

End of Quarter 4 Exam

Spring 2014

Study Guide

1. What is cell theory?

- A.
- B.
- C.

2. Name the functions of the following organelles .Designate as plant, animal, or both.

Organelle	Function
Nucleus	
Mitochondria	
Cell wall	
Cell membrane	
Chloroplast	
Ribosome	
Cytoplasm	
Vacuole	
Endoplasmic reticulum	

3. Name the levels of organization from gene to organism.

4. What is sexual reproduction? Give three examples.

- A.
- B.
- C.

5. What is asexual reproduction? Give three examples.

- A.
- B.
- C.

6. Name the functions of the following body systems.

Body System	Function
Digestive	
Respiratory	
Skeletal	
Nervous	
Endocrine	
Circulatory	
Integumentary	

7. What is a physical change? Give three examples.

- A.
- B.
- C.

8. What is a chemical change? Give three examples.

- A.
- B.
- C.

9. What is an organic molecule? Give an example.

10. What elements are usually associated with an organic molecule?

11. What is a molecule? Give two examples.

- A.
- B.

12. How many molecules, atoms and elements in $3\text{H}_2\text{SO}_4$?

13. What does MSDS stand for? Where should it be kept in the laboratory?

14. What should you do if something breaks, catches fire, or spills in the laboratory?

15. What should you use to measure volume in the laboratory? Mass? Length?

Volume –

Mass –

Length -

16. What is Genetics?

17. What is heredity?

18. How many chromosomes are donated by each parent? Genes?

19. What is DNA? What is its unique shape?

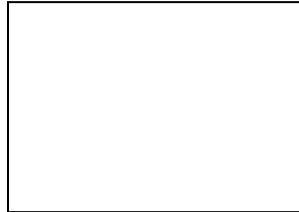
20. What is a chromosome?

21. What is a gene?

22. Name the levels of organization from gene to organism.

23. Give examples of the following forces: Use arrows to show direction of force and N for force applied.

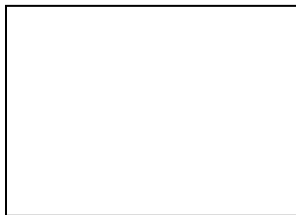
A. Balanced Force



B. Unbalanced Force



C. Net Force



24. Complete the following table:

Simple Machine	Function	Examples
Inclined Plane		
Wedge		
Screw		
Lever		
Wheel & Axle		
Pulley		

25. Is work being done if nothing is moved?

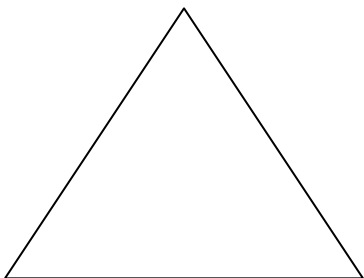
26. What is mechanical advantage?

27. Complete the following table of Newton's Laws of Motion.

Newton's Law	Examples
1 st Law	
2 nd Law	
3 rd Law	

28. Draw an example of a food web in a grassland.

29. Draw an example of an energy pyramid in a grassland.



30. Why is biodiversity so important in an ecosystem?

31. What is a dichotomous key? How can it help identify an organism?

32. Complete the following table on biome characteristics.

Biome	Characteristics
Tundra	
Desert	
Rainforest	
Aquatic	
Grasslands	
Deciduous Forest	
Coniferous Forest	

33. What is primary succession?

34. What is a pioneer species? Name two.

- A.
- B.

35. What is secondary succession? Name three reasons why this type of succession occurs.

- A.
- B.
- C.

36. What is an opportunistic species? Name two.

- A.
- B.

37. What is a climax community?

38. What is the carbon-oxygen cycle?

39. What is the nitrogen cycle?

40. Can plants and animals use atmospheric nitrogen? Why?

41. List five ways humans impact an ecosystem.

- A.
- B.
- C.
- D.
- E.

42. What is a watershed? What is its shape?

43. Where does the water come from in a watershed? Where does it go?

44. What is natural selection? Give three examples.

- A.
- B.
- C.

45. What is selective breeding? Give three examples how it is utilized.

- A.
- B.
- C.

46. What is a catastrophic event? Describe three events.

A.

B.

C.