1. Density is the volume of an object divided by its mass.

2. When classifying objects, group first, then rank.

3. In the Grouping and Ranking exercise, the science process skill of measuring was not used.

4. The melting point of an element is an example of a physical property.

5. As one goes from bottom to top in a group, the atoms get smaller.

6. A majority of the elements on the periodic table are metals.

7. In classifying objects, there is only one way to group the objects.

8. A Diet Coke and a regular Coke can easily be distinguished from each other without opening the cans by the difference in their:
   A. Mass   B. Density
   C. Volume   D. A & B

9. A property of matter that can be used for identification is:
   A. Mass   B. Volume
   C. Density   D. Temperature

10. A solid sinks or floats in a liquid due to its:
    A. Buoyancy   B. Mass
    C. Volume   D. Temperature

11. Of the following substances, the least dense is:
    A. Zinc   B. Lead
    C. Cork   D. Quartz

12. The volume of an unknown irregular solid can be determined by:
    A. Measuring its dimensions   B. Weighing it
    C. Water displacement   D. Guessing

13. The density of gold is 19.3 g/ml. A certain sample of gold had a mass of 77.2 grams. Its volume in cubic centimeter is:
    A. 4.0 cm³   B. 3.0 cm³
    C. 2.0 cm³   D. 1.0 cm³

14. The volume of 35.0 g of water would be:
    A. 25.0 cc   B. 20.0 cc
    C. 35.0 cc   D. NOTA

15. On the periodic table the elements are grouped by:
    A. Atomic number   B. Atomic Mass
    C. Common chemical and physical properties   D. None of the above
16. On the periodic table the elements are ranked by:
A. Atomic number  
B. Atomic Mass  
C. Common chemical and physical properties  
D. None of the above

17. What is the slope and Y intercept of the line produced when the data below is plotted?
A. m = 3 ; b = 4  
B. m = 0 ; b = 4  
C. m = 4 ; b = 4  
D. m = 15 ; b = 64

<table>
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<tr>
<th>Y</th>
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<tbody>
<tr>
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<td>12</td>
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<tr>
<td>64</td>
<td>15</td>
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</table>

18. What is the slope and Y intercept of the graph below?
A. m = 0 ; b = 16  
B. m = 85 ; b = 0  
C. m = 2 ; b = 2  
D. m = 5 ; b = 4

19. The intercept of the mass vs. volume graph ____________________.
A. is zero  
B. is the rise over the run  
C. depends on the sample  
D. is one gram per cc.

20. Mass is a measure of ____________________.
A. the amount of space that an object occupies  
B. the amount of matter in an object  
C. the density of an object  
D. how heavy an object is.
21. What is the minimum mass that should be measured using the balance that we constructed in class to produce the accuracy adequate for an elementary school classroom?
A. 200 g  B. 2 g  C. 10 g  D. It doesn’t matter how much mass you use.

The graph below shows the mass vs. volume graph for 60 blue ml base 10 blocks and 6 blue cl base 10 blocks.

![Mass vs. Volume Graph]

22. Which line represents the mass vs. volume for the small ml cubes?
A. series 1  B. series 2

23. Which line is identical to that of water?
A. series 1  B. series 2

24. Which line represents the blocks that will float in water?
A. series 1  B. series 2

25. What is the density (in g/ml) of the blocks in series 2?
A. 6 g/ml  B. 0.6 g/ml  C. 10 g/ml  D. 1 g/ml

26. Compare the density of ice to the density of water. The density of the ice is
A. less.  B. the same.  C. greater.

27. A 1-cm³ piece is removed from a very large lump of modeling clay with a volume of over 100,000 cm³. Which piece has the greatest density?
A. The small piece.  B. The large piece.
C. The large and the small piece have the same density.

28. In the marshmallow mash experiment, which property of the marshmallows did not change?
A. volume  B. mass  C. density  D. no answer

29. A rock with a volume of 5.0 cm³ has a mass of 30.0 g. Its density is
A. 150 g/cm³  B. 35 g/cm³  C. 0.167 g/cm³  D. 6.0 g/cm³
30. Imagine a 10 g chunk of aluminum (ρ = 2.7 g/cm³) and a 10 g chunk of iron (ρ = 7.9 g/cm³). Which of the following is true?
A. The chunk of iron is smaller than the chunk of aluminum.
B. The chunk of iron is more massive than the chunk of aluminum.
C. The chunk of aluminum is smaller than the chunk of iron.
D. Both objects have the same volume.

31. Buoyancy can be explained by differences in ________________ on the top and bottom of an object placed in a fluid.
A. mass  
B. pressure  
C. density  
D. volume  

32. What would be the percent error in the measurement of the length of an object about one meter long if a student used a conventional meter stick?
A. 1 %  
B. .001 %  
C. 0.1%  
D. 10%  

33. What would be the percent error in the measurement of the mass of an object with about one hectogram of mass if a student used a balance like the one we used class made of sticks and plastic pans?
A. 1 %  
B. .001 %  
C. 0.1%  
D. 10%