

Name _____
print

Key

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

- 1) How many significant figures are in the number 0.023050? ↓ ↓ ↓
 A) 6 B) 3 C) 4 ↑ ↑ D) 5 E) 7 1) D
- 2) Which one of the following symbols represents magnesium?
 A) Pb B) M C) Sn D) Na E) Mg 2) E
- 3) Express the temperature, 422.35 K, in degrees Celsius. ($K = ^\circ C + 273.15$)
 A) 22.78 °C B) 695.50 °C C) 792.23 °C D) 50.89 °C E) 149.20 °C 3) E
- 4) A beaker of sand (silicon dioxide) and water is an example of _____
 A) heterogeneous mixture B) homogeneous mixture C) compound D) pure substance E) solid 4) A
*not solid ② not pure bc has 2 things
 ③ compound is a pure substance - not
 sand + water ④ not homogeneous bc not
 same composition throughout ∴ must be ①*
- 5) From your list of memorized SI prefixes, what does milli mean?
 A) 10000 B) 1/1000 C) 1000 D) 100 E) 1/10 5) B

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show all work for partial credit. (5 pts)

- 6) Using dimensional analysis: A witch has made a potion which has a density of 4.50 pounds / inch³. She tells you that you need to drink 33 inches³ in order to reverse the turning into a bug spell. You only have a gram balance. How many grams of this potion will you need to measure out in order to not turn into a bug? (453.59 g = 1 pound)

*tells you what you need = g of potion
 conversion factor @ 4.50 lbs/inch³ ② 453.59 g = 1 lb
 have 33 inches³*

$$33 \text{ inches}^3 \times \frac{4.50 \text{ lbs}}{\text{inches}^3} \times \frac{453.59 \text{ (g)}}{1 \text{ lb}} = 67358.115 \text{ g}$$

2 sig fig (from 33)

67000 or 6.7 x 10⁴ g

$$422.35 \text{ K} = ^\circ \text{C} + 273.15$$

$$422.35 \text{ K} - 273.15 = ^\circ \text{C} + 273.15 - 273.15$$

$$149.20 ^\circ \text{C} = ^\circ \text{C}$$

Name Key
print

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

- 1) How many significant figures are in the number 0.023050? 1) A
 (A) 5 B) 4 C) 7 ^{↓ ↓ ↓} _{↑ ↑} D) 3 E) 6
- 2) Which one of the following symbols represents magnesium? 2) B
 A) Pb (B) Mg C) M D) Sn E) Na
- 3) From your list of memorized SI prefixes, what does milli mean? 3) D
 A) 100 B) 1/10 C) 10000 (D) 1/1000 E) 1000
- 4) Express the temperature, 422.35 K, in degrees Celsius. (K = °C + 273.15) 4) B
 A) 792.23 °C (B) 149.20 °C C) 22.78 °C D) 695.50 °C E) 50.89 °C
- 5) A beaker of sand (silicon dioxide) and water is an example of _____ 5) C
 A) pure substance
 B) homogeneous mixture
 (C) heterogeneous mixture
 D) compound
 E) solid

① not solid ② not pure bc has 2 things ③ compound is a pure substance, this is not composition throughout ∴ must be ④ not homogeneous bc not same

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show all work for partial credit. (5 pts)

6) Using dimensional analysis: A witch has made a potion which has a density of 4.50 pounds / inch³. She tells you that you need to drink 33 inches³ in order to reverse the turning into a bug spell. You only have a gram balance. How many grams of this potion will you need to measure out in order to not turn into a bug? (453.59 g = 1 pound)

*tells you what you need = g of potion
conversion factor ① 4.50 lbs/inch³ ② 453.59 g = 1 lb
given 33 inches³*

$$33 \text{ inches}^3 \times \frac{4.50 \text{ lbs}}{\text{inches}^3} \times \frac{453.59 \text{ (g)}}{1 \text{ lb}} = \frac{67358.115 \text{ g}}{2 \text{ sig fig (from 33)}} \rightarrow 67000 \text{ or } 6.7 \times 10^4 \text{ g}$$

$$422.35 \text{ K} = ^\circ\text{C} + 273.15$$

$$\rightarrow 422.35 \text{ K} - 273.15 = ^\circ\text{C} + 273.15 - 273.15$$

$$149.20^\circ\text{C} = ^\circ\text{C}$$

Name Key
print

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

1) How many significant figures are in the number 340.500?
A) 7 B) 4 C) 6 D) 3 E) 5 1) C

2) Express the temperature, 422.35 K, in degrees Celsius. ($K = ^\circ C + 273.15$)
A) 22.78 °C B) 695.50 °C C) 149.20 °C D) 792.23 °C E) 50.89 °C 2) C

3) From your list of memorized SI prefixes, what does kilo mean?
A) 1/100 B) 1/1000 C) 100 D) 1000 E) 1/10 3) D

4) Salt (NaCl) is an example of _____.
A) matter
B) pure substance which is a compound
C) homogeneous mixture
D) heterogeneous mixture
E) pure substance which is an element
B is best answer
want best answer
① NaCl is matter as are all the other choices
② not a mixture bc does not have variable composition
③ not element bc has 2 elements
4) B

5) Which one of the following symbols represents carbon?
A) Ca B) C C) Cl D) S E) Cu 5) B

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show work for partial credit. (5 pts)

6) Using dimensional analysis: Spock has come upon an unknown substance which the residents of the planet X use as their energy source in their transporter. He is being chased by the hostile residents of planet X and needs to get away pronto. The energy source has a density of 4.50 pounds / inch³. The transporter needs precisely 33 pounds of the substance in order to run without blowing up. Spock only has mL volume measures. How many mL of the substance does Spock need to put into the transporter so that he can get away without blowing up? (2.54 cm = 1 inch or 16.4 cm³ = 1 inch³)
asks for answer Volume in mL

have 33 pounds mass conversion factors
density = 4.50 lbs/in³
② 16.4 cm³ = 1 inch³ ③ 1 mL = 1 cm³
 $33 \text{ pounds} \times \frac{\text{inch}^3}{4.50 \text{ lbs}} \times \frac{16.4 \text{ cm}^3}{1 \text{ inch}^3} \times \frac{1 \text{ mL}}{1 \text{ cm}^3} = 120.2667 \text{ mL}$

2 sig fig (33)
1.2 x 10² mL

422.35 K = °C + 273.15
422.35 K - 273.15 = °C + 273.15 - 273.15
149.2 = °C

Name Key
print

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

1) From your list of memorized SI prefixes, what does kilo mean? 1) D
 A) 1/1000 B) 1/10 C) 100 D) 1000 E) 1/100

2) How many significant figures are in the number 340.500? 2) D
 A) 3 B) 5 C) 4 D) 6 E) 7

3) Salt (NaCl) is an example of _____ want best answer 3) B
 A) pure substance which is an element
 B) pure substance which is a compound
 C) heterogeneous mixture
 D) homogeneous mixture
 E) matter
 ① it is matter E - everything is matter
 ② not mixture bc NaCl does not have variable composition (not C+D)

③ not element bc has 2 different elements ④ is best answer

4) Which one of the following symbols represents carbon? 4) A
 A) C B) Cu C) Ca D) S E) Cl

5) Express the temperature, 422.35 K, in degrees Celsius. (K = °C + 273.15) 5) D
 A) 50.89 °C B) 22.78 °C C) 695.50 °C D) 149.20 °C E) 792.23 °C

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show work for partial credit. (5 pts)

6) Using dimensional analysis: Spock has come upon an unknown substance which the residents of the planet X use as their energy source in their transporter. He is being chased by the hostile residents of planet X and needs to get away pronto. The energy source has a density of 4.50 pounds / inch³. The transporter needs precisely 33 pounds of the substance in order to run without blowing up. Spock only has mL volume measures. How many mL of the substance does Spock need to put into the transporter so that he can get away without blowing up? (2.54 cm = 1 inch or 16.4 cm³ = 1 inch³) want volume of substance

in mL (have mass in pounds) 2 conversion factors
 33 lbs
 ③ 1 cm³ = 1 mL

$$33 \text{ pounds} \times \frac{1 \text{ inch}^3}{4.50 \text{ pounds}} \times \frac{16.4 \text{ cm}^3}{1 \text{ inch}^3} \times \frac{1 \text{ mL}}{1 \text{ cm}^3} = 120.2667$$

2 sig fig
 1.2 x 10² mL

$$422.35 \text{ K} = ^\circ\text{C} + 273.15$$

$$422.35 \text{ K} - 273.15 = ^\circ\text{C} + 273.15 - 273.15$$

$$149.2 = ^\circ\text{C}$$

Name _____
printName _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

- 1) How many significant figures are in the number 0.023050? 1) _____
A) 6 B) 3 C) 4 D) 5 E) 7
- 2) Which one of the following symbols represents magnesium? 2) _____
A) Pb B) M C) Sn D) Na E) Mg
- 3) Express the temperature, 422.35 K, in degrees Celsius. ($K = ^\circ C + 273.15$) 3) _____
A) 22.78 $^\circ C$ B) 695.50 $^\circ C$ C) 792.23 $^\circ C$ D) 50.89 $^\circ C$ E) 149.20 $^\circ C$
- 4) A beaker of sand (silicon dioxide) and water is an example of _____ 4) _____
A) heterogeneous mixture
B) homogeneous mixture
C) compound
D) pure substance
E) solid
- 5) From your list of memorized SI prefixes, what does milli mean? 5) _____
A) 10000 B) 1/1000 C) 1000 D) 100 E) 1/10

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show all work for partial credit. (5 pts)

- 6) Using dimensional analysis: A witch has made a potion which has a density of 4.50 pounds / inch³. She tells you that you need to drink 33 inches³ in order to reverse the turning into a bug spell. You only have a gram balance. How many grams of this potion will you need to measure out in order to not turn into a bug? (453.59 g = 1 pound)

Name _____
print

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

- 1) How many significant figures are in the number 0.023050?

A) 5	B) 4	C) 7	D) 3	E) 6	1) _____
------	------	------	------	------	----------

- 2) Which one of the following symbols represents magnesium?

A) Pb	B) Mg	C) M	D) Sn	E) Na	2) _____
-------	-------	------	-------	-------	----------

- 3) From your list of memorized SI prefixes, what does milli mean?

A) 100	B) 1/10	C) 10000	D) 1/1000	E) 1000	3) _____
--------	---------	----------	-----------	---------	----------

- 4) Express the temperature, 422.35 K, in degrees Celsius. ($K = ^\circ C + 273.15$)

A) 792.23 $^\circ C$	B) 149.20 $^\circ C$	C) 22.78 $^\circ C$	D) 695.50 $^\circ C$	E) 50.89 $^\circ C$	4) _____
----------------------	----------------------	---------------------	----------------------	---------------------	----------

- 5) A beaker of sand (silicon dioxide) and water is an example of _____.

A) pure substance B) homogeneous mixture C) heterogeneous mixture D) compound E) solid	5) _____
--	----------

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show all work for partial credit. (5 pts)

- 6) Using dimensional analysis: A witch has made a potion which has a density of 4.50 pounds / inch³. She tells you that you need to drink 33 inches³ in order to reverse the turning into a bug spell. You only have a gram balance. How many grams of this potion will you need to measure out in order to not turn into a bug? (453.59 g = 1 pound)

Name _____
print

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

- 1) How many significant figures are in the number 340.500?

A) 7	B) 4	C) 6	D) 3	E) 5	1) _____
------	------	------	------	------	----------

- 2) Express the temperature, 422.35 K, in degrees Celsius. ($K = ^\circ C + 273.15$)

A) 22.78 $^\circ C$	B) 695.50 $^\circ C$	C) 149.20 $^\circ C$	D) 792.23 $^\circ C$	E) 50.89 $^\circ C$	2) _____
---------------------	----------------------	----------------------	----------------------	---------------------	----------

- 3) From your list of memorized SI prefixes, what does kilo mean?

A) 1/100	B) 1/1000	C) 100	D) 1000	E) 1/10	3) _____
----------	-----------	--------	---------	---------	----------

- 4) Salt (NaCl) is an example of _____.

A) matter B) pure substance which is a compound C) homogeneous mixture D) heterogeneous mixture E) pure substance which is an element	4) _____
---	----------

- 5) Which one of the following symbols represents carbon ?

A) Ca	B) C	C) Cl	D) S	E) Cu	5) _____
-------	------	-------	------	-------	----------

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show work for partial credit. (5 pts)

- 6) Using dimensional analysis: Spock has come upon an unknown substance which the residents of the planet X use as their energy source in their transporter. He is being chased by the hostile residents of planet X and needs to get away pronto. The energy source has a density of 4.50 pounds / inch³. The transporter needs precisely 33 pounds of the substance in order to run without blowing up. Spock only has mL volume measures. How many mL of the substance does Spock need to put into the transporter so that he can get away without blowing up? (2.54 cm = 1 inch or 16.4 cm³ = 1 inch³)

Name _____
print

Name _____
sign

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) ("the confidence booster") Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. (3 pts each, 15 pts total MC section)

- 1) From your list of memorized SI prefixes, what does kilo mean?

A) 1/1000	B) 1/10	C) 100	D) 1000	E) 1/100	1) _____
-----------	---------	--------	---------	----------	----------

- 2) How many significant figures are in the number 340.500?

A) 3	B) 5	C) 4	D) 6	E) 7	2) _____
------	------	------	------	------	----------

- 3) Salt (NaCl) is an example of _____.

A) pure substance which is an element B) pure substance which is a compound C) heterogeneous mixture D) homogeneous mixture E) matter	3) _____
---	----------

- 4) Which one of the following symbols represents carbon?

A) C	B) Cu	C) Ca	D) S	E) Cl	4) _____
------	-------	-------	------	-------	----------

- 5) Express the temperature, 422.35 K, in degrees Celsius. ($K = ^\circ C + 273.15$)

A) 50.89 $^\circ C$	B) 22.78 $^\circ C$	C) 695.50 $^\circ C$	D) 149.20 $^\circ C$	E) 792.23 $^\circ C$	5) _____
---------------------	---------------------	----------------------	----------------------	----------------------	----------

ESSAY. Write your answer in the space provided. If you run out of space, you may write on the back of this sheet. Please show work for partial credit. (5 pts)

- 6) Using dimensional analysis: Spock has come upon an unknown substance which the residents of the planet X use as their energy source in their transporter. He is being chased by the hostile residents of planet X and needs to get away pronto. The energy source has a density of 4.50 pounds / inch³. The transporter needs precisely 33 pounds of the substance in order to run without blowing up. Spock only has mL volume measures. How many mL of the substance does Spock need to put into the transporter so that he can get away without blowing up? (2.54 cm = 1 inch or 16.4 cm³ = 1 inch³)