

KIPP/2025/_____

Remote Learning Packet
Assignment #3Review of Chemical Reactions

Directions: Answer the questions below to refresh yourself on key concepts from our third unit.

Chapter 1

1. What is an observation?
● _____
2. True or False: It is important to be as specific as possible when making observations to distinguish different substances. One property alone may not be enough.
● _____
3. Different substances have _____ properties.
4. All matter is made of _____.
5. What do scientists use to study things that are too small or too large?
● _____

Chapter 2

6. What happens to the atoms of the starting substance during a chemical reaction to make the ending substance?
● _____
7. What is the scientific term for the starting substances in a chemical reaction?
● _____
8. What is the scientific term for the ending substances in a chemical reaction?
● _____
9. Do atoms change from one type to another type of atom during a chemical reaction? Explain.
● _____
10. During a chemical reaction atoms _____ to form different atoms.
11. How do iron (Fe_2) and Sodium Nitrate (NaNO_3) combine to form rust (Fe_2O_3)?
● _____
12. What is an endothermic reaction?
● _____
13. What is an exothermic reaction?
● _____

Chapter 3

14. Is burning an example of a chemical reaction? Explain.



15. What happens to all of the atoms in the reactants during a chemical reaction?



16. True or False: Atoms cannot be created or destroyed during a chemical reaction.



17. What does the Law of Conservation of Matter say?



Chapter 4

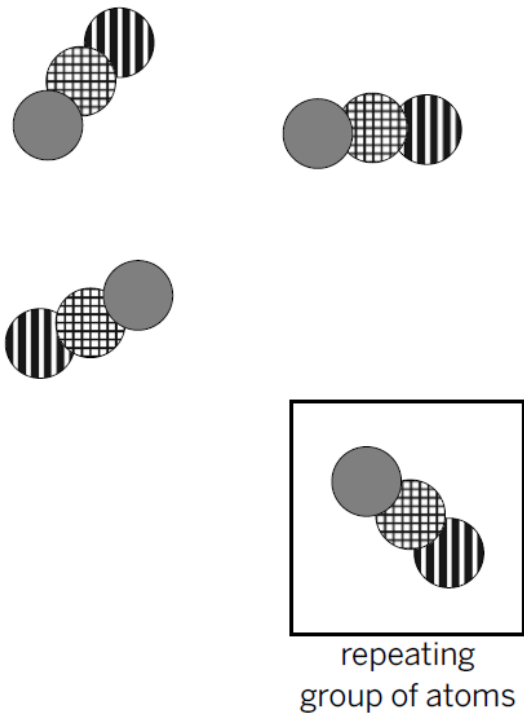
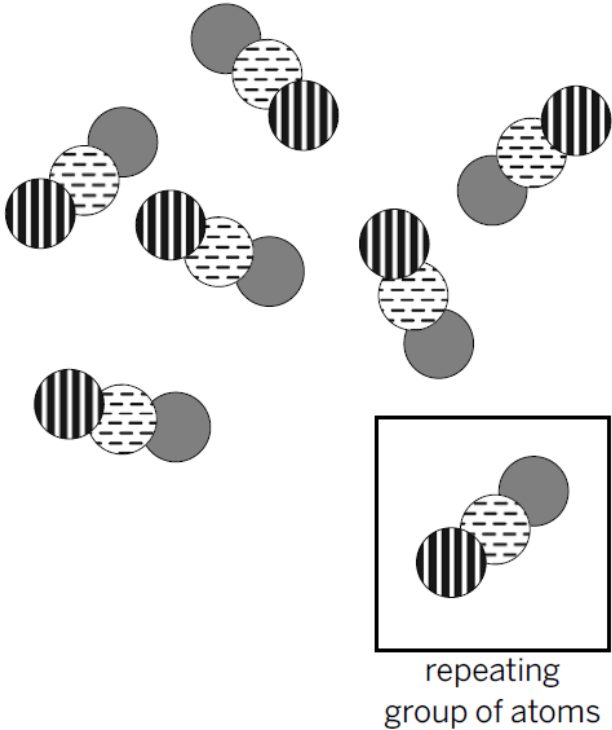
18. How can physical properties be used to identify a substance?



19. How can atomic properties be used to identify a substance?

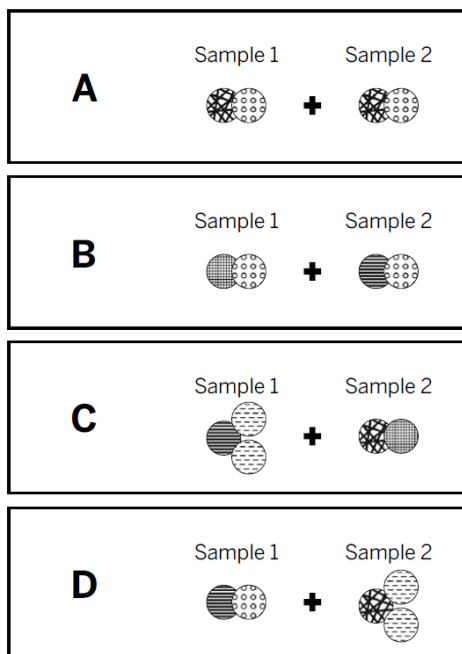
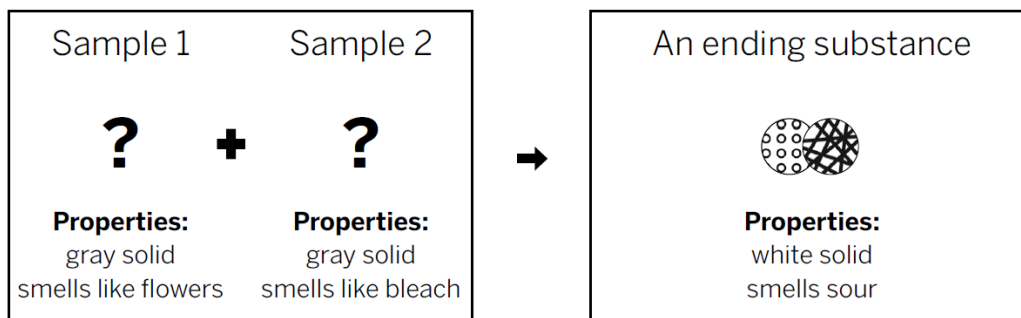


Practice Problems

Sample 1	Sample 2
	

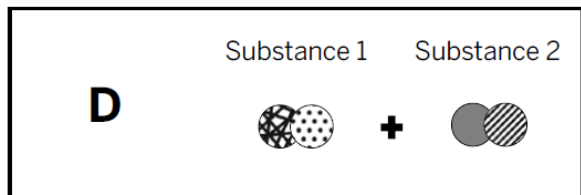
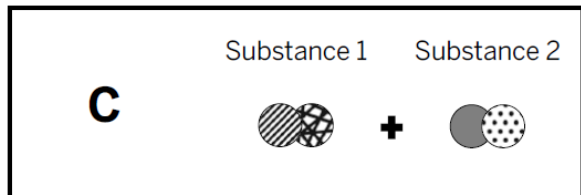
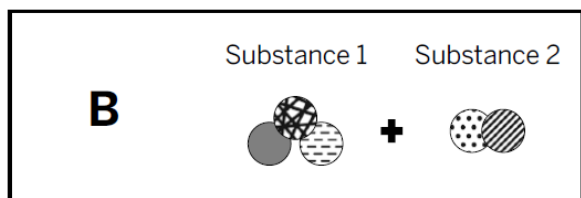
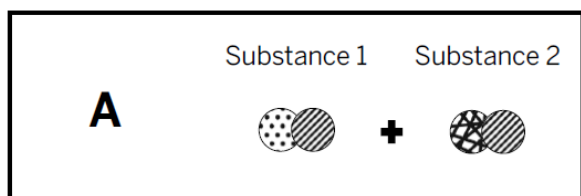
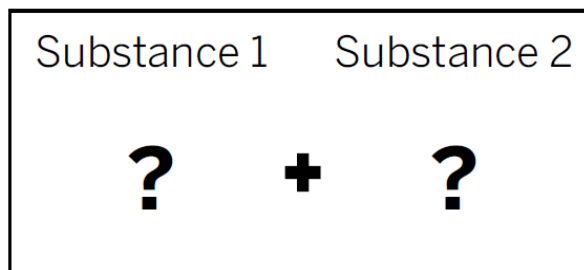
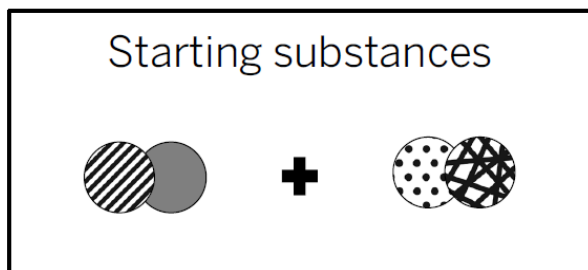
1. The diagram above shows the repeating groups of atoms that make up two samples. Will the properties of the two samples likely be the same or different? (Examples of properties are smell, color, and the temperature at which a substance melts.)

- (a) The properties will likely be different because the repeating groups of atoms that make up each sample are different.
- (b) The properties will likely be different because there are more repeating groups of atoms in Sample 2.
- (c) The properties will likely be the same because the repeating groups of atoms that make up the two samples have the same number of atoms.
- (d) The properties will likely be the same because the repeating groups of atoms that make up the two samples have two of the same types of atoms.



2. Serena mixed two samples together: a gray solid that smells like flowers and a gray solid that smells like bleach. She analyzed the results and found two ending substances. One of the ending substances was a white solid. This ending substance is made up of the repeating group of atoms shown above. Which of the diagrams to the left shows the repeating groups of atoms that make up the samples Serena mixed together?

- (a) Diagram A
- (b) Diagram B
- (c) Diagram C
- (d) Diagram D



3. Tiana is a chemist who is making a chemical to add to swimming pools in order to make the water safer. She mixed two solid substances together in a sealed container. The diagram above shows the repeating groups of atoms that make up the two starting substances.

After mixing, Tiana found two liquid substances in the sealed container. (Nothing had escaped.) Which of the diagrams to the left shows the repeating groups of atoms that make up the ending substances?

- (a) Diagram A
- (b) Diagram B
- (c) Diagram C
- (d) Diagram D