

# Lesson Plan

Grade: Four

Subject: Science

Term: 2<sup>nd</sup>

Time: 40min

Teacher's Name: \_\_\_\_\_

Week: 1

Day: 1

Chap 4: Matter and Its Characteristics

Topic: Matter, States of Matter and Its Characteristics

## Students Learning Outcomes

At the end of this period, the students will be able to:

- Describe matter and its states (solid, liquid, gas).

## Resource Materials:

Chalk/marker, white/blackboard, Worksheet, Science Textbook

## Warm-up Activities

5mins

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What is a matter? Wait for their responses. Appreciate them for their correct answer.

## Teaching and Learning Activities:

25mins

- Write down the topic name 'Matter' on board.
- Tell students they are going to learn about matter.
- Tell them, we see different things around us such as trees, plants, animals, books, water, machines etc. These things have weight or mass and occupy space. All these things are made up of a substance called matter. Tell the student, matter is composed of tiny particles called atoms. These atoms combine to form molecules. On the basis of the arrangement of atoms, matter is divided into three states.
- Solid
- Liquid
- Gas
- Tell the student about solid. "Anything that has a fixed volume and fixed shape is known as a solid". Solid cannot change their shape or size on their own and cannot flow because the particles of solid are closely packed.
- For example; Chair has permanent fixed shape and volume. Similarly, book, work, car, mirror, laptop, have fixed shape and volume.
- Ask students to look in your surroundings and write the names of some solids.

## Review:

3mins

Explain the main points about matter.

## Evaluation:

5mins

To evaluate the understanding of students, ask them:

- What is a matter?
- Name the three states of matter.
- Give some examples of solid.



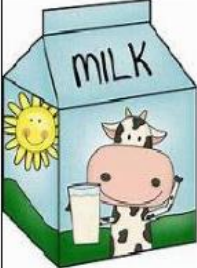



**Homework:****2mins**

Write the answer of Q3 (i) of Exercise in them solve the given notebooks. And solve the given worksheet.

# Worksheet

## States of Matters

Matter has three states Solid Liquid and Gas. Write what state of matter each item is below

 <p>pen</p>	 <p>air inside of a balloon.</p>	 <p>milk inside a carton</p>
 <p>jar</p>	 <p>smoke</p>	 <p>rain</p>

# Lesson Plan

Grade: Four

Subject: Science

Term: 2<sup>nd</sup>

Time: 40min

Teacher's Name: \_\_\_\_\_

Week: 1

Day: 2

Chap 4: Matter and Its Characteristics

Topic: States of Matter and Its Characteristics

## Students Learning Outcomes

At the end of this period, the students will be able to:

- Describe characteristics of each state of matter with examples.

## Resource Materials:

Chalk/marker, white/blackboard, Science Textbook, Worksheet

## Warm-up Activities

5mins

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What is matter? What are states of matter? Wait for their responses and appreciate them for correct answer.

## Teaching and Learning Activities:

25mins

- Write down the topic name 'Characteristics of states of matter' on board.
- Tell students today we will learn about the states of matter, gas and liquid. Tell the students first about liquid.
- A liquid is a type of matter with specific properties that makes it less rigid than a solid. A liquid is bit more rigid than a gas.
- A liquid can flow and does not have a specific shape like a solid. Liquid has a fixed volume.
- The particles in liquid are not closely packed, as in solids. Tell them, a liquid takes the shape of the container in which it is poured.
- Water, milk, oil, petrol, juices and blood are some examples of liquid.
- Now tell the students about "gas". Gas is the state of matter that has neither definite shape nor volume. Air perfume, smoke and steam are few examples of gases.
- The particles in a gas are very far apart from each other so, they spread throughout the available space.
- Ask students to open their textbooks and solve activity.

## Review:

3mins

Explain the main points about characteristics of matter.

## Evaluation:

5mins

To evaluate the understanding of students, ask them:

- Why solids have definite shape?
- What are the characteristics of liquids?
- What are the characteristics of gas?

## Homework:

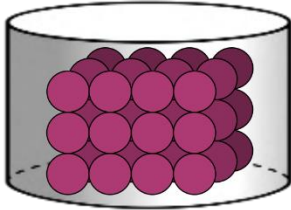
2mins

Ask students to learn the topic. Write the answer of Q3 (ii) of Exercise in their notebooks and solve the given worksheet.

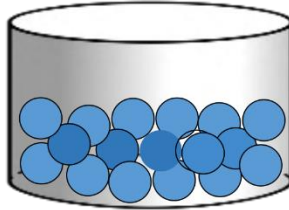
# Worksheet

## ➤ States of Matter

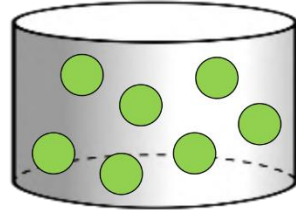
Write solid, liquid, and gas on the lines.



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

Label each picture solid, liquid, or gas.



\_\_\_\_\_



\_\_\_\_\_



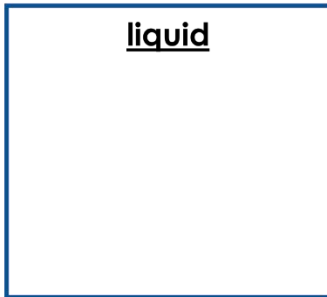
\_\_\_\_\_

Draw one example of each state of matter.

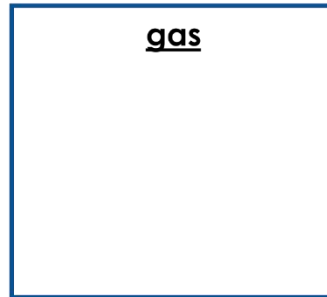
solid



liquid



gas



# Lesson Plan

<b>Grade:</b> Four	<b>Subject:</b> Science	<b>Term:</b> 2 <sup>nd</sup>	<b>Time:</b> 40min
<b>Teacher's Name:</b> _____		<b>Week:</b> 1	<b>Day:</b> 3
<b>Chap 4:</b> Matter and Its Characteristics		<b>Topic:</b> Classification of Objects on the Basis of Physical Properties	

## Students Learning Outcomes

**At the end of this period, the students will be able to:**

- Compare and sort objects and materials on the basis of physical properties (e.g., mass, volume states of matter, ability to conduct heat or electricity, ability to float or sink in water).

## Resource Materials:

Chalk/marker, white/blackboard, Worksheet, Science Textbook

## Warm-up Activities

**5mins**

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What are characteristics of different states of matter? Wait for their responses.

## Teaching and Learning Activities:

**25mins**

- Write the topic name 'Physical properties as a Basis of Classification Matter' on the board.
- Tell students today we will learn about some physical properties of matter.
- Physical properties are the properties that we can observe physically without changing their chemical composition.
- Physical properties include mass, volume, density and conductivity etc.
- Let us have a look at these properties:
- **Mass:** Mass is a quantity of matter in an object. Various things have different mass. It can be measured using a weighing balance. It is measured in grams and kilograms. If you have a bag and a bottle: which one of these have greater mass. Bag will have greater mass.
- **Volume:** Volume is the space that is occupied by an object. Solids occupy less spaces than liquids and gases. Volume is measure in cm<sup>3</sup>. A bat occupies more volume than a ball. In case of liquids, liquids tend to occupy all the space of container in which they are present. Water in glass has less volume than water in a tub.
- Ask the students to take two containers. In one container add two stones and, in another container, add small amount of water. Which one will have greater mass and which will have greater volume? Let them respond. Ask the students to solve the activity.

## Review:

**3mins**

Explain the main points about physical properties.

## Evaluation:

**5mins**

To evaluate the understanding of students, ask them:

- What are physical properties?
- Define volume.
- Which one of the following has greater volume water or ice cube?

**Homework:**

**2mins**

Ask students to learn the topic.



# Lesson Plan

<b>Grade:</b> Four	<b>Subject:</b> Science	<b>Term:</b> 2 <sup>nd</sup>	<b>Time:</b> 40min
<b>Teacher's Name:</b> _____		<b>Week:</b> 1	<b>Day:</b> 4
<b>Chap 4:</b> Matter and Its Characteristics		<b>Topic:</b> Arrangement of Particles or Molecules in Solid, Liquids, Gases	

## Students Learning Outcomes

**At the end of this period, the students will be able to:**

- Compare and sort objects and materials on the basis of physical properties (e.g., mass, volume states of matter, ability to conduct heat or electricity, ability to float or sink in water).

## Resource Materials:

Chalk/marker, white/blackboard, Flashcards, Science Textbook

## Warm-up Activities

**5mins**

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What are physical properties of matter? Define mass and volume. Wait for their responses.

## Teaching and Learning Activities:

**25mins**

- Write down 'Particle arrangements in states of matter' on board.
- Tell the students that we are going to learn about arrangement of particles in solids, liquids and gases.
- The particles in solids are so close to each other that they cannot move apart. That's why they cannot flow. These particles have strong force of attraction which is called cohesion.
- The particles in solids only vibrate at a fixed point. It cannot be easily compressed.
- Chair, table, glass are some examples of solids.
- Draw particle arrangement of solid on board and explain it to students.
- The particles in liquids are not close enough. They have spaces between them. So, they can move but can't leave their container.
- Liquids have weak forces of attraction among particles. That's why they can leave their place and move from one point to another. Liquids move from higher place to lower place.
- Tell them water, coke, oils are liquids.
- Draw particle arrangement of liquid and solid on board and tell students the difference between them.
- The particles in gases are far apart. They have weak forces of attraction among them so they can move freely in any direction. Gases have no definite shape and volume.

- Draw arrangement particles of a gas on the board. Explain to students about arrangement of these particles.
- Tell them air is present all around us. It is a mixture of gases.
- Ask them to give a few other examples of gases. Let them respond.
- Tell them to collect different objects from surroundings. Take a chart paper and draw a table on it. Sort objects on basis of mass, volume and states of matter by pasting pictures in respective groups on chart paper. Present it to the class.

**Review:** **3mins**

Explain the main points about particle arrangement in solid liquids and gases.

**Evaluation:** **5mins**

To evaluate the understanding of students, ask them:

- How particles are arranged in solids?
- State the arrangement of particles in liquids.
- How particles are arranged in gases?

**Homework:** **2mins**

Ask students to solve the given worksheet, and ask them to write Q4 (i) of Exercise in their notebooks.

# Worksheet

➤ Draw the arrangement of particles in following objects.



# Lesson Plan

**Grade:** Four

**Subject:** Science

**Term:** 2<sup>nd</sup>

**Time:** 40min

**Teacher's Name:** \_\_\_\_\_

**Week:** 1

**Day:** 5

**Chap 4:** Matter and Its Characteristics

**Topic:** Ability to Conduct Heat or Electricity

## Students Learning Outcomes

**At the end of this period, the students will be able to:**

- Compare and sort objects and materials on the basis of physical properties (e.g., mass, volume states of matter, ability to conduct heat or electricity, ability to float or sink in water).

## Resource Materials:

Chalk/marker, white/blackboard, Science Textbook, Worksheet

## Warm-up Activities

**5mins**

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: How different states of matter differ in particle arrangements? Wait for their responses.

## Teaching and Learning Activities:

**25mins**

- Write down the topic name 'Ability to conduct heat and electricity' on board.
- Tell the students today they will learn about the ability to conduct heat and electricity of matter.
- Conductivity is defined as the ability of the material to pass heat and electricity through it. The materials that allow heat and electricity to pass through them are called conductors. Our body is a great conductor due to which we get electric shocks. Copper wires are used because copper is good conductor of electricity.
- The materials which do not pass heat and electricity through them are called insulators. While cooking it is advised to use wooden spoons instead of some steel or iron spoons. It is because wood is an insulator and wooden spoon does not get hot. While the iron or steel spoons get hot easily because they are good conductors of heat.
- Now tell the students about "Ability to float or Sink in Water".
- Some objects can float on water and some objects sink.
- The ability of an object to float or sink depends upon its density.
- Density is defined as mass per unit volume of an object.
- If the density of an object is equal to or less than water it will float.
- For example, a leaf, pencil, balloon has less density so they will float on water.
- If the density is greater than water, it will sink.
- Metals have high density so they will sink. A nail will sink in water.

- **“Conduction is defined as the ability of matter to allow heat and electricity to pass through it.”**
- Ask students to note it down on their notebooks. Check their work.
- Ask students to do the activity.

**Review:****3mins**

Explain the main points about ability of matter to conduct heat or electricity and ability to float or sink in water.

**Evaluation:****5mins**

To evaluate the understanding of students, ask them:

- What is conduction?
- Why wooden spoons are more useful than steel or silver spoons?
- Will coin float or sink in water?

**Homework:****2mins**

Ask them to write Q3 (iv, v) of Exercise in their notebooks. And solve the given worksheet.

## Worksheet

**Q1. Enlist the physical properties of matter.**

_____	_____	_____
_____	_____	_____
_____	_____	_____

**Q2. Write the names of units of mass and volume.**

Mass	Volume

**Q3. Think and Tell:**

\_\_\_\_\_ is the ability of an object to let the electric current and heat pass, through them.

Example: \_\_\_\_\_