Name _____

Post-Assessment

Concept(s) Assessed	Matter has chemical and physical properties.
Time	45 minutes
Materials	Individual Prompt
Advance Preparation	1. Duplicate prompt for each student

Procedure:

1. Tell students they will have an opportunity to share what they understand about matter and its properties.
2. Distribute the prompt to each student and ask him/her to do his/her best work.

Name _____

5th Grade Physical Science

Pre-Assessment

Please circle the best answer for each of the following items.

1. All matter is made of _____.: [1b]

a. cells
b. chemicals
c. properties
d. atoms

Answer: d. atoms.

2. A _____ that has a definite volume and takes the shape of its container is a: [1g]

a. solid.
b. liquid.
c. gas.
d. solution.

Answer: b. liquid.

3. What tool would a scientist use to measure mass? [1g]

a. balance scale
b. graduated cylinder
c. centimeter ruler
d. test tube

Answer: b. liquid.

4. _____ is a substance that does not dissolve in water: [1g]

a. salt.
b. sugar
c. sand
d. Kool-Aide™

Answer: c. sand.

5. An element is made of one type of _____.? [1d]

a. atom
b. compound
c. molecule
d. chemical

Answer: a. One kind of atom

6. Which substance is a compound? [1b]

a. Carbon
b. Sodium Chloride
c. Oxygen
d. Hydrogen

Answer: b. Salt

7. A compound can be made up of _____.: [1f]

a. only one element
b. one or more elements
c. only two elements
d. two or more elements

Answer: d. two or more elements.

8. All molecules are made of more than one _____.: [1b]

a. atom
b. element
c. compound
d. chemical

Answer: a. More than one atom

9. Which of the following is a chemical reaction? [1a]

a. wax melting
b. metal rusting
c. glass breaking
d. water freezing

Answer: b. Metal rusting

10. Metals are generally: [1c]

a. good insulators of heat.
b. hard and shiny.
c. brittle and crack when heated.
d. liquid at room temperature.

Answer: b. hard and shiny.

11. Elements in the periodic table are organized by _____. [1d]

a. name, alphabetically
b. chemical properties
c. date of discovery
d. chemical symbol, alphabetically

Answer: b. By chemical properties

12. Salts _____. [1i]

a. are compounds.
b. rarely dissolve.
c. are rare.
d. are liquids.

13. Which of the following can be viewed using an electron microscope?

a. cells
b. atoms
c. organs
d. mass

Answer: b. Atoms

Please answer the following questions with thoughtful, complete sentences. You may include pictures to help explain your answer.

1. Give two examples of matter. Explain how you know the two examples are matter.

2. Use your understanding of science to explain why a penny sinks when it is placed in water. [1g]

3. Use your understanding of science to explain two different ways to measure the volume of an eraser. [1g]

4. Marta put a pot of water on the stove to boil. She forgot about it. Explain what will eventually happen to the water in the pot. [1g]

5. A burning candle is a chemical change. Use your understanding of science to explain your answer. [1a]

6. Use your understanding of science to explain the most efficient way to separate salt, sand, and iron filings. Make sure you describe the tools and method you would use. [1f]

7. Write these in order from smallest to largest: atom, book, proton, molecule [1b]

8. Rate yourself on each of the following areas.

Understanding of physical science: **1** **2** **3** **4**

Following directions and recording data in notebooks during labs: **1** **2** **3** **4**

Participation and effort in discussions: **1** **2** **3** **4**

Name _____

5th Grade Physical Science

Post-Assessment

Expected Student Responses for a High Level Response

Please circle the best answer for each of the following items.

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b. chemicals
c. properties
d. atoms

2. A _____ that has a definite volume and takes the shape of its container is a: [1g]

a. solid.
b. liquid.
c. gas.
d. solution.

3. What tool would a scientist use to measure mass? [1g]

a. balance scale
b. graduated cylinder
c. centimeter ruler
d. test tube

4. _____ is a substance that does not dissolve in water: [1g]

a. salt.
b. sugar
c. sand
d. Kool-Aide™

5. An element is made of one type of _____.? [1d]

a. atom
b. compound
c. molecule
d. chemical

6. Which substance is a compound? [1b]

a. Carbon
b. Sodium Chloride
c. Oxygen
d. Hydrogen

7. A compound can be made up of _____.: [1f]

a. only one element
b. one or more elements
c. only two elements
d. two or more elements

8. All molecules are made of more than one _____.: [1b]

a. atom
b. element
c. compound
d. chemical

Answer: a. More than one atom

9. Which of the following is a chemical reaction? [1a]

a. wax melting
b. metal rusting
c. glass breaking
d. water freezing

10. Metals are generally: [1c]

a. good insulators of heat.
b. hard and shiny.
c. brittle and crack when heated.
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11. Elements in the periodic table are organized by _____. [1d]

a. name, alphabetically
b. chemical properties
c. date of discovery
d. chemical symbol, alphabetically

Answer: b. By chemical properties

12. Salts _____. [1i]

a. are compounds.
b. rarely dissolve.
c. are rare.
d. are liquids.

13. Which of the following can be viewed using an electron microscope?

a. cells
b. atoms
c. organs
d. mass

Answer: b. Atoms

Please answer the following questions with thoughtful, complete sentences. You may include pictures to help explain your answer.

1. Give two examples of matter. Explain how you know the two examples are matter.
Water and air are matter. Water and air are matter because they have mass and volume.

2. Use your understanding of science to explain why a penny sinks when it is placed in water. [1g]
A penny sinks when it is placed in water because it is denser than the water.

3. Use your understanding of science to explain two different ways to measure the volume of a brick. [1g] *I can measure the volume of a brick by measuring its length, height, and width, all in centimeters(cm) and multiplying the measurements. My answer will be in cubic centimeters to show the space taken up by the brick. I can also find the volume of a brick by putting it in a graduated cylinder filled with water and note the height of the water, measured in milliliters. I then remove the brick from the water and note the height of the water, measured in milliliters. When I subtract the second measurement from the first measurement, I have the space taken up by the brick.*

4. Marta put a pot of water on the stove to boil. She forgot about it. Explain what will eventually happen to the water in the pot. [1g]

The water in the pot will completely evaporate into the atmosphere.

5. A burning candle is a chemical change. Use your understanding of science to explain your answer. [1a] *A burning candle is an example of a chemical change because heat, light, and temperature change can be observed while the candle burns. Temperature change, heat and light are indicators of a chemical change*.

6. Use your understanding of science to explain the most efficient way to separate salt, sand, and iron filings. Make sure you describe the tools and method you would use. [1f] *The iron filings may be separated from the mixture by using a magnet. The sand and salt may be separated from the mixture by putting them in a container of water. The sand will not dissolve in the water. The salt will dissolve in water. To separate the sand simply pour the salt water solution into another container. What is left in the container will be sand. Keep rinsing the sand to make sure all of the salt had gone into the salt water solution. When the salt water solution is evaporated, the water goes into the atmosphere and what is left will be the salt.*

7. Write these in order from smallest to largest: atom, book, proton, molecule [1b]
Proton, atom, molecule, book

8. Rate yourself on each of the following areas.

Understanding of physical science:	**1**	**2**	**3**	**4**
Following directions and recording data in notebooks during labs:	**1**	**2**	**3**	**4**
Participation and effort in discussions:	**1**	**2**	**3**	**4**