**Year 7**

**Term 1**

**Science**

**Revision Guide**

**Acids and Alkalis Vocabulary List**

|  |  |
| --- | --- |
| **Acid** | chemical that has a pH less than 7 |
| **Alkali** | chemical that has a pH more than 7 |
| **Neutral** | pH of 7, not an acid or an alkali |
| **Corrosive** | wears away at materials like metal or living tissue (acids) |
| **Caustic** | burns living tissue (alkalis) |
| **Hazard** | something that poses a danger |
| **Irritant** | a chemical that causes irritation (redness or blistering) to the skin |
| **Dilute** | adding water to make acids and alkalis safer to use |
| **Indicator** | a chemical that changes colour in acids and alkalis |
| **Litmus** | an indicator that is red in acids and blue in alkalis (a type of indicator) |
| **pH Scale** | a number showing how acidic or alkaline a chemical is |
| **Universal Indicator** | an indicator that changes colour to show the pH of a solution |
| **Neutralisation** | reaction that takes place between an acid and alkali, produces neutral products |
| **Salt** | neutral product produced when acids and alkalis react |
| **Carbon Dioxide** | gas produced when carbonates react with acids |

**Acids and Alkalis**

|  |  |  |  |
| --- | --- | --- | --- |
| Recognise some common hazard symbols and their uses. |  |  |  |
| Describe simply some properties of acids and alkalis. |  |  |  |
| Recall the names of common laboratory acids and alkalis |  |  |  |
| Describe what an indicator is |  |  |  |
| Describe how to use indicators to identify if a substance is an acid or alkali. |  |  |  |
| Recall some indicators |  |  |  |
| Describe the colours litmus turns acids and alkalis |  |  |  |
| Use the pH scale to describe substances as weak or strong acids or alkalis |  |  |  |
| Describe how universal indicator is used to determine the pH of a substance |  |  |  |
| Name the pH of a few common substances |  |  |  |
| Understand that when an acid and an alkali are mixed together a neutralisation reaction happens. |  |  |  |
| Describe how to make a neutral solution from an acid and an alkali |  |  |  |
| Write simple word equations to show the products of neutralisation reactions |  |  |  |
| Describe the uses for neutralisation reactions including: indigestion tablets, toothpaste, treating acid rain, and baking. |  |  |  |

**Chemical Reactions Vocabulary List**

|  |  |
| --- | --- |
| **Particle** | a very small portion of matter |
| **Matter** | the substance that everything is made of |
| **Particle Theory** | the idea that everything is made of particles |
| **Atom** | the smallest particle of matter |
| **Element** | different types of atoms |
| **Periodic Table** | a table showing information about all the elements |
| **Molecule** | two or more atoms chemical joined (bonded) together |
| **Chemical Formula** | tells you how many atoms of each element is in a molecule |
| **Law of Conservation of Mass** | matter cannot be created or destroyed, only rearranged |
| **Chemical Reaction** | when atoms are rearranged to form new substances |
| **Reactant** | Starting materials of a chemical reaction |
| **Product** | New substance that is formed after the chemical reaction |
| **Chemical Change** | a change involving a chemical reaction, a new substance is made, irreversible |
| **Physical Change** | a change where the substance stays the same, often reversible |
| **Limewater** | Chemical that is used to test for carbon dioxide by turning cloudy when carbon dioxide is reacted with it |
| **Combustion** | chemical reaction when substance burn |
| **Fuel** | substance that stores chemical energy that is released when burnt |

**Chemical Reactions**

|  |  |  |  |
| --- | --- | --- | --- |
| Describe how to use a Bunsen burner safely |  |  |  |
| Recall the evidence of a chemical reaction. |  |  |  |
| Explain the law of conservation of mass |  |  |  |
| Describe in terms of atoms what happens in a chemical reaction |  |  |  |
| Give examples of chemical and physical changes |  |  |  |
| Describe what happens when metals react with acids |  |  |  |
| Describe the test for hydrogen |  |  |  |
| Describe what happens when carbonates react with acids |  |  |  |
| Describe the test for carbon dioxide |  |  |  |
| Explain what is needed for a combustion reaction (fire triangle) |  |  |  |
| Describe what a fuel is and what they are used for |  |  |  |
| Write a word equation for metal + acid, metal + carbonates, and combustion reactions |  |  |  |
| Draw bar graphs and line graphs. |  |  |  |

**Energy Vocabulary List**

|  |  |
| --- | --- |
| **Kinetic Energy** | energy of moving things |
| **Gravitational Potential Energy** | energy stored in objects above the ground |
| **Thermal Energy** | heat energy |
| **Elastic or Strain Energy** | energy stored in stretched objects (like a spring) |
| **Chemical Energy** | energy stored inside chemicals like fuels |
| **Fossil Fuels** | fuels made from dead plants and animals buried in the ground for millions of years (very long chemical reaction) |
| **Non-renewable** | describes energy resources that will run out |
| **Renewable** | describes energy resources that won’t run out |
| **Hydroelectric Power** | energy resource using energy from moving water |
| **Wind Power** | energy resources using energy from moving wind |
| **Solar Power** | energy resource using energy from the sun |
| **Geothermal Power** | energy resource using energy from heat deep inside the earth |
| **Biomass Power** | energy resource using energy stored in plants |
| **Power Station** | a factory that transfers other types of energy into electricity, so that we can use the energy electrically in our homes |
| **Generator** | machine that transfers kinetic energy from a turbine into electricity |
| **Turbine** | machine with blades that spin to transfer energy to a generator |

**Energy**

|  |  |  |  |
| --- | --- | --- | --- |
| Recall the different types of energy. |  |  |  |
| Describe energy transfers in everyday situations (like a falling object). |  |  |  |
| Recall that energy is measured in joules (J) and 1 kilojoule = 1000 joules |  |  |  |
| Recall that food stores chemical energy and use food labels to analyse the amount of energy stored in different foods |  |  |  |
| Describe what a fuel is, give examples of fuels, and how fossil fuels are formed |  |  |  |
| Explain the difference between non-renewable and renewable energy resources |  |  |  |
| Explain why fossil fuels are non-renewable |  |  |  |
| Describe a variety of alternative energy resources (such as solar, hydroelectric, and geothermal power) |  |  |  |
| Explain how electricity is generated in a power station |  |  |  |
| Describe the different alternative energy resources (hydroelectric, solar, geothermal, biomass, wind) |  |  |  |
| Explain how all energy (except for geothermal and tidal) originally comes from the sun |  |  |  |