**Unit 5, Lesson 3 & 4 Review Quiz**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

**\_\_\_\_ 1.** Aaron put water, sugar, and yeast into a balloon. Then he measured the mass of the balloon. He put the balloon in a warm place for 2 hours. Then he measured the mass again. He repeated his experiment three times to get more data. Predict how the mass of the balloon changed.

|  |  |
| --- | --- |
| **A** | less mass |
| **B** | more mass |
| **C** | same mass |
| **D** | no more mass |

**\_\_\_\_ 2.** A solution is formed when one substance is dissolved in another. Maya has a solution in which water is the solvent. Which of these could be the solute?

|  |  |
| --- | --- |
| **A** | oil |
| **B** | pebbles |
| **C** | sand |
| **D** | sugar |

**\_\_\_\_ 3.** Emerson has 5 g of salt and 10 mL of water. He pours the water into a beaker and then adds the salt and watches it dissolve. Which word best describes the water?

|  |  |
| --- | --- |
| **A** | mixture |
| **B** | solute |
| **C** | solution |
| **D** | solvent |

**\_\_\_\_ 4.** Sam created a solution by adding food coloring to water. Her solution is also a mixture. Which of these is true of **all** solutions?

|  |  |
| --- | --- |
| **A** | They are all liquids. |
| **B** | They all include water. |
| **C** | The parts of all solutions are evenly mixed. |
| **D** | The substances are always permanently combined. |

**\_\_\_\_ 5.** Lennon combined lettuce, tomatoes, cucumbers, and shredded cheese to make a salad. Which **best** describes what Lennon made?

|  |  |
| --- | --- |
| **A** | combination |
| **B** | element |
| **C** | mixture |
| **D** | solution |

**\_\_\_\_ 6.** Sienna made a mixture of sand and pebbles to use for an art project. When she is finished, she wants to separate the sand and pebbles to be used for other projects. Which is the **best** way for her to separate the sand from the pebbles?

|  |  |
| --- | --- |
| **A** | by size |
| **B** | by color |
| **C** | by shape |
| **D** | by density |

**\_\_\_\_ 7.** Nathan’s mom boils water in a pot on the stove to make homemade soup. Which of the following ingredients will dissolve in the water?

|  |  |
| --- | --- |
| **A** | garlic |
| **B** | oil |
| **C** | pepper |
| **D** | salt |

**\_\_\_\_ 8.** Two substances make up a mixture.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Color** | **Density (g/cm3)** | **Magnetism** | **Particle shape** | **Particle size** |
| **Substance X** | black | 1.85 | not magnetic | pebble-shaped | very small |
| **Substance Y** | very dark gray | 0.66 | not magnetic | pebble-shaped | very small |

What is the fastest way to separate substance X from substance Y?

|  |  |
| --- | --- |
| **A** | Use a magnet to attract one of the substances and leave the other. |
| **B** | Put the particles in a container of water so that one will float and one will sink. |
| **C** | Dissolve the substances in water and then evaporate the water to separate them. |
| **D** | Sift the smaller particles through a screen to separate the bigger and smaller ones. |

**\_\_\_\_ 9.** A company collects cans for recycling. Some cans are made of aluminum, and others are made of steel. Which of the following is the **best** way to separate the mixture of the two types of cans?

|  |  |
| --- | --- |
| **A** | by size |
| **B** | by shape |
| **C** | by magnetism |
| **D** | by evaporation |

**\_\_\_\_ 10.** Jenny has a glass of iced tea and a cup of hot tea. They each have the same amount of tea in them. She adds sugar to each until no more sugar will dissolve. What can you predict about the amount of sugar that will dissolve in the iced tea and the hot tea?

|  |  |
| --- | --- |
| **A** | The same amount of sugar will dissolve in both teas. |
| **B** | More sugar will dissolve in the hot tea than in the iced tea. |
| **C** | More sugar will dissolve in the iced tea than in the hot tea. |
| **D** | Twice as much sugar will dissolve in the iced tea than in the hot tea. |

**\_\_\_\_ 11.** Nghi has a mixture of sand and gravel. She places the mixture in a container and shakes the container. The picture below shows the mixture after it was shaken.



Which property **best** explains why the sand and gravel separated into two groups?

|  |  |
| --- | --- |
| **A** | color |
| **B** | shape |
| **C** | weight |
| **D** | particle size |

**\_\_\_\_ 12.** Waring has a mixture of fine iron filings and fine aluminum filings. What would be the **best** way to separate the iron filings from the aluminum filings?

|  |  |
| --- | --- |
| **A** | Pick out the iron particles by hand. |
| **B** | Pass the mixture through a strainer. |
| **C** | Add water to dissolve the aluminum. |
| **D** | Use a magnet to attract the iron filings. |

**Short Answer**

**1.** Samantha put water, sugar, and yeast inside each of two balloons. She put one balloon in a warm place and put the other on a table in the room. What would Samantha see if she could see inside the balloon in the warm place?

**2.** Mixtures can involve solids, liquids, or gases. Give an example of a mixture of gases. Explain why it is classified as a mixture.

**Unit 5, Lesson 3 & 4 Review Quiz**

**Answer Section**

**MULTIPLE CHOICE**

**1.** B

**2.** D

**3.** D

**4.** C

**5.** C

**6.** A

**7.** D

**8.** B

**9.** C

**10.** B

**11.** D

**12.** D

**SHORT ANSWER**

**1.** Sample answer:

Samantha would probably see bubbling in the water. Bubbling is one of the things that mean a chemical change is happening. She might think that the yeast was growing. The water might change color. That’s because yeast is tan and water is clear.

Students’ answers should include:

• understanding that a chemical change is happening in the balloon in the warm place

• understanding that one sign of chemical change would probably be the bubbling

**2.** Sample answer:

Air is a mixture of gases. It is classified as a mixture (not a solution) because it contains several different gases (nitrogen, oxygen, carbon dioxide, argon) that are not actually combined.

Students’ answers should include:

• an example of a mixture of gases, such as air

• an understanding of mixtures

• a reasonable explanation of why air (or another gaseous mixture) is classified as a mixture