4

Lesson Exemplar for Science

Quarter 1
Lesson
4

Lesson Exemplar for Science 4
Quarter 1: Lesson 4 (Week 4)
S.Y. 2024-2025

Development Team

Writer:
- Dr. Berhana I. Flores (Western Mindanao State University)

Validator:
- PNU RITQ Development Team

Management Team

Philippine Normal University
Research Institute for Teacher Quality
SiMERR National Research Centre

SCIENCE (CHEMISTRY) / QUARTER 1 / GRADE 4

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	The learners learn that: 1. Chemical properties of materials determine their uses.
B. Performance Standards	By the end of the Quarter, learners describe chemical properties of materials and changes to them. They demonstrate an understanding that science processes can solve everyday problems and use creativity and determination to provide examples. They exhibit objectivity and open-mindedness in gathering information related to environmental issues and concerns in the community
C. Learning Competencies and Objectives	***Learning Competencies*** **1.** *describe changes in properties of materials when exposed to certain changes in temperature, such as changes when wood or coal is burned;* ***Learning objectives:*** *a. Describe changes in matter that involved physical change and chemical change* *b. Investigate to show how changes in properties of materials occur when exposed to very high or very low temperatures.* *c. Cite situations wherein phase change is beneficial.*
D. Content	Materials and their uses
E. Integration	● Creativity and innovation ● Environmental awareness (Environmental Literacy) ● Collaboration

II. LEARNING RESOURCES
Delos Reyes, R. L. (2022). Science Links. Quezon City: REX Publication. Campbell, C., & Tytler, R. (2007). Views of student learning. In V. Dawson & G. Venville (Eds.), The Art of Teaching Primary Science (pp. 23-41). Australia: Griffin Press.

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**DAY 1 and 2** **SHORT REVIEW** The students will recall their prior knowledge of the characteristics of the three states of matter - solid, liquid, and gas **Instructions**: ● Let the students complete the table below by describing the characteristics of solids, liquids, and gases. ● Let the students give examples for each state.	The teacher may emphasize the following: ● Solids hold their shape. They do not flow and do not take the shape of their containers. Examples of solids are paper, coins, books, and pencils. ● Liquids are objects that flow. They take the shape of the containers that hold them and fill the container starting from the bottom. They do not float, and they can be held in a container even with an open lid. Examples of liquids are water, oil, and alcohol. ● Gases take the shape of their containers. When placed in a container with an open lid, gas particles will go out or escape the container. Gases are usually light and can float around in space. Many gases cannot be seen. The air that we breathe is an example of a gas.

States of Matter	Characteristics	Examples
Solid		
Liquid		
Gas		

B. Establishing Lesson Purpose	**1. Lesson Purpose** *The teacher may say:* Matter undergoes various changes when exposed to changes in temperature, which can be classified as either physical or chemical. In the next phase of the lesson, you will be able to know and understand how these changes in matter happened. It could be a change in its internal structure or physical appearance. It may also result in the formation of new materials when they are mixed. **2. Unlocking Content Area Vocabulary** *Unscramble Word Game* ● Introduce to the class the concept of unscramble word game. ● Present the unscrambled words to the class and ask the students to re-arrange the letters to create a word corresponding to the word given by the teacher. Meaning: It is to make or become different. Unscrambled word #1: **EGNAHC** Answer: **CHANGE** Meaning: It is a measure of how hot or cold something is. Unscrambled word #2: **TURETEMAREP** Answer: **TEMPERATURE** Meaning: It is a type of food with a limited shelf life if it's not refrigerated. Unscrambled word #3: **ELBAHSIREP** Answer: **PERISHABLE** Meaning: It is a process in which one or more substances, the reactants, are converted to one or more different substances, the products. Unscrambled word #3: **IONTCAER LACIMEHC**	The teacher will post scrambled words on the board. The teacher will give the meaning of the word then the students will arrange the letters to form the word.

	Answer: **CHEMICAL REACTION** Meaning: It is the chemical reaction that occurs between substances when materials burn. Unscrambled word #3: **NOIBUSTMOC** Answer: **COMBUSTION**	
C. Developing and Deepening Understanding	**SUB-TOPIC 1: "Physical Change"** **1. Explicitation** ● Introduce to the students the concept of physical change in matter, explaining that one of the changes that can happen in matter is a state change. A solid object can turn into a liquid or a gas. A liquid can turn into a solid or a gas. Last, gases can turn into liquids or solids. When exposed to very high or very low temperatures, these changes happen to materials. ● To enhance understanding, conduct a simple demonstration. Demonstrate to the students how a certain material like ice can easily melt into water when exposed to high temperatures. Begin the demonstration by placing a few ice cubes into the pot or kettle. Ask the students to observe and describe the ice cubes. Discuss their properties as a solid (e.g., cold, rigid). Then, heat the pot on the stove or hot plate, allowing the ice cubes to melt into liquid water. Encourage students to observe the changes in the ice cubes as they melt and discuss the process of **melting**. ● The teacher may ask the following questions during the sharing: 1. *What is the current state of the ice cubes?* 2. *Can you describe the properties of the ice cubes? (e.g., solid, cold to touch)* 3. *What changes do you observe as the ice cubes are heated?* 4. *What is happening to the ice cubes as they start to melt?* 5. *Can you describe any changes in the appearance or texture of the ice cubes?*	While the ice is melting, discuss with the students what is happening. Explain that as the temperature increases, the ice absorbs heat energy from its surroundings, causing its molecules to gain energy and move more freely, thus changing from a solid to a liquid. Summarize the demonstration by emphasizing that the same substance, water, can exist in different states of matter depending on the temperature. Reiterate that this is applicable not just to water but to many other substances as well.

	2. Worked Example **What is Melting?** *In the demonstration, the ice cubes melted when exposed to high temperatures and turned into liquid (water).* ***Melting*** *is a process where a solid turns into a liquid when it gets warm enough. When something melts, it becomes soft and turns into a liquid. For example, when ice cream melts, it becomes liquid instead of being hard like ice.* ***Examples of Melting:*** ***Ice Melting****: One common example of melting is when ice cubes are left outside on a warm day. As the sun shines on them or the temperature gets warmer, the ice cubes start to melt and turn into water.* ***Chocolate Melting****: Another example is when you heat chocolate in a microwave or over a stove. The solid chocolate turns into a liquid, making it easier to spread or use for making desserts like chocolate-covered strawberries.* ***Candle Wax Melting:*** *When you light a candle, the heat from the flame melts the wax. The melted wax then drips down the candle, creating a pool of liquid wax that fuels the flame.* **Real-Life Applications/Uses:** ***Cooking:*** *Melting is used in cooking to transform solid ingredients into liquids. For example, butter is melted before adding it to cake batter or melted cheese is used as a topping for nachos.* ***Making Popsicles:*** *Melting is involved in making popsicles. You pour liquid juice or flavored water into molds and then freeze them. When you take them out of the freezer and let them sit, the popsicles start to melt, turning back into liquid.* ***Recycling:*** *Melting is used to recycle metals like aluminum and steel. Scrap metal is melted down at high temperatures to make new products, like aluminum cans or steel beams, instead of throwing it away.* ***Art and Crafts:*** *Melting can be used in art and crafts projects. For example, crayons can be melted and poured into molds to make new crayons with different shapes or colors.*	The teacher may emphasize that: Understanding melting helps us understand how things change from solid to liquid when they get warm. This process is useful in our daily lives, whether we're cooking, playing, or even recycling!

	What is evaporation? *In the demonstration earlier, if the melted ice cubes, which have turned into liquid, are continually exposed to high temperatures, the liquid will eventually turn into gas.* ***Evaporation*** *is when the liquid turns into a gas. This happens when the liquid gets warm enough, and its molecules move so fast that they escape into the air as vapor. You can think of it like tiny invisible water particles flying away from a puddle, a cup of water, or even wet clothes when they're left out to dry.* **Examples of Evaporation:** ***Drying Clothes:*** *After washing your clothes, you hang them outside to dry. As the sun shines on them and the air around them gets warm, the water on the clothes evaporates, and they become dry.* ***Puddles Disappearing:*** *After it rains, you might notice that puddles on the ground disappear even if it's not sunny. This happens because the water in the puddles slowly evaporates into the air.* ***Steam from Boiling Water****: When you heat water on a stove to make tea or cook pasta, steam rises from the pot. This steam is water vapor, formed because the water is evaporating.* **Real-Life Applications/Uses:** ***Swimming Pool Evaporation****: Have you ever noticed that a swimming pool gets lower over time, even if nobody takes water out? This is because water evaporates from the surface of the pool, especially on hot days. That's why sometimes we need to add more water to keep the pool full.* ***Drying Wet Surfaces:*** *If you spill water on the kitchen counter or the bathroom floor, you can wipe it up with a towel. But what happens if you leave it there? Eventually, the water evaporates, and the surface becomes dry again.* ***Water Cycle****: Evaporation is a crucial part of the water cycle. When the sun heats up bodies of water like oceans, rivers, and lakes, water evaporates into the air. This water vapor rises, cools down, and forms clouds. Later, when the clouds get heavy with water, it falls back to the ground as rain, snow, or hail.*	Understanding evaporation helps us know how water moves from one place to another, changes form, and even helps make some of the things we use every day!

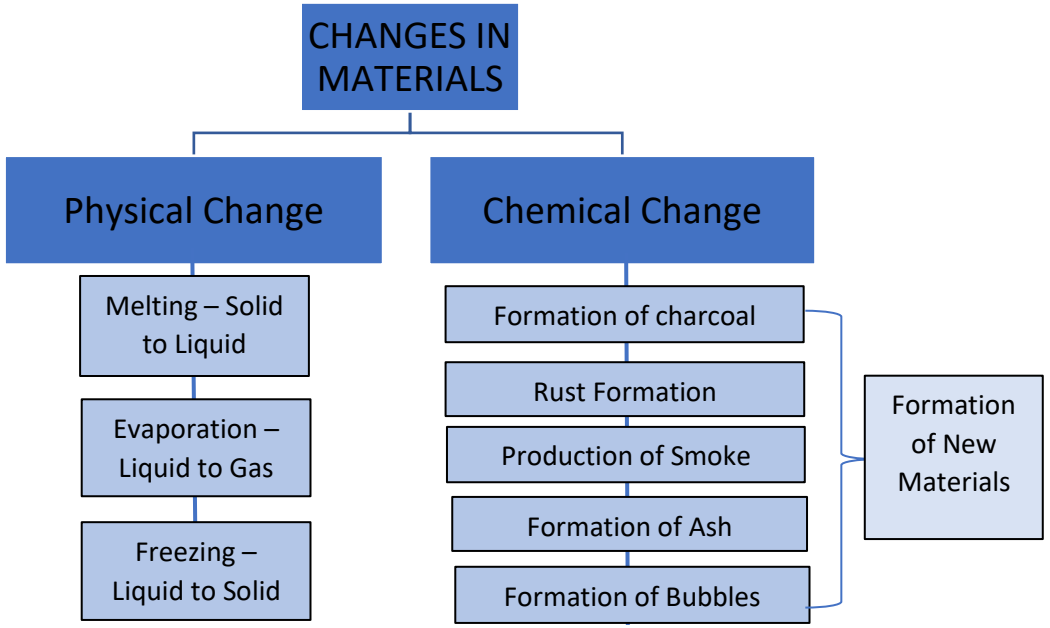
	Making Salt: *Ever heard of sea salt? It's made by evaporating seawater. When seawater is left out in the sun, the water evaporates, leaving behind salt crystals. These crystals are collected and cleaned to make the salt we use in cooking.* **What is Freezing?** ***Freezing*** *occurs when a liquid turns into a solid when it gets cold enough. Imagine water turning into ice when it's left in the freezer or outside on a cold winter day. The cold slows down the molecules in the liquid, making them stick together and form a solid.* **Examples of Freezing:** ***Making Ice Cubes:*** *One common example of freezing is making ice cubes. You pour water into an ice cube tray and put it in the freezer. The water freezes and turns into solid ice cubes as the water gets cold.* ***Freezing Popsicles:*** *When you make popsicles at home, you pour juice or flavored water into molds and put them in the freezer. Over time, the liquid freezes, turning into tasty frozen treats.* ***Ice Cream:*** *Have you ever seen an ice cream machine at an ice cream shop? It works by freezing a mixture of cream, sugar, and flavors while stirring it. This makes creamy ice cream that you can enjoy on a hot day.* **Real-Life Applications/Uses:** ***Preserving Food:*** *Freezing is a great way to keep food fresh for longer. You can freeze fruits, vegetables, meat, and leftovers to prevent them from spoiling. This way, you can enjoy your favorite foods even if you can't eat them right away.* ***Keeping Cool:*** *Ice and frozen treats are perfect for keeping cool on a hot day. Whether you're drinking a cold glass of lemonade with ice cubes or enjoying a frozen dessert like ice cream or popsicles, freezing helps us stay refreshed when it's hot outside.* ***Transporting Perishable Goods:*** *In places where it's hard to keep food fresh, like during long journeys or in remote areas, freezing is used to preserve perishable*	Understanding freezing helps us know how liquids can change into solids when they get cold, and it's useful for keeping food fresh, staying cool, and making tasty treats!

	goods. Foods like meat, fish, and vegetables are frozen before being transported to keep them from spoiling. ***Making Frozen Treats:*** *Freezing is essential for making all kinds of delicious frozen treats, such as ice cream, sorbet, frozen yogurt, and gelato. These treats are enjoyed by people all over the world, especially on hot summer days.* **3. Lesson Activity** ● Divide the class into five (5) groups. Each member of every group will decide on the specific role that they will play within their group (*Team Jobs*). Along with each role are color-coded visors with their corresponding meaning (Manager-Red; Speaker-Blue; Director-Green; Reports Coordinator-Yellow). ● Provide each group with a copy of the activity titled **"Changing State of Water"** Remind the teammates of their roles. ● Students perform the activity as directed and answer the questions provided in the worksheet. ● Ask the students to present their output in class. Discuss the observations with the students. Ask questions like: ● What happened to the ice cubes when placed directly under the sun? ● What do you call this process? ● What happened to the wet handkerchief when placed directly under the sun? ● What do you call this process? ● What happened to the water inside the plastic bag after leaving it in the freezer overnight? ● What do you call this process?	

	DAY 3 **SUB-TOPIC 2: "Chemical Change"** **1. Explicitation** ● Begin by discussing with the students what they think happens when wood burns. Explain that burning is a chemical reaction that occurs when a substance combines with oxygen from the air, releasing heat and producing new substances. ● To enhance understanding, conduct a simple demonstration. Show the students the wood pieces and discuss their properties. Ask them to describe what the wood looks like, feels like, and smells like. Light one end of a wood piece using matches or a lighter. Use metal tongs or a stick to hold the burning wood for safety. Place a metal can or fire-safe container underneath to catch any ashes or embers. ● The teacher may ask the following questions during the sharing: **1.** *What changes do you see when we light the wood on fire?* **2.** *Describe the color of the flames. Are they the same throughout the burning process?* **3.** *Do you notice any smoke? What do you think is causing it?* **4.** *How does the wood change as it burns? Does it look or feel different?* **5.** *What do you see left behind after the wood has burned completely?* **6.** *Can you describe the ashes? What do you think they are made of?* **7.** *Based on what you observed, do you think burning wood is a chemical change or a physical change? Why?* **8.** *What do you think happens to the wood molecules during the burning process?* **9.** *Can you name any other examples of chemical changes that you have seen or heard about?*	The teacher may emphasize the following concepts during the discussion. ● Reinforce the difference between chemical changes, where new substances are formed, and physical changes, where the substance remains the same but its appearance may alter. ● Discuss examples of physical changes, such as melting ice or tearing paper, and compare them with the chemical change observed during the burning of wood. ● Emphasize the products of combustion when wood burns: carbon dioxide, water vapor, and ashes. ● Discuss the importance of oxygen in the burning process and its role in the chemical reaction between wood and air. ● Highlight the environmental impact of burning wood and other materials. Discuss how combustion releases carbon dioxide, a greenhouse gas, into the atmosphere, contributing to climate change.

	2. Worked Example **Toasting Bread:** When bread is toasted, it undergoes a chemical change. The heat causes the bread to turn golden brown and crispy. Explain that the high temperature of the toaster or oven changes the bread's color and texture, creating new flavors. **Roasting Marshmallows:** When marshmallows are roasted over a campfire, they undergo a chemical change. The heat makes them melt and turn brown on the outside. Describe how the heat from the fire transforms the marshmallow's texture and taste, making it gooey and delicious. **Baking Cookies:** When cookie dough is placed in the oven, it undergoes a chemical change. The heat causes the dough to rise and turn into cookies. Discuss how the high temperature of the oven changes the dough's composition, turning it into a tasty treat. **Caramelizing Sugar:** When sugar is heated in a pan, it undergoes a chemical change called caramelization. The sugar melts and turns into a golden-brown liquid with a rich flavor. Describe how the sugar changes color and taste as it is heated, creating a sweet caramel sauce for desserts like caramel apples or caramel popcorn.	• Encourage students to think about ways to reduce their carbon footprint and minimize the need for burning wood and fossil fuels. The Teacher may emphasize the following concepts during discussion: **Benefits of Chemical Changes:** **Cooking Food:** Chemical changes occur when we cook food, turning raw ingredients into tasty meals. For example, when we bake cookies or grill burgers, the heat causes chemical reactions that make the food taste delicious and safe to eat. **Making New Materials:** Chemical changes help us create new materials with useful properties. For instance, baking soda and vinegar react to produce carbon dioxide gas, which makes baked goods rise and become fluffy. **Producing Energy:** Chemical changes are essential for producing energy. When we burn wood or fossil fuels like coal or natural gas, chemical

	Popcorn Popping: When popcorn kernels are heated on the stove or in a microwave, they undergo a chemical change. The heat causes the moisture inside the kernels to turn into steam, which builds up pressure and eventually makes the kernels pop. Explain how the high temperature transforms the hard kernels into fluffy popcorn, ready to eat as a tasty snack. **Frying an Egg:** When an egg is cracked into a hot frying pan, it undergoes a chemical change. The heat causes the proteins in the egg white and yolk to denature and coagulate, turning from a liquid to a solid. Describe how the egg changes texture and color as it cooks, becoming a delicious breakfast food that can be enjoyed sunny-side up, scrambled, or fried. These examples help demonstrate how high temperatures can lead to chemical changes in different substances, resulting in new materials or products with altered properties. **3. Lesson Activity** ● Divide the class into four (4) groups. Each member of every group will decide on the specific role that they will play within their group (*Team Jobs*). Along with each role are color-coded visors with their corresponding meaning (Manager-Red; Speaker-Blue; Director-Green; Reports Coordinator-Yellow). ● Ask the students to go over Worksheet number 2, titled "*Unveiling Chemical Transformations with Heat*" ● Remind the teammates of their roles. ● Students need to perform the activity as directed and answer the questions provided in the worksheet. ● Allow the students to present their output to the class. After conducting the experiments, discuss with the students their observations. Ask questions like:	reactions release heat and light energy that we use for heating our homes, cooking food, and generating electricity. **Harmful Effects of Chemical Changes:** **Pollution:** Some chemical changes can pollute the air, water, and soil. For example, burning fossil fuels for energy releases pollutants like carbon dioxide and sulfur dioxide, which contribute to climate change and air pollution. **Toxic Substances:** Certain chemical changes can produce toxic substances that harm living things. For instance, when plastic is burned, harmful chemicals are released into the air that can cause health problems if inhaled. **Damage to the Environment:** Chemical changes can cause damage to the environment and ecosystems. For example, chemicals from factories or farms that get into rivers and oceans can harm fish and other aquatic life, disrupting the balance of ecosystems.

	• What happened when the materials were exposed to high temperatures? • Did you observe any color changes or other reactions? • How did the materials behave differently when burnt? • Were there new substances formed? What are these? • How might these reactions be useful in everyday life or science?	
D. Making Generalizations	**DAY 4** **1. Learners' Takeaways** • Ask the students to outline in the graphic organizer what they have learned in the lesson. Utilize the graphic organizer below:  *The students should be able to emphasize the following:*	*Note: This may be done as individual or group work.* Allow the students to demonstrate their learning by creating a graphic organizer. The teacher will provide the BIG WORDS, while the students will provide the rest of the concepts/ideas. Students may also use connecting words as needed.

	Physical Changes: Physical changes are alterations in the appearance or state of a substance without changing its chemical composition. In other words, the substance remains the same at the molecular level before and after the change. Physical changes can involve changes in state (solid, liquid, gas), shape, size, or phase. ● **Melting (Solid to Liquid):** Melting is a physical change in which a solid substance changes into a liquid state when heated to its melting point. During melting, the intermolecular forces holding the particles of the solid together weaken, allowing the particles to move more freely and flow past each other. This results in the solid substance transforming into a liquid while maintaining its chemical composition. Common examples of melting include ice melting into water and wax melting into a liquid state when heated. ● **Evaporation (Liquid to Gas):** Evaporation is a physical change in which a liquid substance changes into a gas state at temperatures below its boiling point. During evaporation, molecules at the surface of the liquid gain enough kinetic energy to overcome the intermolecular forces holding them together and escape into the surrounding space as vapor. This process occurs spontaneously and continues until an equilibrium is reached between the rate of evaporation and the rate of condensation. Common examples of evaporation include water evaporating from puddles, drying clothes on a clothesline, and the gradual disappearance of liquid perfume from a container. ● **Freezing (Liquid to Solid):** Freezing is a physical change in which a liquid substance changes into a solid state when cooled to its freezing point. During freezing, the kinetic energy of the molecules decreases, causing them to slow down and form orderly arrangements known as crystals. As a result, the liquid substance transforms into a solid with a fixed shape and volume while retaining its chemical composition. Common examples of freezing include water freezing	

into ice cubes, liquid wax solidifying into candles, and the solidification of melted chocolate when cooled.

In summary, physical changes involve alterations in the state or appearance of a substance without changing its chemical composition. Melting, evaporation, and freezing are examples of physical changes that occur when substances transition between different states of matter (solid, liquid, gas) due to changes in temperature and energy.

Chemical Changes:
Chemical changes, also known as chemical reactions, involve the transformation of one or more substances into new substances with different chemical properties. Chemical changes can occur due to various factors, including exposure of materials to high temperatures and mixing of different substances. When materials are exposed to high temperatures, the increased energy can break existing chemical bonds and facilitate the formation of new bonds, leading to the creation of new substances.

Evidence of Chemical Change:

1. Formation of Charcoal: When wood is heated to high temperatures in the absence of oxygen, it undergoes a chemical change called carbonization. This process removes the water and other substances from the wood, leaving behind a black, carbon-rich material called charcoal.
Example: Think of when you have a bonfire or grill marshmallows over a campfire. After being exposed to the heat, the wood turns black and becomes charcoal.

2. Formation of Ash: When organic materials, like wood or paper, are burned, they undergo a chemical change called combustion. During combustion, the material reacts with oxygen in the air and breaks down into new substances, including ashes. Ashes are the solid remnants left behind after the burning process.
Example: After you burn a piece of paper or wood, the gray powdery substance that's left behind is the ash. It's what's left over when the material burns up.

3. Rust Formation: Rust forms when iron or iron-containing metals are exposed to oxygen and moisture over time. This exposure causes a chemical reaction called

	oxidation, where iron atoms combine with oxygen atoms to form iron oxide, which appears as reddish-brown rust. *Example:* You might have seen rusty nails or metal objects that have turned reddish-brown after being exposed to air and moisture for a while. This is because the metal has undergone a chemical change and turned into rust. **4. Formation of Bubbles:** Bubbles form when a gas is produced during a chemical reaction. This happens when two or more substances react chemically, producing a gas as one of the products. The gas forms bubbles that rise to the surface. *Example:* When you mix baking soda and vinegar together, bubbles form because a chemical reaction occurs between the two substances, producing carbon dioxide gas. **5. Production of Smoke:** Smoke is produced when materials burn incompletely, leading to the release of tiny particles and gases into the air. It occurs during the combustion of organic materials, such as wood, paper, or fossil fuels. *Example:* When you light a campfire or a candle, smoke rises from the flames. This is because the materials are undergoing combustion, and smoke is produced as a result. **2. Reflection on Learning** ● Distribute paper and pencils or markers to each student. ● Ask the students to draw two large circles on their paper, labeling one circle "Physical Changes" and the other "Chemical Changes." ● Encourage students to think of examples of physical and chemical changes they have observed or learned about. They can write or draw these examples in the appropriate circle. ● Alternatively, provide a list of examples for students to choose from if they need assistance. Reflection Questions: ● Once the students have filled out their circles, lead a discussion about their observations.	

	• Ask questions such as: 1. What examples did you include in each circle? 2. How are physical changes different from chemical changes? 3. Can you think of any examples that show both physical and chemical changes happening together? 4. Why is it important to understand the difference between physical and chemical changes? Sharing and Conclusion: • Give students the opportunity to share their reflections with the class, either by presenting their drawings or discussing their examples. • Summarize the key points of the discussion, emphasizing the importance of understanding physical and chemical changes in our everyday lives. • Encourage students to continue exploring and observing examples of physical and chemical changes both inside and outside the classroom.	

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		**NOTES TO TEACHERS**
A. Evaluating Learning	**1. Formative Assessment** **Direction**: Read each question carefully. Identify the letter of the correct answer. 1. Which of the following is an example of a physical change? A) Burning wood B) Rusting iron C) Melting ice cream D) Baking a cake 2. What happens when you tear a piece of paper into small pieces? A) A chemical change occurs. B) The paper undergoes evaporation. C) The paper undergoes a physical change. D) The paper undergoes sublimation.	Assessment should be carried out throughout the lesson in the form of discussions and written responses to the various activities. **Answer Key:** 1. C 2. C 3. C 4. B 5. A 6. C 7. B

	3. Which of the following is an example of a chemical change? A) Cutting vegetables B) Melting butter C) Mixing baking soda and vinegar D) Freezing water 4. Sarah was cooking scrambled eggs for breakfast. She cracked some eggs into a hot frying pan and stirred them until they were cooked. What type of change did the eggs undergo during cooking? A) Physical change B) Chemical change C) No change occurred D) Both physical and chemical changes 5. Timmy mixed some sugar into his glass of water until it dissolved completely. What type of change occurred when the sugar dissolved in the water? A) Physical change B) Chemical change C) No change occurred D) Both physical and chemical changes 6. Which of the following is an example of a physical change involving a change of state? A) Rust forming on an iron nail B) Paper burning and turning into ashes C) Ice melting into water D) Milk spoiling and curdling 7. Maria was baking cookies in the oven. As the cookies were baked, they turned golden brown and became firm. What type of change occurred to the cookies during baking? A) Physical change B) Chemical change C) No change occurred D) Both physical and chemical changes	8. A 9. B 10. B

8. Alex lit a candle and observed as the wax melted and formed a pool of liquid around the wick. What type of change occurred to the wax during burning?

A) Physical change
B) Chemical change
C) No change occurred
D) Both physical and chemical changes

These multiple-choice test items cover various aspects of physical and chemical changes, including examples and situational problems to assess understanding.

9. Jason was cleaning his bicycle after a ride. He noticed that the metal parts were starting to rust. Why is it important for Jason to prevent rust from forming on his bicycle?
A) To make his bicycle look shiny and new
B) To avoid damaging the metal parts of his bicycle
C) To impress his friends with his well-maintained bicycle
D) To win a prize for the best-looking bicycle

10. Anna was planning to cook dinner for her family. She needed to know whether cooking chicken in the oven would result in a physical or chemical change. Why is this important for Anna to consider?
A) So she can impress her family with her cooking skills
B) So she can choose the best cooking method for the chicken
C) So she can avoid making a mess in the kitchen
D) So she can win a cooking competition

2. Homework (Optional)

Exploring Changes Around You

Instructions:

- Take a walk around your home, backyard, or neighborhood.

<table>
<tr><td></td><td colspan="3">

Look for examples of physical and chemical changes.
Write down at least three examples of each type of change.
For each example, describe what happened and whether it was a physical or chemical change.
Draw a picture or take a photo of one of the examples you found (optional).
Bring your findings to class to share with your classmates.

</td><td></td></tr>
<tr><td rowspan="5">A. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5"></td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>B. Teacher's Reflection</td><td colspan="3">Reflection guide or prompt can be on:
▪ <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?

▪ <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?

▪ <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?</td><td></td></tr>
</table>