. Erosion
70. Food Web
71. Producers
72. Consumers
73. Decomposers
74. Mutualism
75. Predation
76. Parasitism
77. Competition
78. Commensalism
79. Trophic Level
80. Carbon Cycle
81. Geosphere
82. Hydrosphere
83. Cryosphere
84. Atmosphere
85. Biosphere
86. Law of Conservation of Energy
87. Law of Conservation of Mass
88. Macromolecules
89. Properties of water: cohesive
90. Properties of water: moderate temp.
91. Properties of water: expansion when freezing
92. Properties of water versatility as a solvent