CK-12 Chemistry - Basic Answer Key

Chapter 4: Introduction to Chemistry

.1 Evolution of the Atomic Model

Check Your Understanding

1. What are the general properties of matter?

Answer: Matter can be described in terms of its physical characteristics as well as its chemical characteristics. For instance, the physical characteristics of liquid water are that it has a density of 1 g/mL. Many substances will dissolve readily in water – another physical characteristic.

2. We widely accept that all matter is comprised of similar kinds of particles that are too small to detect with the unaided eye. For example, we know that when a candle burns it gives off carbon dioxide and water vapor. Yet we cannot actually "see" these gases. How can we study something we cannot directly see, but know exists? Can you give an example?

Answer: Even though we cannot readily see the carbon dioxide and water vapor produced, we could measure the mass changes in the candle. This would indirectly tell us how much gas was produced. We could also place a plate of glass over the burning candle to condense the water vapor which would then be visible in its liquid form. Chemistry depends on indirect measurement quite frequently to make sense and describe the chemical world.

Review Questions

Questions:

 Compare and contrast the continuous theory of matter with the discontinuous theory of matter.

2. Which of the following did Proust discover?

- Elements combine in unpredictable ratios with other elements.
- The mass of an element is always changing even when combined with another element.
- Chemical compounds always contain the same proportion of elements by mass, regardless of amount

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web easy handling bolt numbering shall be done clockwise around the flange with the following sequence the table below shows the torque sequence for flanges with 4 to 32 bolts number of bolt studbolt tightening sequence to follow4 bolt flange1

3 2 48 bolt flange1 5 3 7 2 6 4 812 bolt flange1 7 4 10 2 8 5 11 3 9 6 1216 bolt

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web for flanges with 12 or more bolts 1 st round 20 percent of final torque 2 nd round 40 percent of final torque 3 rd round 80 percent of final torque 4 th round 100 percent of final torque final round clockwise or counter clockwise around the flange please take note the above bolt tightening sequences are the most

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web step 1 liberally lubricate all load bearing surfaces including threads and flat washers then install and finger tighten all fasteners number the bolts flange according to the bolt torque sequence step 2 set the torque wrench to 1 3 of the target torque value and tighten in an order bolts 1 2 3 4 until all have been tightened

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