Name: _____

Pd: _____

8th Grade Science Final Exam Review

Scientific Method

1. What is the reason for having a control group in an experiment?

Measuring/Metric System

2. Define the following: temperature, mass, density, meter, and volume.

3. How do you find the volume of a regular object? How do you find the volume of an irregular object?

4. Calculate the density of a mineral sample that has a mass of 12 grams and volume of 1.23 cm^3.

Inside Earth

5. In the chart below, list the layers of the earth an give the characteristics for each layer.

Earth Layer	Characteristics of the Layer

6. What are the 3 forms of heat transfer?

7. Which heat transfer powers plate tectonics?

8. What are the 3 types of plate boundaries?

9. What is a fault?

10. What do earthquakes produce?

11. Where do most volcanoes occur?

12. What is evidence that shows Earth's plates are moving?

13. What are the properties of minerals?

14. How are minerals identified? Know what each test does.

15. Describe how each of the three types of rocks form

16. What is the texture of an extrusive igneous rock?

17. What is the rock cycle?

Weather & Climate

18. What is the water cycle? Be able to identify the purpose of the steps, such as what is the role of runoff?

19. In the chart below, list the four types of air masses and their characteristics

Type of Air Mass	Characteristics of the Air Mass

20. What weather is associated with the word “low” on a weather map?

21. What direction do storms move across the United States? (Hint: think about the type of global wind we have in North America)

Astronomy

22. If the top end of Earth's axis is pointed toward the sun what is the season?

23. What does Earth’s revolution cause?

24. What does Earth’s rotation cause?

25. What causes tides on Earth?

    What is a spring tide?

    Neap tide?

26. What is an eclipse?

    What is a solar eclipse?

    Lunar eclipse?

27. How long does the moon take to go through all of its phases?

28. How does a planets distance from the sun affect its period of revolution?

Physical Science

29. When a battery is in use the stored _____energy is converted into _____ energy?

30. On a roller coaster what point does the cart have the most **kinetic** energy?
    a. at the top
    b. at the bottom
    c. ½ of the way down
    d. ¾ of the way down

31. When a substance is heated, how does the molecular motion change?

32. What does the Law of Conservation of Matter state?

33. Define an element and give two examples

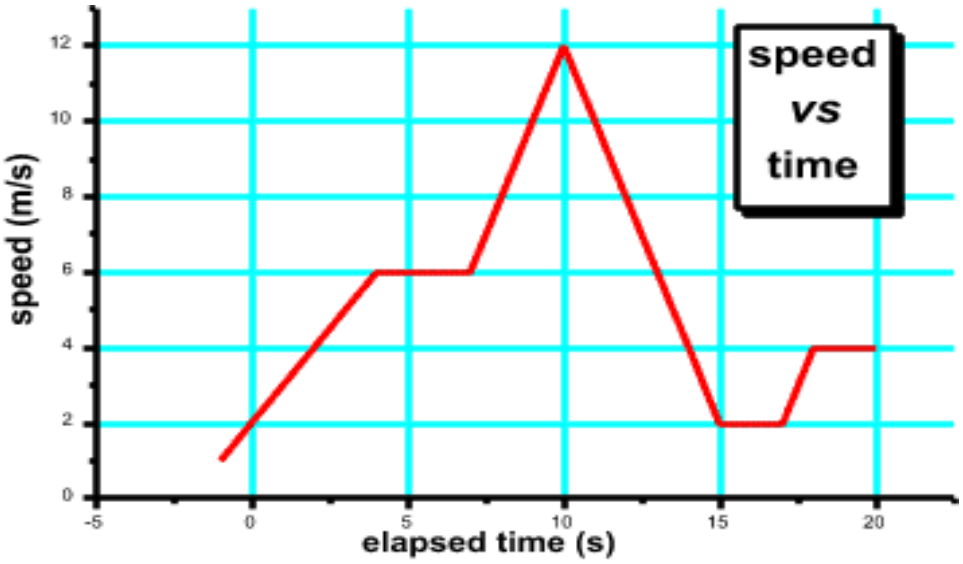
34. Define a compound and give two examples

35. Define a mixture and give two examples

36. Define a physical change and give two examples

37. Define a chemical change and list the five signs that a chemical change has occurred.

38. What time(s) on the graph shows a constant speed?

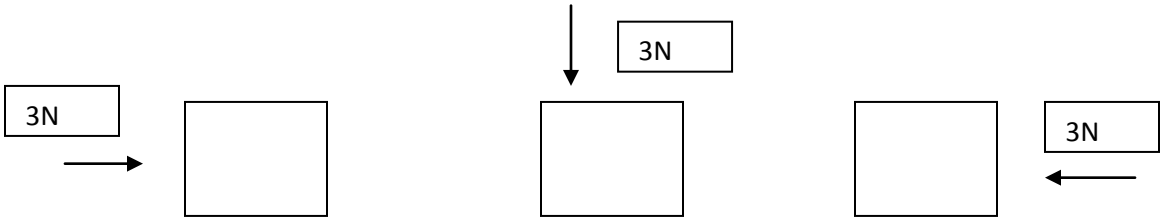


39. Using the graph above, what time interval was the cyclist moving at the greatest average speed?

40. Explain Newton's Three Laws of Motion

A force is acting on each of the objects below.

41. What can be concluded about these forces?



Life Science

42. Describe abiotic and biotic factors in an ecosystem

43. What is the smallest part of a living thing that performs the basic functions necessary for life?
44. Define metabolism.

45. Using the dichotomous key below identify the name of the jelly bean that is yellow with brown spots.

1a. yellow, orange, red, or pink	go to line 2	3b. orange	go to line 7
1b. blue, purple, or green,	go to line 16		
1c. black, brown, or white	go to line 24	4a. solid yellow	go to line 5
		4b. yellow w/brown spots	*Banana*
2a. yellow or orange	go to line 3	4c. yellow w/white or	*Lemon drop*
2b. pink or red	go to line 11		
3a. yellow	go to line 4		

46. Define cellular respiration (including the equation and its purpose)

47. What is photosynthesis? (include the equation)

48. Define binary fission. Does this type of reproduction produce genetically identical or different offspring from the parent?

49. What are parasites?

50. Give an example of an adaptation to a stimulus.

51. What is the function of the excretory system?

52. What is heredity?

53. If a heterozygous red flower is bred with a homozygous blue what will the possible offspring be?

    For flower color, Red (R) is dominant over Blue (r).

    Make a Punnet square

    List the genotypes and corresponding phenotypes for the offspring.