7

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 1
Week
3

DepED MATATAG
BAGONG PILIPINAS
ONE NCR STRONGER TOGETHER

Lesson Exemplar for Science Grade 7
Quarter 1: Week 3

This material is intended exclusively for the use of teachers in the implementation of the MATATAG K to 10 Curriculum. It aims to assist in delivering the curriculum content, standards, and lesson competencies.

Published by the Department of Education
Secretary: Juan Edgardo “Sonny” Angara
Undersecretary: Gina O. Gonong

Development Team

Writer:	Corazon A. Javier
Content Validators	
Internal:	Merie Gerlie V. Capiral, Jocelyn R. Agulto, Roxanne S. Villanueva, Maripaz T. Mendoza, Gemma C Caviles, Armida S. Oblinada
External:	Ryan Lansangan, Louie B. Dasas
Language Editor:	Donald Samson
Illustrator:	Aileen G. Gutierrez
Layout Artist:	Danica Joy B. Delorino

Management Team

JOCELYN DR ANDAYA *CESO IV*, Director IV
CRISTITO A. ECO *CESO III*, Assistant Regional Director
MICAH G. PACHECO, OIC-Chief Education Program Supervisor, CLMD
DENNIS M. MENDOZA, Regional EPS/ LRMS Head
MYRON WILLIE III B. ROQUE, SDO Valenzuela LRMS Education Program Supervisor

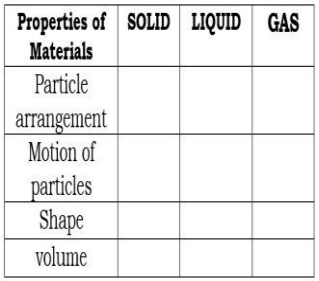
MATATAG **K to 10 Curriculum** **Weekly Lesson Log**	School		Grade Level	7
	Name of Teacher		Learning Area	SCIENCE
	Teaching Dates and Time		Quarter	1 Week 3

	DAY 1	**DAY 2**	**DAY 3**	**DAY 4**
I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES				
A. *Content Standards*	The learners shall learn that diagrams and flowcharts are very useful in demonstrating and explaining the motion and arrangement of particles during changes of state.			
B. *Performance Standards*	By the end of the Quarter, learners recognize that scientists use models to describe the particle model of matter. They use diagrams and illustrations to explain the motion and arrangement of particles during changes of state. They demonstrate an understanding of the role of solute and solvent in solutions and the factors that affect solubility. They demonstrate skills to plan and conduct a scientific investigation making accurate measurements and using standard units.			
C. *Learning Competencies*	Use diagrams and illustrations to describe the arrangement, spacing, and relative motion of the particles in each of the three states (phases) of matter	Use diagrams and illustrations to describe the arrangement, spacing, and relative motion of the particles in each of the three states (phases) of matter	Explain the changes of state in terms of particle arrangement and energy changes: a. solid ⟶ liquid ⟶ vapor and; b. vapor ⟶ liquid ⟶ solid	Explain the changes of state in terms of particle arrangement and energy changes: a. solid ⟶ liquid ⟶ vapor and; b. vapor ⟶ liquid ⟶ solid
D. *Learning Objectives*	At the end of the lesson, the learners should be able to: a. discuss the properties of materials that affect the phase changes of matter;	At the end of the lesson, the learners should be able to: a. make use of data (Local, National, or International) that shows how the motion of particles	At the end of the lesson, the learners should be able to: a. identify and describe how temperature affects the changes in the	At the end of the lesson, the learners should be able to: a. explain and demonstrate how phase changes of matter occur and relate it with how

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

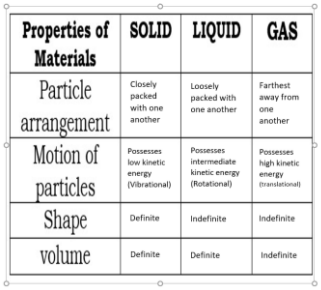
	b. illustrate how these properties of materials are affected in terms of motion, arrangement, and spacing of particles; and, c. identify different activities that involve phase changes in matter. d. organize ideas and information clearly on how materials are affected by phase changes in matter	affects different phenomena that are related to phase changes in matter; and b. address problems/situations properly on phenomena related to the motion of the different particles of matter. c. suggest way/s to raise awareness on environmental concern and protection	three (3) states of matter; a. illustrate how temperature affects the changes in the three (3) states of matter; and b. share and discuss the importance of phase changes in our lives	the motion of particles affects different phenomena; and, b. prepare a diagram to show how phase changes of matter occur. c. follow a systematic way of presenting ideas and information on the different phase changes in matter
E. Instructional Design framework feature (s)	Context Ideational	Ideational Empathize	Collaboration Connection Engage Explore Experience	Connection Ideational Integrative Explore
F. 21st Century Skills	Openness Reflective thinking Critical thinking	Visual literacy Self-discipline Resilience and adversity management	Collaboration Interactive communication Informed decision-making	Creativity Critical thinking Reflective thinking
II. CONTENT	The Three (3) States of Matter and How Its Particles Behave	The Three (3) States of Matter and How Its Particles Behave	The Phase Changes in the Three (3) States of Matter	The Phase Changes in the Three (3) States of Matter
III. LEARNING RESOURCES				

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

A. References		PISA Released Items – Science, December 2006, pp. 48-49, 79-81	PISA 2015, p 35	LRMDS Portal (Line Graph Pdf.)
B. Other Learning Resources	Retrieved June 13, 2024, from https://byjus.com/chemistry/three-states-of-matter/	Retrieved June 13, 2024, from https://www.who.int/health-topics/air-pollution		LRMDS Portal (Line Graph Pdf.)
IV. TEACHING AND LEARNING PROCEDURES				
Before/Pre-Lesson Proper				
Activating Prior Knowledge	 **COMPLETE the TABLE.** Fill in the table with the correct information pertaining to the properties of materials and the phases of matter.	**Activity 2.1: HOT WORK** Peter is working on repairs to an old house. He has left a bottle of water, some metal nails, and a piece of timber inside the trunk of his car. After the car has been out in the sun for three hours, the temperature inside the car reaches about 40 °C. What happens to the objects in the car? Write "**Yes**" or "**No**" for each statement.	**P-O-E Strategy Predict–Observe-Explain** Show the class an ice cream in a cup (any brand will do or popsicle drops placed in a transparent glass). Ask the following questions and let students answer them briefly. 1. Do you know what this material/object is? 2. What is the state of the material now? Is	By using an arrow, which materials do you think will absorb heat (⬇) or release heat (⬆) as to each identified phase change of matter? 1. Evaporation of water 2. Disappearance of naphthalene balls 3. Melting of butter 4. Making ice candy 5. Rain (Precipitation of water) ANSWER: 1. ⬇ 2. ⬇ 3. ⬆

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

ANSWER



Properties of Materials	SOLID	LIQUID	GAS
Particle arrangement	Closely packed with one another	Loosely packed with one another	Farthest away from one another
Motion of particles	Possesses low kinetic energy (Vibrational)	Possesses intermediate kinetic energy (Rotational)	Possesses high kinetic energy (translational)
Shape	Definite	Indefinite	Indefinite
volume	Definite	Definite	Indefinite

Does this happen to the object(s)?	**Yes or No?**
They all have the same temperature.	
After some time, the water begins to boil.	
After some time, the metal nails begin to glow red	

HOT WORK SCORING
1 point for every correct response

ANSWER:
Yes
No
No

it a solid, liquid, or gas?

PREDICT:

1. What do you think will happen to this ice cream on the cone if we leave it on the table after 15 minutes?
2. Were there changes that could be observed in our ice cream/popsicle sticks? Please identify changes observed in the material given.
3. Why were there changes in the material given?

OBSERVE: Set aside for 15 minutes (have a timer on this) and do the next task/s.

EXPLAIN: Substances absorb heat and increase the kinetic

4. ⬆
5. ⬆

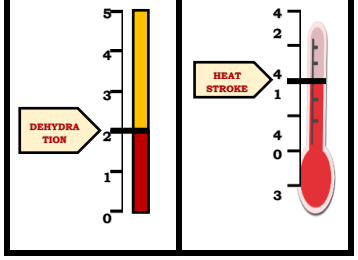
Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

			energy in the particles of materials. In the case of ice cream that is in the solid state, the particles are closely packed making it solid. However, as we exposed it to a surrounding with higher temperature, the particles of solid absorbed energy, causing it to move faster and move further away from one another. This caused the solid ice cream to become soft, soggy, and liquefied in its form.	
Lesson Purpose/Intention	The purpose of this lesson is to provide learners with a comprehensive understanding of the phase changes of matter by examining the properties of materials and their effects on these changes. This will be achieved by exploring the motion, arrangement, and spacing of particles in	The purpose of this lesson is to equip learners with a comprehensive understanding of how the motion of particles impacts various environmental phenomena. By analyzing national or international data, students will develop the skills necessary to interpret and address real-world problems	The purpose of this lesson is to develop a comprehensive understanding of how temperature influences the transition between the three states of matter—solid, liquid, and gas. By the end of the lesson, students will be able to describe and illustrate the effects of temperature changes on matter and recognize the significance of	The purpose of this lesson is to deepen students' understanding of the fundamental concepts related to phase changes in matter through explanation, practical demonstration, and systematic presentation.

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	different states of matter, as well as identifying real-life activities that utilize these phase changes. Additionally, the lesson aims to develop learners' skills in organizing and presenting information clearly.	associated with particle motion. Additionally, the lesson aims to instill a sense of environmental responsibility, encouraging learners to apply their knowledge in ways that promote environmental protection and sustainability.	phase changes in everyday life.	
Lesson Language Practice	READ the paragraph below and define the underlined words. **CHANGING STATES** Matter exists in a specific state but has the capacity to change state. Imagine you have a refreshing glass of ice water on a hot day. The ice cubes in your drink are solid water. When you take a sip, those ice cubes absorb heat from your hand, causing them to **melt** into liquid water, the kind you can drink. That's	Read the given text and do the given task. **Activity 2.2: HEALTH RISK?** Imagine that you live near a large chemical factory that produces fertilizers for use in agriculture. In recent years there have been several cases of people in the area suffering from long-term breathing problems. Many local people believe that these symptoms are caused by the emission of toxic fumes from the nearby chemical fertilizer	Read the given text below. **Activity 3.1: RUNNING in HOT WEATHER** During long-distance running, body temperature rises and sweating occurs. If runners do not drink enough to replace the water they lose through sweating, they can experience dehydration. Water loss of 2 % of body mass and above is considered to be a state of dehydration. This percentage is labeled on	There are different ways of presenting ideas using diagrams, illustrations, charts and the like. A **fishbone diagram**, also known as an **Ishikawa diagram** or a **cause-and-effect diagram**, is a visual tool used for problem-solving and root cause analysis. It helps identify potential causes of a specific issue or problem. A **Venn diagram**, also called a **set diagram or logic diagram**,

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	because the ice has reached its **melting point**. But what if you want the water even colder? You could add more ice! However, if you keep adding heat, like leaving your drink outside on a sunny day, the liquid water will start to **evaporate**. This means the water molecules gain enough energy to escape into the air as **steam**. That steam is water in its gaseous state and has reached its **boiling point**. The cool thing is that this process can work in reverse, too! If you leave your cup outside overnight, the steam will eventually **condense** i nto liquid water as it loses heat to the cooler air. And if it gets cold enough, that liquid water will further lose heat and **freeze**,	factory. A public meeting was held to discuss the potential dangers of the chemical factory to the health of local residents. Scientists made the following statements at the meeting. Statement by scientists working for the chemical company: *"We have made a study of the toxicity of soil in the local area. We have found no evidence of toxic chemicals in the samples we have taken."* Statement by scientists working for concerned citizens: *"We have looked at the number of cases of long-term breathing problems in the local area and compared this with the number of cases in an area far away from the chemical factory. There are more incidents in the area close to the chemical factory."*	the water loss meter shown below. If the body temperature rises to 40^{0}C and above, runners can experience a life-threatening condition called heat stroke. This temperature is labeled on the body temperature thermometer shown below. **Water Loss (%)** / **Body Temperature (°C)**  Choose the letter that best describes each word. 1. Long-distance **A. Far** B. Near C. Little	shows *all* possible logical relations between a finite collection of different sets. These diagrams depict elements as points in the plane, and sets as regions inside closed curves. A Venn diagram consists of multiple overlapping closed curves, usually circles, each representing a set. A **chart** (sometimes known as a **graph**) is a graphical representation for data visualization, in which the data is represented by symbols, such as bars in a bar chart, lines in a line chart, or slices in a pie chart. A chart can represent tabular numeric data, functions or some kinds of quality structure and provides different info.

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	turning back into solid ice cubes! There's even a neat trick called **sublimation**. Imagine you have some dry ice, the solid form of carbon dioxide. Unlike water, dry ice won't melt into a liquid first. If you leave it out, it will go straight from a solid to a gas, like a ghostly fog – that's sublimation in action! ***MELTING POINT*** – is the temperature at which the solid and liquid forms of a pure substance exist in equilibrium ***EVAPORATE*** – to cause a liquid to change into a gas phase ***STEAM*** – is the vapor into which water is converted when heated, forming a white mist of minute	**NOTE:** The teacher may opt to choose any of the following activities for learners. A. Encircle the following terms in the text and write their meanings: 1. suffer/suffering 2. emission 3. toxic/toxicity 4. fumes 5. potential *suffer/suffering* – to experience physical or mental pain *emission* – the act of emitting or sending forth or a substance that is emitted *toxic/toxicity* – the quality, state or relative degree of being toxic or poisonous *fumes* – gas, smoke or vapor that smells strongly or dangerous to inhale	2. Sweat A. Dryness B. Fluency **C. Perspiration** 3. Dehydration A. Wetness **B. Dryness** C. Water content	An **illustration** is a **visual representation** that serves to clarify, explain, or decorate a text, concept, or process. It can take the form of a **picture, diagram,** or **artwork** integrated into various media such as books, magazines, posters, flyers, teaching materials, animations, video games, and films. For the last three days we have discussed the different phase changes of matter. Which of the following presentations/graphic organizers above were you able to utilize to explain the concepts briefly?

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	water droplets in the air. **BOILING POINT** – is the temperature at which the pressure exerted by the surroundings upon a liquid is equaled by the pressure exerted by the vapor in the liquid **CONDENSE**- is to change gas into liquid **SUBLIMATION** – is the process of changing solid into gas without passing the liquid state	*potential* – qualities or abilities that may developed and lead to future success or usefulness B. Matching Type (teachers may just have two columns for this activity)		
During/Lesson Proper				
Reading the Key Idea/ Stem	**ACTIVITY 1.1: WATER CYCLE and CHANGE of STATE of MATTER** Study the illustration on the water cycle.	**Activity 2.3: HOT WORK** For drinks during the day, Peter has a cup of hot coffee, at a temperature of about 90 °C, and a cup of cold mineral water, with a temperature of about 5 °C. The cups are identical in type and	Read the given text below and answer the questions that follow. Temperature is a measure of the average kinetic energy of particles in a substance. When a substance is placed in surroundings with a different temperature,	Use any of the different ways of presenting concepts related to phase changes of matter.

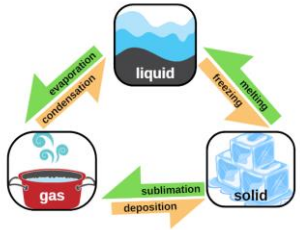
Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	 https://www.freepik.com/free-vector/water-cycle-process-earth_5135339.htm Answer the following guide questions: 1. Is there a change in the form of water as it goes from one process to another in the water cycle? Give your reasons for this. *Sample answer: Yes, water (liquid form) when heated due to sun usually turned into vapor or gas upon evaporation.*	size, and the volume of each drink is the same. Peter leaves the cups sitting in a room, where the temperature is about 20 °C. What are the temperatures of the coffee and the mineral water likely to be after 10 minutes? A. 70 °C and 10 °C B. 90 °C and 5 °C C. 70 °C and 25 °C D. 20 °C and 20 °C HOT WORK SCORING 1 Full credit Ans. A. 70 °C and 10 °C The teacher may ask the following question/s to establish if learners were able to master the concept/s: 1. What is/are the possible answer/s why letter A is the correct answer? *Sample answer: Since the temperature of the surrounding is lower,*	heat transfer occurs due to the difference in average kinetic energy between the particles. In the case of an ice cube exposed to heat, the water molecules (H_2O) absorb thermal energy from the surrounding atmosphere. This absorbed energy increases the kinetic energy (movement) of the water molecules within the ice cube. As the kinetic energy of the water molecules increases, the attractive forces (hydrogen bonds) between them weaken. Eventually, the hydrogen bonds can no longer hold the molecules in a fixed position, and they begin to move more freely. This transition from a rigid crystalline structure (ice) to a more fluid arrangement (liquid water) is what we observe as melting.	

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	2. What are the different processes you can identify from the illustration? *Sample answer: The different processes in the illustration are the following: evaporation, condensation, melting, freezing, sublimation and deposition.* 3. Which causes the changes in the form of water as it goes from one process to another (example: water from evaporation to precipitation)? *Sample answer: It is temperature that causes change in the form of water as its particles absorbs or releases energy. For example, in*	*the coffee will absorb its temperature causing it to decrease and the mineral water will have an increase in its temperature.* 2. Why are choices B to D incorrect? Discuss your reasons briefly. *Sample Answers: In B, coffee will not have the same temperature once left in a colder area* *In C, mineral water will not reach that temperature in a cold place.* *In D, both coffee and mineral water will not have the same temperature after 10 minutes.*	1. What is temperature? 2. Water in the form of ice is taken out from the freezer and left out on a plate. What do you think will happen? 3. Can you illustrate how water in ice form exchanges temperature with its surroundings? Draw an arrow to show the direction of heat exchange. NOTE: Ice (solid form of water absorbs heat from the surrounding causing an increase in the kinetic energy of molecules that allows it to become water (liquid in form of ice)	

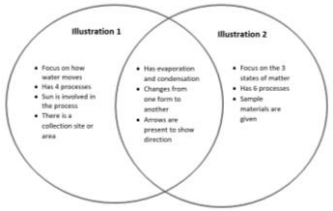
Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

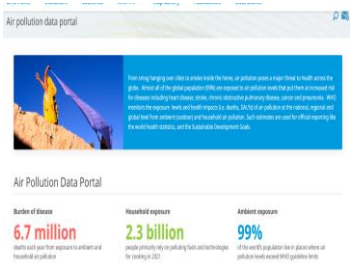
	evaporation, liquid water absorbs energy causing an increase in the kinetic energy of its particles causing it to move father away from one another and change its form to gas or vapor form.			
Developing Understanding of the Key Idea/ Stem	**ACTIVITY 1.2 COMPARISON of WATER CYCLE and CHANGE of STATE of MATTER** Look at this illustration and do the following tasks:  1. Are there any similarities or differences with the "Water Cycle"	Read the text and answer the given questions. **ACTIVITY 2.4: HEALTH RISK?** The owner of the chemical factory used the statement of the scientists working for the company to argue that "the emission fumes from the factory are not a health risk to residents." Give possible reason/s, other than the statement by scientists working for the concerned citizens, for doubting that the statement by scientists	DO this simple activity: **ACTIVITY 3.2:** **Materials:** - Sugar - Naphthalene powder - Ice cubes/ice - Slice of butter - water - Metal spoon - candle - Matchsticks or lighter - Weighing scale (if available) **Procedure** a. Place a pinch (for solid materials) or 0.5 grams (if a weighing scale is	From the example given on the fish-bone presentation for evaporation, the class will be divided into 5 groups to work on the various ways in presenting the different phase changes in matter and how it happens. Group 1: Melting or Liquefaction Group 2: Freezing or Solidification Group 3: Sublimation Group 4: Condensation Group 5: Deposition

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	illustration from Activity 1? *Sample answer: Yes, there is precipitation (rain) also known as condensation.* 2. Can you think of how label illustration 2 based on the different forms of water (solid, liquid, and gas forms)? *Sample answer: Changes in the States or Forms of Matter* 3. Prepare a table showing the similarities and differences between the Water Cycle (Illustration 1) and illustration 2. *Sample answer for the similarities and differences of*	working for the company supports the owner's argument. _____ _____ _____ *Possible Answers:* • *The substance causing the breathing problems may not have been recognized as toxic.* • *Breathing problems may have been caused only when chemicals were in the air, not in the soil.* • *Toxic substances may change/ break down with time and show up as non-toxic substances in soil.* • *We do not know if the samples are representative of the area.* • *Because the scientists are being paid by the company* • *The scientists feared losing their jobs.*	available) of each material and 3-5 drops of liquid materials in the spoon. b. Light the candle with a matchstick. c. Heat the spoon with materials. d. Observe and write down all observations (color, shape, phase, etc.) before and after heating and cooling all the given materials. e. Write your observations in the given table. | Materials	Appearance before heating or cooling	Appearance after heating or cooling	Temperature before heating or cooling	Temperature after heating or cooling | |---|---|---|---|---| | sugar | | | | | | Naphthalene powder | | | | | | Ice cubes/ ice | | | | | | Slice of butter | | | | | | Water | | | | |	

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

<table>
<tr>
<td></td>
<td>Illustration 1 and illustration 2.
 
</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deepening Understanding of the Key Idea/ Stem</td>
<td>From the illustration above, fill in the table below:
<table>
<tr><th>Change in state</th><th>Process Involved in the change of state</th><th>Describe the temperature</th><th>Describe the arrangement of particles</th></tr>
<tr><td>Solid to liquid</td><td></td><td></td><td></td></tr>
<tr><td>Liquid to gas</td><td></td><td></td><td></td></tr>
<tr><td>Gas to solid</td><td></td><td></td><td></td></tr>
<tr><td>Liquid to solid</td><td></td><td></td><td></td></tr>
<tr><td>Solid to gas</td><td></td><td></td><td></td></tr>
<tr><td>Gas to liquid</td><td></td><td></td><td></td></tr>
</table>

ANSWER KEY
<table>
<tr><th>Change in state</th><th>Process Involved in the change of state</th><th>Describe the temperature</th><th>Describe the arrangement of particles</th></tr>
<tr><td>Solid to liquid</td><td>Liquefaction or Melting</td><td>Increase in temperature</td><td>Loosely packed</td></tr>
<tr><td>Liquid to gas</td><td>Evaporation</td><td>Increase in temp.</td><td>Farthest away from one another</td></tr>
<tr><td>Gas to solid</td><td>Deposition</td><td>Decrease in temp.</td><td>Closely packed</td></tr>
<tr><td>Liquid to solid</td><td>Solidification or Freezing</td><td>Decrease in temperature</td><td>Closely packed</td></tr>
<tr><td>Solid to gas</td><td>Sublimation</td><td>Increase in temp.</td><td>Farthest away from one another</td></tr>
<tr><td>Gas to liquid</td><td>Condensation</td><td>Decrease in temp.</td><td>Loosely packed</td></tr>
</table></td>
<td>Given below is the data on air pollution from the World Health Organization (WHO) page.
 

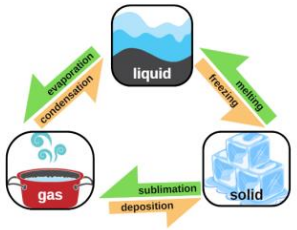
Answer the following questions using the data presented by WHO:

1. What is the common cause of death in air pollution?
2. What diseases are developed in humans</td>
<td>Answer the following:

1. Were there materials that changed in color, shape, etc., before and after heating them?
2. What caused the materials to melt/ disappear?
3. What happens to the state of the materials from solid ice to water or from powdered naphthalene to nothing?
4. Why do some foods like ice cream and medications need the cold embrace of the refrigerator, while others, like sugar and salt, seem</td>
<td>Each group will present their outputs based on the given rubrics.

Rubric for Scoring
<table>
<tr><th>Criteria</th><th>5</th><th>3</th><th>1</th></tr>
<tr><td>Clarity of content/ concepts</td><td>Complete and correct content/ concepts</td><td>Incomplete and correct content/ concepts</td><td>Incomplete and incorrect content/ concepts</td></tr>
<tr><td>Presentation</td><td>Neat, clean, well-organized and esented in a creative way</td><td>Neat, clean and not organized and do not have creative presentation</td><td>Disorderly and uncreative presentation</td></tr>
<tr><td>Images, Spelling and Grammar</td><td>Appropriate images and no spelling and grammatical errors</td><td>Images are inappropriate and there are some spelling and grammatical errors</td><td>No images included and has more than 5 and more spelling and grammatical errors</td></tr>
</table>
TOTAL SCORE: 15 points</td>
</tr>
</table>

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

		when exposed to air pollution? 3. What property of gaseous substances is the primary reason for having a high incidence of death rate due to air pollution? **NOTE: You may choose to use other data related to the lesson.**	perfectly happy hanging out at room temperature?	
After/Post-Lesson Proper				
Making Generalizations and Abstractions	Based on the illustration and completed table above, in your own words, describe how temperature affects each process in the phase changes of matter with respect to the arrangement of its particles.	How important is it to understand the behavior of gases in affecting our daily lives?	Fill in the missing terms involved in the phase changes of matter and answer each question given.  1. What causes the change from one state of matter to another?	Does the use of illustrations, diagrams, charts, etc., help you understand the concepts of the phase changes in matter? How did it help you as a student?

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

			Sample answer: *Change in temperature* 2. What happens to the movement of particles as they go from one state of matter to another, for example, when ice melts? *Sample answer:* *When ice melts, it usually absorbs heat and the particles move faster and farther from one another causing change in the state of ice from solid to liquid.* 3. Why do we need to water plants more frequently during hot season/summer days? *Sample answer:*	

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

Evaluating Learning	**FORMATIVE ASSESSMENT** Choose a particular phase change and discuss its importance in our community/ industry. Focus your discussion on how temperature affects phase changes as well as the arrangement of particles. Phase Change: Importance in the Community/Industry: How it works: Rubric for Scoring 	**FORMATIVE ASSESSMENT** **3** Things I Learned Today 1 2 3 **2** Things I enjoyed most 1 2 **1** Question I want to ask 1	**FORMATIVE ASSESSMENT** Cite 2 materials and the phase changes it will undergo and explain why. 1. Material: _____ Phase Changes it will undergo: Explanation: 2. Material: _____ Phase Changes it will undergo: Explanation:	**SUMMATIVE ASSESSMENT** Choose the letter of the correct answer. 1. What happens to the kinetic energy of molecules when they absorb heat? A. Decrease **B. Increase** C. Remains the same D. No movement at all 2. Given the following phase changes: I. Melting of candle II. Ice candy making III. Ice melting IV. Disappearing of naphthalene balls Which of these involves liquefaction? A. I and II **B. I and III** C. II and III D. II and IV

Criteria	5	3	1
Clarity of content/ concepts	Complete and correct content/ concepts	Incomplete and correct content/concepts	Incomplete and incorrect content/concepts
Presentation	Neat, clean, well-organized and presented in a creative way	Neat, clean and not organized and do not have creative presentation	Disorderly and uncreative presentation
Images, Spelling and Grammar	Appropriate images and no spelling and grammatical errors	Images are inappropriate and there are some spelling and grammatical errors	No images included and has more than 5 and more spelling and grammatical errors

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

				3. Which of the following materials will tend to release energy to transform from one state to another? A. Boiling of water B. Melting of ice **C. Precipitation of rain** D. Sublimation of dry ice 4. The human body is composed of an average of 60%. Which is the MOST possible reason why we need to drink water regularly? A. Lubricates the joints B. Essential for body functions C. Prevents kidney damage **D. Reduces heat stroke** 5. Which of the following illustrations shows the particle arrangement of a liquid substance?

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

				A.  C.  B.  D.  **NOTE: This is a sample summative assessment, teachers may add more to this according to the needs of learners**
Additional Activities for Application or Remediation (if applicable)		DO the following: 1. Choose one human activity that is affected by the behavior of the different states of matter. 2. Discuss its impact on humans or society. 3. You can use PowerPoint, videos, or pamphlets to present your ideas on the task.	**Activity 1C: RUNNING in HOT WEATHER** A runner runs for an hour on a hot and humid day (air temperature 35^{0}C, air humidity of 60%) without drinking any water. This runner is at risk of both dehydration and heat stroke. What would be the effect of drinking water during the run on the runner's risk of dehydration and heat stroke? Explain your answer.	

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

			A. Drinking water would reduce the risk of heat stroke but not dehydration. B. Drinking water would reduce the risk of dehydration but not heat stroke. C. Drinking water would reduce the risk of both heat stroke and dehydration. D. Drinking water would reduce the risk of either heat stroke or dehydration. ANSWER: C	
Remarks				
Reflection				

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph