1. Question→Hypothesis→Experiment→Analysis→Conclusion
2. Measurements are observations
3. Read data tables carefully
4. The first column in a data table is *usually* the independent variable
5. Independent variables are changed or controlled by the scientist
6. Dependent variables are measured
7. The change in the independent variable causes the dependent variable to change
8. Scientists keep variables other than the independent variable constant to keep experiments fair
9. Graduated cylinders measure volume
10. Triple beam balances measure mass
11. To find the total mass, you have to add up all three beams on the triple beam balance
12. Metric rulers measure length and can be used to measure volume of cubes
13. Length is measured in centimeters
14. Latitude lines go from top to bottom (vertical) and determine time zones
15. Latitude lines go across (horizontal) and help determine climate/seasons
16. Models are used to study things that are too small or too large for the classroom
17. Nutrition labels show information for one serving
18. To find total nutrients for an entire package, you must multiply by the servings per container
19. Line graphs can show relationships between variables
20. On a line graph, the steeper the line, the faster the rate
21. On a line graph, the flatter the line, the slower the rate
22. X-axis = independent variable
23. Y-axis = dependent variable
24. Density measures how much matter is in a given space or how heavy something is for its size
25. Larger objects that are lighter have a lower density
26. Smaller objects that are heavier have a higher density
27. Density can determine if objects can float
28. Lower densities float above higher densities
29. Matter is anything that has mass or takes up space
30. Water, Carbon Dioxide and Oxygen are matter
31. The three states of matter are solids, liquids and gases
32. Solids keep their shape and volume regardless of container
33. Liquids keep their volume but take the shape of their container
34. Gases take the shape of their container and spread to fill their container
35. Melting = Solid→Liquid
36. Evaporation = Liquid →Gas
37. Condensation = Gas →Liquid
38. Crushing, grinding, cutting, breaking, melting, boiling are physical changes
39. Burning, exploding, rusting, baking, cooking are chemical changes
40. As matter is heated, molecules move faster
41. Elements are one type of atom
42. Compounds are more than one type of atom
43. Hydrogen, Oxygen, Carbon and Helium are examples of elements
44. Water, Carbon Dioxide and Glucose are examples of compounds
45. The periodic table shows elements only, not compounds
46. Elements on the period table are organized by atomic number
47. The noble gases do not react and are found in group 18
48. Elements reacts similarly to elements in the same column
49. Solubility increases as temperature increases, most of the time
50. To make things dissolve faster-heat it, stir it or crush it
51. The mass of the reactants always equals the mass of the products

52. Bubbles show a chemical change
53. Acids have a pH of 0-6, 0 is the strongest
54. Bases have a pH of 8-14, 14 is the strongest
55. A neutral pH is 7
56. Fossil Fuels (oil and coal) and natural gas are nonrenewable
57. Solar, water and wind are renewable
58. Solar panels collect sunlight to change into electricity
59. Batteries have chemical energy
60. Flashlights start with chemical energy and transform into electrical, light and heat energy
61. Energy transformations always lose heat
62. There are two types of cells-plant and animal
63. Plant cells have a cell wall and chloroplasts
64. All plant and animal cells have a nucleus and cytoplasm
65. The nucleus is usually in the center of the cell
66. Cytoplasm is a jelly-like substance that hold organelles into place
67. Cell→tissue→organ→ organ system→organism
68. Tissues are groups of cells with similar functions
69. Leaves are the main site for photosynthesis in plants
70. Photosynthesis produces sugar (food) for plants
71. Flowers are the reproductive organs of plants
72. Stems support plant and hold leaves up so they can absorb sunlight
73. Roots absorb nutrients and water from the soil and anchor the plant to the ground
74. Seeds provide food during early plant development
75. Unicellular means one cell
76. The only unicellular organisms that we learned about this year were bacteria
77. Multicellular means many cells
78. Humans development starts with internal fertilization and internal development
79. Frogs and butterflies undergo metamorphosis
80. Cell division in humans results In growth and repair
81. Uncontrolled cell division is caused by cancer
82. Genes are found on DNA in the nucleus and control traits
83. DNA→Genes→Chromosome→Nucleus
84. Breeding different species of dogs is called selective breeding
85. Purposely altering DNA in crops or other species to produce a specific trait is called genetic engineering
86. Sexual reproduction results in genetic variation
87. Pedigree charts can help track inheritance of certain traits
88. On pedigree charts, males are squares and females are circles
89. Earth's axis is tilted 23.5 degrees
90. Earth rotates West to East causing Day and Night
91. Seasons are caused by the Earth's tilt and revolution around the sun
92. 1 rotation of Earth = 24 hours = 1 day
93. 1 revolution of Earth = 365 ¼ days = 1 year
94. If it is summer, then the axis will be pointed directly toward the sun
95. If it is winter, then the axis will be pointed away from the sun
96. Gravity keeps planets in orbit
97. When the moon and sun are on opposite sides and the Earth is in the middle, there will be a full moon.
98. When the moon and sun are on the same side of Earth, there will be a new moon
99. The moon effects tides on Earth
100. 1 revolution of the moon = 1 rotation of the moon = 1 month