

Knowledge. Answer the following questions on foolscap.

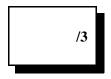
/3 1. Complete the following conversions.

Quantity	Conversion
a) 1300.5 cv	kv
b) 75.1 mm	m
c) 0.0405 daha	μha

- /1 2.a) Identify 1 way structural and conceptual descriptions of matter are similar.
- b) Identify 1 way structural and conceptual descriptions of matter are different.
- /2 c) Explain how a inferential definition of matter can lead to empirical definitions of matter.
- /1 d) Provide an operational description of matter.
- /2 3. Explain why using chemical properties to identify an unknown substance is likely not a good idea.
- 4. Identify the following substance as an element, compound, solution or mixture.

a) clear orange juice (no pulp)	b) peanut butter and jam sandwich	c) helium
d) $Ca(OH)_2$	e) solid sodium chloride	

- /2 5.a) Explain why pure substances must be homogenous.
- b) At the microscopic level, would a solution still be homogenous? Explain.
- /2 6. Explain why the following statement is wrong: "Only quantitative physical properties can be measured."
- /2 7. Explain how an intensive property can also be qualitative.
- /1 8. Give an example of an extensive (opposite of intensive) quantitative physical property.



Communication. Answer the following questions on foolscap.

/3 9. Complete the following conversions.

Standard Notation	Scientific Notation
a) 120047	
b)	5.58 x 10 ⁻³
c) 6.8	



Knowledge. Answer the following questions on foolscap.

/3 1. Complete the following conversions.

Quantity	Conversion
a) 1300.5 cv	0.013005 kv
b) 75.1 mm	0.0751 m
c) 0.0405 daha	405000 μha

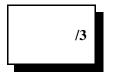
/1 2.a) Identify 1 way structural and conceptual descriptions of matter are similar.

- they both are static descriptions
- they both imply something about how matter is made
- both require observations at some point
- both deal rely on properties
- /2 b) Identify 1 way structural and conceptual descriptions of matter are different.
 - structural descriptions are empirical; whereas, conceptual descriptions are inferential
 - structural descriptions deal with properties; whereas, conceptual descriptions deal with design
 - structural descriptions are measured; whereas, conceptual descriptions are thought out
- /2 c) Explain how a inferential definition of matter can lead to empirical definitions of matter.
 - once we have a theory to explain why matter does what it does, we may test it to see what limitations or special conditions exist
- /1 d) Provide an operational description of matter.
 - the water is boiling
- /2 3. Explain why using chemical properties to identify an unknown substance is likely not a good idea.
 - there are too many tests to so the likelihood of narrowing it down is small
 - you don't know if the first test you try is dangerous or not
 - it is not the simplest approach and so it would take longer to conduct (not cost or time effective)
 - not reversible so you could use up your sample before you identify the substance
- 4. Identify the following substance as an element, compound, solution or mixture.

a) clear orange juice (no pulp)	b) peanut butter and jam sandwich	c) helium
d) Ca(OH) ₂	e) solid sodium chloride	

- a) solution b) mixture c) element d) compound e) compound
- /2 5.a) Explain why pure substances must be homogenous.
 - to be pure means there is only one type of particle which means the only way to mix the particles will be uniformly

- /2 b) At the microscopic level, would a solution still be homogenous? Explain.
 - no
 - at the microscopic level, there would be regions with different particles (non-uniform arrangement)
- /2 6. Explain why the following statement is wrong: "Only quantitative physical properties can be measured."
 - all properties can be measured; some with your senses and some with devises, but these are both types of measurement
- /2 7. Explain how an intensive property can also be qualitative.
 - it is a descriptive property that does not change with amount, such as taste or colour (in contrast, size would be extensive)
- /1 8. Give an example of an extensive (opposite of intensive) quantitative physical property.
 - mass, volume, size



Communication. Answer the following questions on foolscap.

/3 9. Complete the following conversions.

Standard Notation	Scientific Notation
a) 120047	1.20 x 10 ⁵
b) 0.00558	5.58 x 10 ⁻³
c) 6.8	6.8 or 6.8 x 10 ⁰

Prepared by K. Zuber Posted at kzuber.com