

## **1.Chapter 1:** Introduction to Matter

1.1 **Matter has mass and volume:** learn what mass and volume are and how to measure them.

1.2 **Matter is made of atoms:** learn about the movement of Atoms and molecules.

1.3 **Matter combines to form different substances:** learn how atoms form compounds and mixtures.

1.4 **Matter exists in different physical states:** learn how different states of matter behave.

## **2.Chapter 2:** Properties of Matter

2.1 **Matter has observable properties:** learn how to recognize physical and chemical properties.

2.2 **Changes of state are physical changes:** learn how energy is related to changes of state.

2.3 **Properties are used to identify substances:** learn how the properties of substances can be used to identify them and to separate mixtures.

## **3.Chapter 3:** Energy

3.1 **Energy exists in different forms:** learn about several different forms of energy.

3.2 **Energy can change forms but is never lost:** learn about the law of conservation of energy.

3.3 **Technology improves the ways people use energy:** learn how technology can be used to make energy conservation more efficient.

## **4.Chapter 4: Temperature and Heat**

4.1 **Temperature depends on particle movement:** learn how Kinetic energy is the basis of temperature.

4.2 **Energy flows from warmer to cooler objects:** learn about differences between temperature and heat, and how temperature changes in different substances.

4.3 **The transfer of energy as heat can be controlled:** learn how energy is transferred through heat and how that transfer can be controlled.

# **Electricity and Magnetism**

## **1.Chapter 1: Electricity**

1.1 **Materials can become electrically charged:** learn how the movement of electrons builds static charges and how static charges are used in technology.

1.2 **Charges can move from one place to another:** learn what factors control the movement of the charges.

1.3 **Electric current is a flow of charge:** learn how electric current is measured and how it can be produced.

## **2.Chapter 2: Circuits and electronics**

2.1 **Charge needs continuous path to flow:** learn how circuits are used to control the flow of charge

2.2 **Circuits make electric current useful:** learn about series circuits and parallel circuits.

2.3 **Electronic technology is based on circuits:** learn about computers and other electronic devices.

### **3.Chapter 3:** Magnetism

3.1 **Magnetism is a force that acts at a distance:** learn how magnets exert forces.

3.2 **Current can produce magnetism:** learn about electromagnets and their uses.

3.3 **Magnetism can produce current:** learn how magnetism can produce an electric current.

3.4 **Generators supply electrical energy:** learn how generators are used in the production of electrical energy.