

## Mock Exam 1

Choose the best answer:

(\_\_\_ / 7)

- The atoms in the products of a chemical reaction \_\_\_\_\_
  - were present in the reactants.
  - did not exist before the reaction.
  - were created using energy from the reaction.
- What term refers to the part of a thermostat that expands and contracts to turn a furnace on and off?
  - coolant
  - piston
  - bimetallic coil
  - heat engine
- Any material that flows is a \_\_\_\_\_.
  - liquid
  - fluid
  - current
  - gas
- Compared with electrons that are closer to the nucleus, those that are farther away have
  - less energy.
  - more energy.
  - equal energy
- Which compound is a polar molecule?
  - H<sub>2</sub>
  - H<sub>2</sub>O
  - CO<sub>2</sub>

6. Which example is a double-replacement reaction?

- A-  $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$
- B-  $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$
- C-  $\text{HCl} + \text{FeS} \rightarrow \text{FeCl}_2 + \text{H}_2\text{S}$

7. Which situation would cause a reaction to occur more quickly?

- A- reducing the pressure of a gaseous reactant
- B- increasing the surface area of a solid reactant
- C- lowering the temperature of a liquid reactant
- D- decreasing the concentration of a liquid reactant

**Respond** to each statement on the lines provided.

( \_\_\_ / 8 )

8. Identify one change in property and one change in energy that indicate that a chemical reaction might have occurred.

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9. What is one form of energy that is output from a heat engine?

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10. What is an electric circuit?

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11. Describe three properties of metallic compounds.

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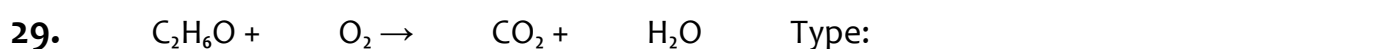
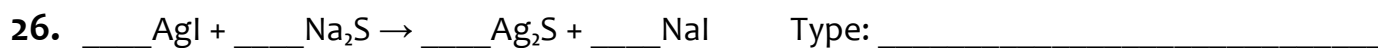
Choose the best word from the word box to complete each sentence.

( \_\_\_ / 12)

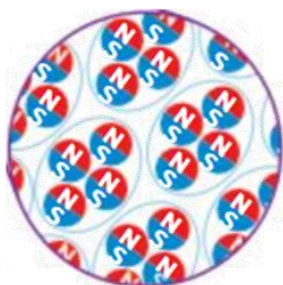
valence electron - electric field – magnetic domain – magnetic force – electron dot diagram – ion -  
electric current – chemical formula - electromagnetism – electric discharge– metallic bond

12. A \_\_\_\_\_ is a region in a magnetic material in which the magnetic fields of the atoms all point in the same direction
13. \_\_\_\_\_ is an outermost electron of an atom that participates in chemical bonding.
14. An \_\_\_\_\_ is an atom that is no longer electrically neutral because it has lost or gained valence electrons.
15. \_\_\_\_\_ a model that represents valence electrons in an atom as dots around the element's chemical symbol.
16. A \_\_\_\_\_ is a group of chemical symbols and numbers that represent the elements and the number of atoms of each element that make up a compound.
17. The process of an unbalanced electric charge becoming balanced is an \_\_\_\_\_
18. A \_\_\_\_\_ is a bond formed when many metal atoms share their pooled valence electrons.
19. The movement of electrically charged particles is an \_\_\_\_\_
20. \_\_\_\_\_ is a push or a pull a magnetic field applies to either a magnetic material or an electric current.
21. The invisible region surrounding a charged object is called an \_\_\_\_\_
22. The relationship between electricity and magnetism is called \_\_\_\_\_
23. \_\_\_\_\_ is a substance that slows or stops a chemical reaction

**Balance** the following chemical reaction then write the type of this reaction. ( \_\_\_ / 12)



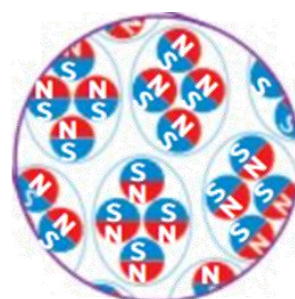
**Write** whether the object is magnetic material, magnet or not a magnetic material. ( \_\_\_ / 6)



27. ....



28. ....



29. ....

**Complete** the following table with the correct word.

( \_\_\_ / 5)

Source of electricity	Changes energy from	Changes energy into
Battery	30. _____	31. _____
32. _____	Mechanical energy	
33. _____	Solar energy	
34. _____	Chemical energy	