Name: _____

Date: _____ Grade: _____

Basic Science Mysteries

CHAPTER 4 TEST

Congratulations on completing this chapter! ***Answer the following questions to test your understanding of the material. When you finish, hand in your test to your teacher for a final grade. Each answer is worth 2.0 points.***

Matching People and Planets:

1. _____ Pluto
2. _____ Galileo Galilei
3. _____ Uranus
4. _____ Neptune
5. _____ Isaac Newton
6. _____ Nicholaus Copernicus
7. _____ Mercury
8. _____ Jupiter
9. _____ Mars
10. _____ Charles Darwin
11. _____ Earth, Mercury, Venus, Mars
12. _____ Jupiter, Saturn, Uranus, Neptune
13. _____ Uranus and Neptune
14. _____ Saturn
15. _____ Venus
16. _____ Pluto and its moon

(a) terrestrial composition
(b) largest planet, striped appearance, has 16 moons
(c) discovered by mathematical calculations, has highest speed winds
(d) claimed Sun, not Earth, was center of universe, Founder of Modern Astronomy
(e) hottest planet, retrograde rotation, surrounded by acidic clouds, Earth's "sister"
(f) Father of Modern Science, discovered first four moons of Jupiter
(g) closest to Sun, fastest orbital speed, most extreme temperatures of hot and cold
(h) popularized Theory of Evolution
(i) thousand of rings, most beautiful
(j) smallest planet, farthest from Sun, slowest orbital speed
(k) greatest scientist of all time, believed in a supreme designer of the universe
(l) rotates sideways and backwards, along with its 21 moons
(m) "red planet," has seasons
(n) gaseous composition
(o) "twins"
(p) called a "double planet" due to size of its moon, Charon

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True or False. Write the correct answer.

17. _____ All planets orbit the Sun in circular paths.
18. _____ Earth completes a spin on its axis every 24 hours, causing day and night.
19. _____ Earth orbits the Sun once a year.
20. _____ Light travels at 186,000 miles per second.
21. _____ All fossils were living creatures at one time.
22. _____ Mars and Earth could collide at a future date because their orbits sometimes cross.
23. _____ Both Sun and Moon appear to "rise" and "set" due to their rotations.

Fill in the blank: Choose the correct word from the WORD BANK.

WORD BANK

astronomical unit	Fahrenheit	revolution	rotation
meteors	Celsius	ultraviolet rays	sunspots
light-years	gaseous	terrestrial	kilometer
scientific method			

24. The _____ is a measure of distance worldwide.
25. _____ are a means of measuring vast distances in space.
26. Each _____ is equal to 93 million miles.
27. Data, laws and process skills constitute the _____ of arriving at accurate conclusions about life and the universe.
28. The _____ scale is a measure of temperature wherein water boils at 212º and freezes at 32º.
29. The _____ scale is a measure of temperature in which water boils at 100º and freezes at 0º.
30. _____ refers to a planet spinning on its axis.
31. _____ refers to a planet orbiting the Sun.
32. _____ are often called "shooting stars."
33. Over-exposure to solar radiation or _____ can cause skin cancer.
34. Nuclear reactions on the surface of the Sun are called _____.

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Matching Laws, Theories and Principles:

35. _____ Laws of Heredity
36. _____ Law of Biogenesis
37. _____ Second Law of Thermodynamics
38. _____ Theory of Evolution
39. _____ First Law of Motion
40. _____ Law of Gravity
41. _____ Big Bang Theory
42. _____ Theory of Intelligent Design
43. _____ First Law of Thermodynamics
44. _____ Anthropic Principle

(a) (Law of Conservation of Matter/Energy), matter/energy can neither be created nor destroyed—can only change form
(b) (Law of Entropy) things progress from order to disorder-left alone they deteriorate, age, die
(c) living things reproduce according to their own kinds
(d) all objects resist changes in motion
(e) Earth is the only planet so delicately balanced as to be able to support life
(f) living things cannot come from nonliving things
(g) Universe began as "cosmic egg" (concentrated matter), exploded and eventually formed planets
(h) depends on mass and distance, holds planets in their orbits, holds life/atmospheres in place
(i) complex, intricate, harmonious things do not happen by chance—they are planned/created
(j) life is result of chance, progressing from non-living chemicals to simple then complex life forms over millions of years

Write the letter of the statement which gives the best meaning of each Life Principle.

45. *"If I have seen farther than others, it is by standing upon the shoulders of giants."* _____
    (a) Climbing over the backs of others gets us to success more quickly.
    (b) Giants have big enough shoulders to stand on where you can see a long way off without losing your balance.
    (c) Learning from great men enables us to be more effective in life.

46. *"The more you learn about things that seem strange, the less strange they seem."* _____
    (a) Learning things can be a strange business.
    (b) We tend to accept without question what we are taught repeatedly.
    (c) Strange things are more difficult to learn because we tend not to accept them at first.

47. *"Aim for the Moon. If you miss you'll land among the stars."* _____
    (a) Setting high goals gets you further in life, even if you miss your target.
    (b) If you don't aim high, you'll land in the wrong place.
    (c) Missing the stars is not so bad if you can hit the moon.

48. *"One event, decision or thing usually affects another."* _____
    (a) Most things in life are hooked up in sequence.
    (b) Things are affected by one event or another decision.
    (c) Our lives are usually made up of separate events and decisions.

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49. *"Do not overlook the little things in life. They may lead to something important."* _____
    (a) Little distractions can sometimes lead us away from our goals.
    (b) Overlooking little things may not lead to important things.
    (c) Pay attention to details because they compose larger things.

50. *"'Tis distance gives enchantment to the view, and robes the mountain in its azure hue."* _____
    (a) Distance and color give the mountains a certain degree of enchantment.
    (b) Many things look better from a distance than they do up close.
    (c) Mountains are more enchanting if robed in misty-blue color tones.

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