

Sanai School System

Sargodha

LESSON PLAN

Month: November

Date: 6th Nov to 13th Nov

Teacher's name: Maryam

Subject: Science	Topic: Matter and Characteristics
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Date	Class	Single/Double Period
November,2021	6	Double (2)
November,2021	6	Double (2)
November,2021	6	Double (2)

SUB TOPIC:

- Characteristics of states of matter
- Changes of states
- Matter and its forms

LEARNING OBJECTIVES: Students should be able to:-

- Describe matter and its states
- Describe characteristics of each matter
- Compare objects on the basis of physical properties

KEY WORDS:

- Particles
- Vibrate
- Mass
- Container

RESOURCE / TEACHING AIDS:

Textbook, video, worksheets

Date of submission: 31st Nov, 2021.**Coordinator sign: _____****Date of return: _____****Principal signature: _____**

DURATION (IN MINUTES)

STUDENTS AND TEACHER ACTIVITIES

(double lessons) DAY :1

5 min

Starter: Learners will be asked about the characteristics of solids, liquids and gases. They will share their knowledge about the topic.

Lesson Sequence: Learners will do an activity which will give them the concept of how particles are arranged in three states of matter. They will be explained that solids are made up of particles that are so tightly packed together that they cannot move about freely, like people in a very crowded room. Because the particles are stuck in one place, the shape of a solid usually stays the same. Ask the students to stand as if in a crowded room where nobody can move.

Ask the students to imagine that there are fewer people in that room and people can walk around comfortably. In the same way, in liquids the particles are less tightly packed together, so they can move around more. Finally, ask the students to imagine that they are out in the playground and can move around freely because they have plenty of space.

25 min

They will be asked to do written work in their notebooks.

CLASSWORK:

Q: State whether the statements are true or false. Rewrite the wrong statements correctly.

20 min

1. Particles in a gas are packed tightly together. **F (Solid)**
2. The particles in matter are always moving. **T**
3. Particles of gases cannot be squashed easily. **F (can be squashed)**
4. Solids occupy the shape of the container. **F (Liquid)**
5. Particles in orange juice are packed less closely than those in orange ice jelly. **T**
6. Gases have definite shape, mass and volume. **F (Solids)**
7. Particles in solid vibrate because they are packed together. **T**

Plenary: Students will be asked to share their answers. Discussion will be done on their answers.

10 min

HOMEWORK:

The students should draw shapes in their notebooks to represent a solid, a liquid, and a gas; show the arrangement of the particles in each of them.

DURATION (IN MINUTES)	STUDENTS AND TEACHER ACTIVITIES (Double lesson) DAY 2	Grouping (whole class p group of 3/ 4 Individuals etc.)
15 min	Starter: FLIP QUIZ will be taken from the students for the reinforcement of the previous concepts. Lesson Sequence: After the reinforcement, learners will be shown video about the arrangement of particles in solids, liquids and gas. https://www.youtube.com/watch?v=vNvElea-124 After the video, leaners will be asked to squeeze their desks, chair or pencil. They will not be able to do that and they will be told that air is contained inside bubbles, when there is no bubble, air spreads out. So gas and liquid occupy the shape of the container. They will be explained about properties of materials and asked to take out their notebooks and do written work. CLASSWORK: Answer the questions.	
20 min	Q1: Why aerosol sprays are not good for the environment? Ans: Aerosol sprays enable the discharge of volatile organic compounds (VOCs) into the atmosphere. The release facilitates pollution of the environment Q2: Why should we not pour oil down a drain? Ans: You should never pour it down the sink, or directly into drains. Even if you break down the oil with soap and hot water, it can re-solidify once it cools down and cause drain pipes and sewers to get blocked. Q3: Which process can change the shape of the matter? Ans: Heating and cooling.	
25 min	Plenary: Students will be asked to share their answers. Discussion will be done on their answers. HOMEWORK: Q1: Can matter change its shape? Discuss in terms of solids, liquids and gases? Ans: Solid do not change their shape easily. They cannot be squashed easily. However, liquids occupy the shape of the container as the particles are able to slide past each other, gases do not have shape until or unless they are contained within a container. Q2: Do liquids have a fixed shape? Explain your answer. Ans: Liquids do not have a fixed shape but they do have a fixed volume. The particles are very close together. Most of the particles touch each other. The particles can move around.	

DURATION (IN MINUTES)	STUDENTS AND TEACHER ACTIVITIES (Double lesson) DAY 3	Grouping (whole class p group of 3/ 4 Individuals etc.)
5 min	Starter: Reinforcement of previous topic will be done by asking questions. Q1: Why is it a not a good idea to use aerosol sprays? Ans: All aerosol cans can create potentially harmful effects on the environment. The chemicals used inside of them are toxic to the soil, air, and water. Q2: Why is it not a good idea to dispose of all oil drains into lakes or rivers? Ans: Oil and grease do not dissolve in water. They can block drains and form a film on water which can harm marine life in rivers and lakes.	
20 min	Lesson Sequence: After the reinforcement, learners will be taken to the lab. They will be shown video on the topic of properties of materials. https://www.youtube.com/watch?v=340MmuY_osY They will be asked to read the text. They will be explained that waterproof materials do not soak up water and some materials are good conductors of heat and electricity. They will be asked to take out their notebooks and do written work.	
25 min	Answer the questions. Q1: Differentiate between conductors and insulators. Ans: A conductor allows current to flow easily through it. An Insulator doesn't allow current to flow through it. Q2: State any two properties of materials. Ans: Some materials are hard, some are soft. Some are heavy, some are light. Q3: Can rigid materials be bent easily? Ans: No, rigid materials can't be bent easily.	
10 min	Q4: Differentiate between absorbent and waterproof materials. Ans: Absorbent materials - such as cotton wool - are the opposite of waterproof materials because rather than resisting water, they soak it up very easily. Plenary: Students will be asked to share their answers. Discussion will be done on their answers. HOMEWORK: Revise page number 54 to 56 of textbook.	

Flip Quiz

Q1: Why do we keep gas in sealed metal container?

Q2: How do you think it is possible to squeeze some solids into different shapes?

Q3: Which state of matter is milk?

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LESSON PLAN

Month: November

Date: 14th Nov to 21th Nov

Teacher's name: Maryam

Subject: Science **Topic:** Matter and Characteristics

Date	Class	Single/Double Period
November,2021	6	Double (2)
November,2021	6	Double (2)
November,2021	6	Double (2)

SUB TOPIC:

- Properties of materials
- Metals
- Matter and its forms

LEARNING OBJECTIVES: Students should be able to:-

- Describe properties of metals (appearance, texture, colour and density)
- Identify properties of metals
- Compare objects on the basis of physical properties

KEY WORDS:

- Metals
- Insulators
- Lustrous
- Conductor

RESOURCE / TEACHING AIDS:

Textbook, video, worksheets

Date of submission: 31st November, 2021.

Coordinator sign: _____

Date of return: _____

Principal signature: _____

DURATION (IN MINUTES)

STUDENTS AND TEACHER ACTIVITIES

(double lessons) DAY :1

Starter: Reinforcement of previous topic will be done by asking questions.

Q1: Name some materials which are not easy to bend?

Ans: Mostly solids are not easy to bend. Examples are: table, metals, glass etc

Q2: Why is it a not a good idea to use aerosol sprays?

Ans: All aerosol cans can create potentially harmful effects on the environment. The chemicals used inside of them are toxic to the soil, air, and water.

Lesson Sequence:

Learners will be given 20 minutes to revise the concepts for the assessment. They will take out their notebooks. Assessment questions will be written on the board. They will be asked to prepare their notebooks.

Assessment Questions.

Q1: Differentiate between freezing and melting. /2

Ans: Melting is the reverse of freezing. In melting, solid is change to liquid. In freezing, liquid changes to solid.

Q2: Draw a picture of particles of air inside a room. /1

Q3: Draw the same number of particles of air inside a cylinder. /1

Q4: Which of these statements describes a solid, a liquid or a gas? /4

a Takes on the shape of the container. **liquid**

b Spreads out in all directions. **gas**

c Is often colourless. **gas**

d Cannot be squashed. **Solid**

HOMEWORK: Do reading of the topic: “Properties of Materials.’

DURATION (IN MINUTES)	STUDENTS AND TEACHER ACTIVITIES (Single lesson) DAY 2	Grouping (whole class p group of 3/ 4 Individuals etc.)
10 min	Starter: Flip Quiz will be given to students to reinforce their previous concepts.	
15min	Lesson Sequence: After the reinforcement, they will be asked to read the text. They will observe different metals around them in their surroundings. They will be explained that different metals have different textures. Some are expensive and rare.	
5 min	Plenary: Questions will be asked from the students for wrap-up. Q1: How are metals obtained? Ans: Metals are obtained from the rocks called ores. They are in pure form, sometimes they are extracted through refining process. Q2: What do you know about mercury? Ans: Mercury is a metal in liquid form. It is used in thermometers. It is toxic and can poison people.	
	HOMEWORK: Solve concept check on page number 58.	

DURATION (IN MINUTES)

STUDENTS AND TEACHER ACTIVITIES

(double lessons) DAY :3

5 min

Starter: Reinforcement of previous topic will be done by asking questions.

Q1: How are metals obtained?

Ans: Metals are obtained from the rocks called ores. They are in pure form, sometimes they are extracted through refining process.

Q2: What do you know about mercury?

Ans: Mercury is a metal in liquid form. It is used in thermometers. It is toxic and can poison people.

Lesson Sequence: learners will be shown video about the physical and chemical changes.

<https://www.youtube.com/watch?v=BgM3e8YZxuc>

25 min

They will be explained about the differences between physical and chemical changes with the help of examples. They will be told about the metals which are good conductors of heat and electricity. They will be asked to do written work in their notebooks.

CLASSWORK:

Q: State whether the statements are true or false. Rewrite the wrong statements correctly.

20 min

1. Gold is slightly reddish yellow in colour. **T**
2. Wood is a good conductor of heat and electricity. **F (bad)**
3. Metals are obtained from rocks called ores. **T**
4. Wooden block is the example of flexible material. **F (rigid)**
5. Metals are shiny when cut, scratched or polished. **T**
6. Gold is dense and hard metal. **F (soft)**
7. A litre of water is more when it is inside a 5 litre container. **F (same)**

10 min

Plenary: Students will be asked to share their answers. Discussion will be done on their answers.

HOMEWORK:

Reading page number 59 and 60.

Flip Quiz

Q1: Name a metal that is rare.

Q2: Which type of matter has a fixed shape and a fixed volume?

Q3: What happens if the gas cylinder is opened?

Flip Quiz

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Flip Quiz

Q1: Name a metal that is rare.

Q2: Which type of matter has a fixed shape and a fixed volume?

Q3: What happens if the gas cylinder is opened?

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LESSON PLAN

Month: November

Date: 24th Nov to 1st Dec

Teacher's name: Maryam

Subject: Science

Topic: Matter and Characteristics

Date	Class	Single/Double Period
November,2023	4	Double (2)
November,2023	4	Double (2)
November 2023	4	Double (2)

SUB TOPIC:

- Colours of Metals
- Conductors of Heat and Electricity

LEARNING OBJECTIVES: Students should be able to:-

- Describe that different metals have different colours
- Know that some metals allow electricity to pass.
- Compare objects on the basis of physical properties

KEY WORDS:

- Conductor
- Insulator
- Sinking
- Aluminium

RESOURCE / TEACHING AIDS:

Textbook, video, worksheets

Date of submission:

Coordinator sign_____

Date of return: _____

Principal signature: _____

DURATION (IN MINUTES)	STUDENTS AND TEACHER ACTIVITIES (Double lesson) DAY 1	Grouping (whole class p group of 3/ 4 Individuals etc.)
15 min	Starter: Entrance slips will be given to the students for reinforcement. Lesson Sequence: After the reinforcement, learners will be shown video about the density. They will be explained about properties of materials and floating and sinking of metals depends on their densities. They will be asked to take out their notebooks and do written work.	
20 min	CLASSWORK: Answer the questions. Q1. Physical or chemical change? Write P for physical change and C for chemical change.	
20 min	a. baking bread b. digestion of food c. ice cream melting d. paper burning e. mixing sugar in water Q2: Define density. Ans: The density is the amount of mass per unit of volume. If an object is heavy and compact, it has a high density. Q3: Is the density of metals more than other materials. Ans: Yes, metals are denser than other materials.	
5 min	Plenary: Students will be asked to share their answers. Discussion will be done on their answers. HOMEWORK: Q1: What are some of the properties of aluminium? Ans: It has low density, is non-toxic, has a high thermal conductivity, has excellent corrosion resistance and can be easily cast, machined and formed. It is also non-magnetic. Q2: Give two examples of insulators and conductors each. Ans: Conductors: Copper, aluminum, and iron. Insulators: Wood, water and air.	

DURATION (IN MINUTES)	STUDENTS AND TEACHER ACTIVITIES (Single lesson) DAY 2	Grouping (whole class p group of 3/ 4 Individuals etc.)
5 min	Starter: Reinforcement of previous topic will be done by asking questions from the students. Q1: Define density. Ans: The density is the amount of mass per unit of volume. If an object is heavy and compact, it has a high density. Q2: Is the density of metals more than other materials. Ans: Yes, metals are denser than other materials. Lesson Sequence: After the reinforcement, learners will be asked to take out their books, do thorough reading of all the concepts and they ask questions if they have any confusion. They will be asked to do exercise questions.	
20 min	Classwork: Do exercise questions (Q1, Q2, Q3 and Q4) of the textbook. Plenary: Students will be asked to share their answers. Discussion will be done on their answers.	
5 min	HOMEWORK: Do revision of the topic: ‘Matter and its Characteristics.’	

DURATION (IN MINUTES)	STUDENTS AND TEACHER ACTIVITIES (Single lesson) DAY 3	Grouping (whole class p group of 3/ 4 Individuals etc.)
5 min	Starter: Reinforcement of previous topic will be done by asking questions from the students. Q1: Define density. Ans: The density is the amount of mass per unit of volume. If an object is heavy and compact, it has a high density. Q2: Is the density of metals more than other materials. Ans: Yes, metals are denser than other materials. Lesson Sequence: Learners will be given 20 minutes to revise the concepts for the assessment. They will take out their notebooks. Assessment questions will be written on the board. They will be asked to prepare their notebooks. Assessment Questions.	
20 min	Q1: Differentiate between mass and volume. /2 Ans: Mass is the amount of matter in an object. Volume is the amount of space an object occupies. Q2: “Metals are lustrous” what does it mean? /2 Ans: It means metals are shiny and reflect light. Metals look shiny when they are cut, scratched, or polished, like gold, silver, or copper. Q3: Draw and label a diagram showing evaporation (liquid to gas) and condensation (gas to liquid) using arrows. /3 Q4: When you heat soup on the stove, what changes of matter can you observe? Explain briefly. /3 Ans: When we heat soup on the stove, some of the liquid changes into water vapour. This is called evaporation. The heat makes the water turn into gas, and we can see it as steam rising from the soup.	
5 min	Plenary: Students will be asked to share their answers. Discussion will be done on their answers. HOMEWORK: Do reading of topic: Forms of Energy	

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