

## THE STRUCTURE OF SUBSTANCES

**Directions:** For each substance 1-6 below, indicate whether the substance is a pure substance or a mixture. If it is a pure substance, indicate whether or not it is a compound. If it is a mixture, identify it as a suspension, colloid, or solution.

Regardless of your answers, sketch the molecules of the substance so that it represents the type of substance you identified in the questions. Use filled/unfilled circles – touching = bonded together.

1 ocean water

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

2 pure cane sugar

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

3 beef stew

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

4 bottled  $\text{NH}_3$ 

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

5 lava

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

6 blood

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

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1 Air

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

2 CO<sub>2</sub>

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

3 O<sub>2</sub>

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

4 Milk

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

5 SiO<sub>2</sub> (Glass)

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

c. suspension, colloid, or solution?

\_\_\_\_\_

6 Iron (Fe)

a. mixture or pure substance?

\_\_\_\_\_

b. is it a compound(s)?

\_\_\_\_\_

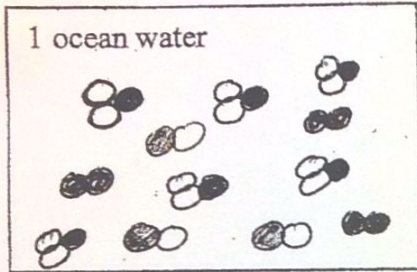
c. suspension, colloid, or solution?

\_\_\_\_\_

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a. mixture or pure substance?

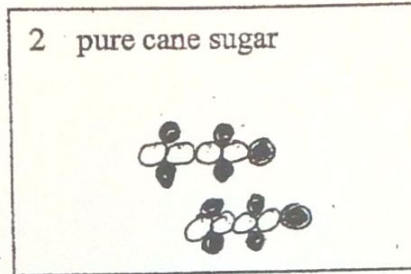
mixture

b. is it a compound(s)?

some mol's are

c. suspension, colloid, or solution?

solution



a. mixture or pure substance?

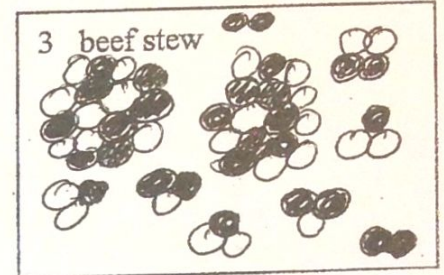
pure substance

b. is it a compound(s)?

yes

c. suspension, colloid, or solution?

does not apply  
(it's not a mixture)



a. mixture or pure substance?

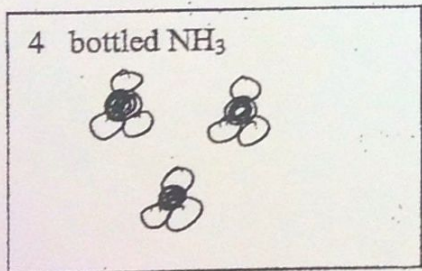
mixture

b. is it a compound(s)?

many mol's are

c. suspension, colloid, or solution?

suspension



a. mixture or pure substance?

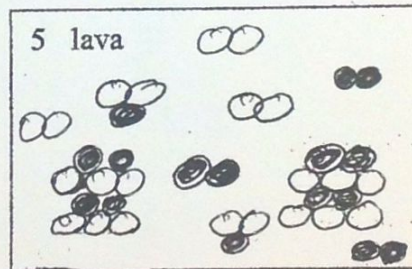
pure subst.

b. is it a compound(s)?

yes

c. suspension, colloid, or solution?

does not apply  
(it's not a mixture)



a. mixture or pure substance?

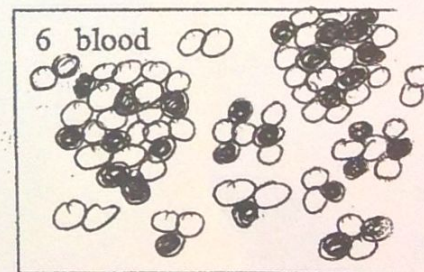
mixture

b. is it a compound(s)?

some mol's are

c. suspension, colloid, or solution?

colloid\*  
(suspension o.k.)



a. mixture or pure substance?

mixture

b. is it a compound(s)?

some mol's are

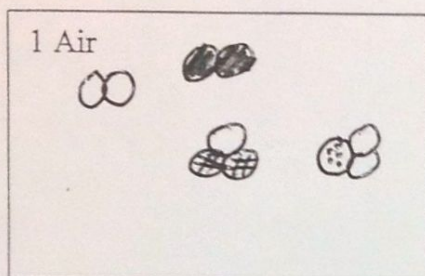
c. suspension, colloid, or solution?

suspension\*  
(colloid o.k.)

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a. mixture or pure substance?

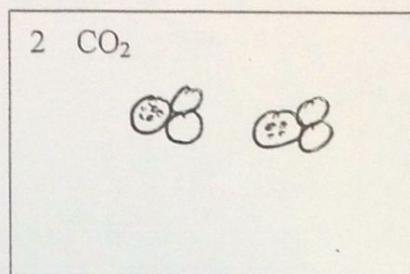
MIXTURE

b. is it a compound(s)?

YES (H<sub>2</sub>O, CO<sub>2</sub>)

c. suspension, colloid, or solution?

SOLUTION



a. mixture or pure substance?

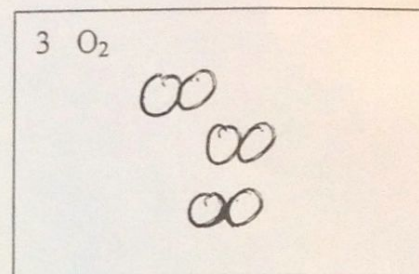
P.S.

b. is it a compound(s)?

YES

c. suspension, colloid, or solution?

NONE - ITS NOT A MIXTURE



a. mixture or pure substance?

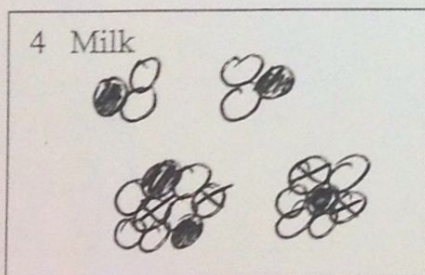
P.S.

b. is it a compound(s)?

NO

c. suspension, colloid, or solution?

NONE



a. mixture or pure substance?

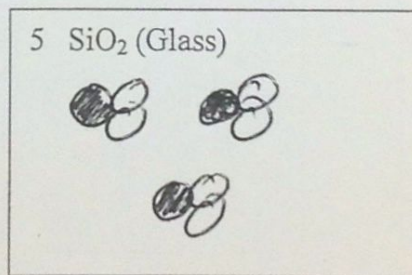
MIXTURE

b. is it a compound(s)?

YES

c. suspension, colloid, or solution?

COLLOID



a. mixture or pure substance?

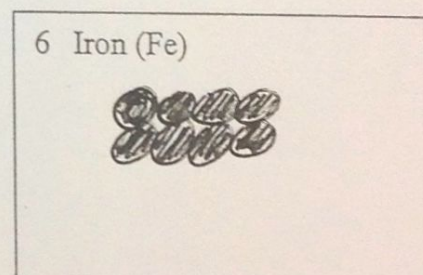
P.S.

b. is it a compound(s)?

YES

c. suspension, colloid, or solution?

NONE



a. mixture or pure substance?

P.S.

b. is it a compound(s)?

NO

c. suspension, colloid, or solution?

NONE