**2 MATTER AND MATERIAL**

**Question 1**

1. Atoms
2. Nucleons
3. Protons
4. Element
5. Nucleus
6. Electrons
7. Neutrons
8. Groups
9. Atomic number
10. Periods

**Question 2**

1.

1. Oxygen
2. Bromine
3. Silicon
4. Calcium
5. Lithium
6. Chlorine
7. Zinc
8. Hydrogen

2.

1. F
2. Fe
3. I
4. Ne
5. Au
6. Hg
7. Ag
8. Mn

**Question 3**

1

1. Copper
2. Helium
3. Sodium
4. Carbon
5. Magnesium

2

1. O
2. Ca
3. K
4. Li
5. Al

**Question 4**

1

1. Mgo
2. Co
3. HNO3
4. CO2
5. NaHCO3
6. Li2O
7. CaOH
8. H2SO4
9. ZnCl
10. FeO

2

1. Petrol
2. Table salt
3. Plaster of Paris
4. Baking powder
5. Stink bomb
6. Laughing gas
7. Water
8. Milk of magnesia

3. Combination of two or more atoms.

4.

1. H2O
2. CH4
3. SO2
4. CO2
5. NaCl
6. Li2O
7. NaOH
8. AgNO3
9. MgCl2
10. KBr

5.

1. Copper carbonate
2. Zinc oxide
3. Sodium bicarbonate
4. Octane
5. Nitrous oxide
6. Sodium sulphate
7. Copper sulfate
8. Hydrogen sulphide

**Question 5**

1. Carbon
2. 6
3. 12
4. 6
5. a. nitrogen

b. silicon

**Question 6**

1. oxygen

2. non-metal

3. base

4. acid

5. water

6. acid…carbon dioxide

**Question 7**

1. sodium carbonate + hydrochloric acid sodium chloride + water +carbon dioxide
2. Sodium carbonate, hydrochloric acid
3. Sodium chloride, water, carbon dioxide
4. a. 2 b. 1 c. 2
5. a. 2 b. 2 c. 2

 **Question 8**

 1. hydrogen, oxygen

 2. water

 3a. 2 3b. 2 3c. 6

 **Question 9**

 4Fe + 3O2 2Fe2O3

 **Question 10**

1. 2Mg + O2  2MgO
2. 4Al + 3O2 2Al2O3

 **Question 11**

1a. Acids have a sour taste and can be very corrosive. Acids turn blue litmus red.

 Acids have a pH of less than 7.

 1b. Bases feel soapy when dissolved in water. Bases that dissolve in water are

 called alkalis. Bases turn red litmus blue. Bases have a pH of greater than 7.

 2. The pH scale is a set of numbers that indicates whether a substance is acidic,

 basic or neutral.

 3a. 8-14

 3b. 1-6

 3c. 7

 4.

|  |
| --- |
| **Common household acids** |
| vinegar |
| lemon juice |
| tartaric acid |
|  |

|  |
| --- |
| **Common household bases** |
| washing powder |
| bleach |
| dishwashing liquid |

5. Indicators are used to test whether a substance is an acid, base or neutral.

6a.

|  |
| --- |
| **Paper indicators** |
| universal paper |
| red litmus |
| blue litmus |
|  |

b.

|  |
| --- |
| **Household indicators** |
| red cabbage water |
| black tea |
| turmeric water |
| beetroot water |

7.

1. Turn blue
2. Turn red
3. No change
4. red
5. Green

**Question 12**

1. Chemicals such as slaked lime (calcium hydroxide) is used to neutralise the water.
2. Calamine lotion (zinc carbonate) or baking soda is rubbed onto the bee sting to neutralise the acid and relieve the painful symptoms of the sting.
3. Apply hot water to the infected area if not available use an ice pack or wrapped ice.

**Question 13**

1. Sulphur dioxide
2. Destroys trees and other plants. Makes lakes and rivers acidic, killing fish and other aquatic animals.
3. Damages monuments and buildings. Corrodes vehicles, railroad tracks, and steel bridges.
4. Nitrous oxide, carbon dioxide

**Question 14**

1a. potassium hydroxide + hydrochloric acid potassium chloride + water

1b. zinc oxide + hydrogen sulfate zinc sulfate + water.

2a. Fe + O2 Fe2O3

2b. H2SO4 + Mg(OH)2 MgSO4

**Question 15**

1a. hydrogen chloride + magnesium oxide magnesium chloride + water

1b. hydrogen chloride + zinc zinc chloride + hydrogen

2. HCl + CaCO3  CaCl2 + CO2 + H2O