

5

Lesson Exemplar for Science

Quarter 2
Lesson 1
Lesson
2

Lesson Exemplar for Science Grade 5
Quarter 1: Week 2
SY 2023-2024

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Every care has been taken to ensure the accuracy of the information provided in this material. For inquiries or feedback, please write or call the Office of the Director of the Bureau of Learning Resources via telephone numbers (02) 8634-1072 and 8631-6922 or by email at blr.od@deped.gov.ph.

LESSON EXEMPLAR

SCIENCE/SECOND QUARTER/ GRADE FIVE

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	Learners learned that using drawings, tables, and flowcharts is an important skill in learning science concepts and in learning about science processes.
B. Performance Standards	By the end of the Quarter, learners describe and create models of the body systems whose function is to help humans grow, develop, and reproduce.
C. Learning Competencies and Objectives	Identify from pictures and diagrams the parts of the respiratory system as the nose, windpipe, and lungs, and describe how they work; <i>Lesson Objective 1.</i> Identify the nose, windpipe, and lungs in pictures and diagrams of the respiratory system. <i>Lesson Objective 2.</i> Describe the function of each part of the respiratory system (nose, windpipe, lungs) <i>Lesson Objective 3.</i> Label the nose, windpipe, and lungs on a diagram of the respiratory system. <i>Lesson Objective 4.</i> Explain how air moves in and out of the lungs through observing a lung model <i>Lesson Objective 5.</i> Identify the diseases of respiratory system. <i>Lesson Objective 6.</i> Create a simple model of the respiratory system.
C. Content	Respiratory System
D. Integration	Health and Wellness & Environmental Literacy

II. LEARNING RESOURCES	
• Department of Education. (Year). MATATAG Curriculum in Science. DepEd Complex, Meralco Avenue, Pasig City, Philippines. • Vengco, L., Capili, R., Flores, R., Navaza, D. & Zarcas, M.L. (2014). Science for Active Learning 5. Sibs Publishing House, Inc. pp. 22-33. • Department of Education, Papua New Guinea (2020). National Science Textbook 6. Department of Education, Papua New Guinea, pp. 139-144 • Department of Education, Papua New Guinea (2020). Science Teacher's Manual 6. Department of Education, Papua New Guinea, pp.128-135	

III. TEACHING AND LEARNING PROCEDURE	NOTES TO TEACHERS
A. Activating Prior Knowledge 1. Short Review Activity: 2 TRUTHS AND A LIE We'll be playing "Two Truths and a Lie." In each round, I'll give you three statements about how we breathe. Two of the statements will be true, and one will be a lie. Your job is to work together with your group to figure out which statement is a lie! Here's how it works: Listen carefully to the three statements I will read about the respiratory system. Discuss with your groupmates which statement you think might be the lie. Be ready to explain why you think that statement is the wrong one. After each round, we'll discuss the answers together. Remember, teamwork and good reasoning win the game! The nose warms and filters the air we breathe. (True) We breathe in oxygen and exhale carbon dioxide. (True) The lungs are located in the chest cavity, behind the stomach. (Lie) The lungs are like giant balloons that inflate and deflate with each breath. (True) The more you exercise, the less oxygen your body needs. (Lie) Nose, trachea, heart, and lungs are parts of the respiratory system We take in oxygen through our skin and exhale carbon dioxide through our lungs. (Lie) The epiglottis is a flap of cartilage that closes over the trachea when we swallow to prevent food from entering the lungs. (True) Cilia are tiny hairs lining the airways that help trap dust and germs. (True)	This activity is a fun and interactive way for your Grade 5 students to review their knowledge of the respiratory system, which they likely learned in Grade 4. Materials: Whiteboard or chart paper Markers or pens Three slips of paper per student (optional) Preparation: Decide if you'll write the statements on the board (Option 1) or use slips of paper (Option 2). Prepare multiple sets of statements with different true and false statements. Instructions: 1. Divide the class into small groups of 3-4 students. 2. Explain the game concept as outlined in the student directions.

	2. At the end of the activity, collaborate with the whole class in checking their answers, ask them again the parts of the respiratory system.	3. Option 1 (Board): Write the three statements on the board for each round. 4. Option 2 (Slips): Write each statement on a separate slip of paper, fold them, and place them in a hat or bowl. Each group draws three slips and reads the statements aloud. 5. Give students a few minutes to discuss the statements in their groups and decide which one they believe is the lie. Encourage them to discuss their reasoning. After each round, reveal the answer and explain why the other statements are true. Use diagrams or models of the respiratory system to reinforce understanding if needed.
B. Establishing Lesson Purpose	1. Lesson Purpose A. Case Analysis During a house fire, firefighters tragically find victims who died not from burns but from suffocation. * Ask students: "Why do you think people might die from suffocation in a fire even if they aren't burned?" (Expected answer: Lack of oxygen due to smoke inhalation) B. KWL Chart: On a large chart or whiteboard, create a three-column chart labeled "Know," "Want to Know," and "Learned", or you may post the prepared KWL chart on the blackboard.	Give the whole class a situation about victims who died not from burns but from suffocation. Enable them to think of the answer to the question, "Why do you think people might die from suffocation in a fire even if they aren't burned?" Emphasize to the class that during a fire, smoke fills the air, blocking the airway and making it difficult for oxygen to reach the lungs. Since the lungs can't get enough oxygen, the body's cells don't function properly, ultimately leading to suffocation (asphyxiation).

KWL (Respiratory System)		
What I KNOW	What I WONDER	What I LEARNED
Add the information you know about the topic.	Based on what you already know, what other things are you wondering about? List your questions here.	Add new information here, especially those that answer your earlier question.

2. Unlocking Content Area Vocabulary- “I Spy with My Little Eye”

Instructions: Use clues to help you guess vocabulary words related to respiratory system.

Clues:

1. "I spy with my little eye something tiny and invisible, but important for our survival. It enters our body through the lungs and keeps our cells alive!" (Answer: Oxygen)
2. "I spy with my little eye a gas we breathe out. It's a waste product from our cells, but plants need it to survive!" (Answer: Carbon Dioxide)
3. "I spy with my little eye something that warms and filters the air we breathe. It also has a great sense of smell!" (Answer: Nose)
4. "I spy with my little eye a tube that carries air down to the lungs." (Answer: Trachea)
5. "I spy with my little eye a place where gas exchange happens - oxygen in and carbon dioxide out!" (Answer: Lungs)

Explain also that smoke inhalation is a major cause of suffocation in fires because it contains harmful chemicals that can irritate the lungs, making it difficult to breathe.

You may also ask them other situations that might lead to suffocation

Guide the learners in filling out the KWL chart.

This activity will give you an idea on what students already understand and what questions and interest students have about the topic. This also serves as formative assessment tool if students have understood the key concepts about respiratory system.

After filling out the KWL chart, proceed to the next activity which is “I Spy with my Little Eye”.

Briefly explain the rules of "I Spy with My Little Eye." Mention that you will be thinking of a word related to the respiratory system and will describe it using clues. Students need to guess the word based on your description.

This activity introduces and reinforces vocabulary terms in a fun and interactive way. It also promotes active listening, critical thinking skills and creates a sense of competition and encourages participation.

C. Developing and Deepening Understanding	SUB-TOPIC 1: <i>Breathing (How does air move in and out of our body?)</i> 1.1 Explicitation Feeling the Breath! Instructions: Sit comfortably with your backs straight. Place one hand on your chest and the other on your belly (just below the ribcage). Then take a slow, deep breath in through your nose. Observe which hand moves more- the one on your chest or the one on your belly? Process Questions: 1. We felt our chest or belly move during breathing. Why do you think these parts move? Can you connect this movement to any possible internal organs involved in breathing? What do you think actually expands and contracts during breathing? 2. Since breathing involves air entering and leaving our body, where do you think this air travels inside us? 3. Is it healthier to take air in through the nose or through the mouth? 4. Imagine someone covers their mouth and nose entirely. What do you think might happen to their body? 1.2. Worked Example Activity 1. Parts of the respiratory system- Breathing Buddies Materials: • Large chart of the respiratory system • Cards with individual parts of the respiratory system listed (nose, trachea, bronchi, bronchioles, alveoli) • Markers or pens Instructions 1. Team Up! Find your "Breathing Buddy" for this exploration. 2. Think Beyond Matching! Look at the board where the labeled chart of respiratory system is posted. This time, we're not just matching them to functions. We're going to be like scientists, figuring out how each part is specially designed to do its job! 3. Here's the challenge: Work with your "Breathing Buddy" to answer these questions about each part:	Begin the lesson by telling them that when we breathe, we take in and give out air but ask them <i>"How does air move in and out of our body?"</i> Encourage them to do the activity of Feeling the Breath. After that, discuss their observations using the process questions. Explain that today's lesson will provide understanding into how our bodies take in air, move it through our lungs, and use it to keep us alive. Additional Tips: • Demonstration: Before students try it themselves, you can demonstrate the hand placement and breathing technique. • Discussion: After the activity, facilitate a discussion about their observations and answers to the questions. • Visual Aids: Consider using diagrams or models of the respiratory system to introduce the key parts (lungs, diaphragm) during the discussion. Transition: Once students have a grasp of basic breathing mechanics, you can
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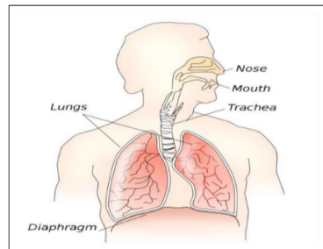
- **Nose/Mouth:** How do structures like hair and mucus help filter air we breathe?
- **Trachea:** Why is the trachea made of cartilage rings and not a soft tube?
- **Bronchi/Bronchioles:** These branching tubes ensure air reaches all parts of the lungs. Explain how their structure achieves this.
- **Alveoli:** What is the significance of the large surface area within these tiny air sacs?

4. Discuss and Explain: Talk to your "Breathing Buddy" about your ideas. How do the special features of each part help it function within the respiratory system?

5. Share Your Findings! Each pair will get a chance to present their assigned part to the class. Explain the part's function and the cool design features that make it work!

Process Questions:

1. How do all these parts work together?
2. How do the special features of each part contribute to breathing and gas exchange?



1.3. Lesson Activity

Activity 2. Nose to Know: Label Your Respiratory System

A. Study the diagram of the respiratory system below. Then identify the parts.

introduce the different parts of the respiratory system (nose, trachea, lungs) and their specific functions.

1.2. Worked Example

Parts of the respiratory system- Breathing Buddies

Materials:

This activity encourages students to move beyond basic memorization and look into the structure-function relationship within the respiratory system.

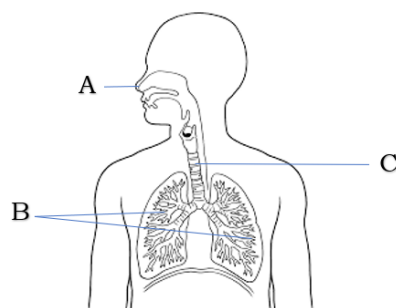
Tips:

1. Encourage collaboration and discussion among "Breathing Buddies."
2. Provide additional resources or diagrams for students who need visual aids.
3. Circulate during discussions to answer questions and guide students' thinking.
4. Extend the learning with model-building activities, research projects, or debates related to the respiratory system.

Assessment:

1. Observe student participation in discussions and presentations.
2. Collect student models or written explanations of the respiratory system parts and their design features.

Differentiation:



Write the names of the parts and describe each.

Parts	One-sentence description
A	
B	
C	

Activity 3: Breathe Easy Stars

Get ready to become rap stars, chanters, or melody makers!

Today, we'll be learning about the amazing respiratory system, the parts that help us breathe, by creating a super cool song, chant, or catchy tune.

Instructions:

1. We'll team up to create a masterpiece! You may use your previous groupings in this activity.
2. Come up with a rockin' title for our song!

1. Provide scaffolding and additional support for students who need it.

Then facilitate the discussion about the parts and function of the respiratory system. Summarize the key points of the discussion, emphasizing the importance of each part of the respiratory system and its role in the process of breathing and gas exchange.

The Nose

- The nose is the main track for breathing.
- The nose contains hair and is lined with a mucous membrane. The hair filters the air and traps dust particles and microorganisms.
- The two holes in our nose are called nostrils.
- From the nose, the air passes through the pharynx.
- The pharynx is the upper part of the throat that serves as the passageway for both air and food.

The Windpipe/Trachea

- Another name for windpipe is trachea.
- The windpipe takes air to and from the lungs
- We cannot live without the windpipe.
- When a person inhales, air travels through the nose, then down windpipe.
- The windpipe is also lined with cilia and mucus that traps the germs and

	3. Each group gets a special respiratory system part to write about. 4. Write lyrics or rhymes about your assigned part. 5. Rehearse your part, speak it, rap it, or even sing it! 6. Each group presents their part, creating a breath-taking song together!	sweep the dust particles away from the lungs. • The trachea branches out into two passageways leading to the lungs. These branched passageways are called bronchi (bronchus, singular). One bronchus leads to the left lung. The other leads to the right lung. • The bronchi again branch out into smaller passageways called bronchioles. At the end of the bronchioles are thousands of tiny sacs called alveoli The Lungs • They are the main organ of the respiratory system • The lungs have a spongy texture due to millions of tiny air sacs called alveoli. • The alveoli (alveolus, singular) are clusters of balloon-like sacs where gas exchange occurs. • The lungs bring oxygen into the body and remove carbon dioxide from the body. 3. Lesson Activity The teacher will now let the pupils answer their worksheets. A. Nose to Know: Label Your Respiratory System B. Breathe Easy Rap This activity is a fun and engaging way for your Grade 5 students to learn
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		about the parts of the respiratory system and their functions. Materials: Whiteboard or chart paper Markers or pens Construction paper (optional) Music player (optional, for background music) Instructions: 1. Divide the class into small groups of 3-4 students. 2. Explain that they will be creating a rap song, chant, or catchy tune about the respiratory system. Ask them to brainstorm a catchy title for their creation. 3. Assign each group a different part of the respiratory system (nose, trachea, lungs, diaphragm). 4. Guide the groups to develop lyrics for their assigned part. Provide them with the prompts (included in the student instructions) or similar prompts to get them started. 5. Encourage the groups to write their lyrics and practice their assigned part. They can decide if they want to speak the lyrics, rap them, or even sing them! 6. Each group presents their part, one after another, creating a collaborative song about the respiratory system. Differentiation:
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		For advanced students, you can encourage them to research additional parts of the respiratory system (e.g., epiglottis, alveoli) and incorporate them into their song. For students who struggle with writing lyrics, you can provide them with a word bank or sentence starters related to their assigned part. Scoring Rubrics: Content- 10 Creativity-10 Participation-5
	SUB-TOPIC 2: <i>Mechanics of Breathing</i> 1. Explicitation. Activity: Diffusion Dance Party- 10-15 minutes Instructions: 1. Let's start with some fun exercises to get our bodies ready. (Do some jumping jacks, arm circles, etc.) 2. Imagine you're tiny gas molecules. We'll have two types: red molecules are oxygen and blue molecules are carbon dioxide. 3. Line up on opposite sides of the room. Red on one side, blue on the other. 4. When the music starts, move around freely throughout the room. Remember, we're tiny gas molecules, so try not to bump into each other! 5. When the music stops, freeze in your place. Look around. What do you see? Where are the red and blue molecules? 2. Worked Example A. Activity: What is contained in exhaled air? What we need:	SUB-TOPIC 2: <i>Mechanics of Breathing</i> For this activity, you will be needing a large space in your room and a music player. 1. Start with some light movement exercises to get students energized (jumping jacks, arm circles). Explain that they'll be simulating molecules in this activity. 2. Tell students they represent two types of molecules: red molecules (oxygen) and blue molecules (carbon dioxide). 3. Instruct the "red molecules" (oxygen) to stand on one side of the room and the "blue molecules" (carbon dioxide) to stand on the other side.

Limewater, two clear plastic bags, 10 cm long string or fine wire

What to do:

1. Fill a plastic bag with air around you. Pour the limewater into it and tie the mouth of the plastic bag tightly using the fine wire. Label the bag A. Shake it for 1 minute and observe what happens to the limewater. Record your observations in the chart.
2. Blow air into the bag by breathing into it about 15 times. Pour limewater into it and tie the mouth of the plastic bag tightly. Label this bag B. Shake it for 1 minute and observe what happens to the limewater. Record your observations in the chart.
3. Share your findings with your classmates. Discuss what is contained in the exhaled air.

Problem How does inhaled air compare with exhaled air?	
Observation	
Bag A	Bag B
Conclusion	

Process Questions:

1. Is the exhaled air the same as or different from the air? (It is different from air)
2. Why do you think so? (The color of the limewater in air is different from that in exhaled air.)
3. Why did the limewater turn cloudy? (because of the presence of carbon dioxide)
4. Which of the two, air or exhaled air has more carbon dioxide? (Exhaled air.)
5. What is breathing? (Breathing is the process of moving air in and out of the body. When we breathe, we take in oxygen and give out carbon dioxide)

4. Play some upbeat music. When the music starts, students representing both types of molecules should move around freely within the space. Remind them to avoid bumping into each other (simulating diffusion).
5. After a short while, pause the music and ask students to "freeze" in their positions.

Observation and Discussion:
Lead a discussion about what they observed. How are the molecules distributed now? Are there any areas with more red or blue molecules?

Connecting to Lungs: Explain that this "diffusion dance" represents what happens in the lungs. Oxygen molecules (red) from the air we breathe diffuse into the bloodstream, and carbon dioxide molecules (blue) diffuse from the bloodstream into the air sacs to be exhaled.

2. Worked Example

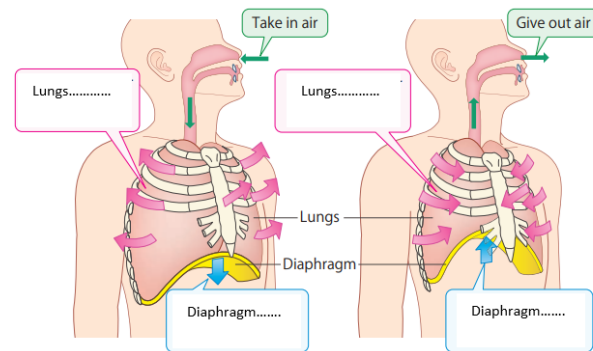
Before you give the activity organize students in groups (this may be 3 or 5 depending on the class size/you

	6. Why are both oxygen and carbon dioxide important for our body? 7. Which parts of the respiratory system are involved in the exchange of gases? 3. Lesson Activity Activity 1: Making a Lung Model What we need: • Copy of the worksheet • Clean, empty plastic bottle (e. straw bottle works well) • Scissors • Rubber band • Two balloons (one regular, one with the neck cut in half) What to do: 1. With adult supervision, carefully cut off the bottom third of the plastic bottle. 2. Stretch the neck of the whole balloon and secure it tightly around the opening of the bottle neck. You can use your fingers or a rubber band for extra hold. This balloon represents the lungs. 3. Stretch the open end of the half-cut balloon over the open end of the bottle. Secure it with your fingers or a rubber band. This half-cut balloon acts as the diaphragm, a muscle that separates the chest cavity from the abdomen and plays a key role in breathing. 4. Observe the model at rest. 5. Pulling in (Inhale): Gently pull down on the half-cut balloon (diaphragm) stretching it downwards. Notice what happens to the whole balloon (lungs) inside the bottle. 6. Pushing out (Exhale): Gently push the half-cut balloon (diaphragm) upwards. Observe what happens to the whole balloon (lungs) inside the bottle. 7. Describe what happened to the whole balloon (lungs) when you pulled down on the half-cut balloon. 8. Describe what happened to the whole balloon (lungs) when you pushed up on the half-cut balloon. Process Questions:	may use the previous groupings in the Review part). Explain the steps of the activity. Remind students to observe the color of the limewater carefully after shaking. Then have students do the activity and record their result. Encourage them to discuss the results in their groups. (You may also give the students with cartolina or manila paper and pentel pen or you may ask them to bring these materials prior the day of the activity) Once the students are done with their activity, ask students to present their results from the activity using the graphic organizer. Facilitate active students' discussions using the process questions. How to prepare lime (calamansi or lemon) water: 1. Fill up 500ml container with water. 2. Add 1 table spoon lime. 3. Shake the solution well. 4. Leave the solution to settle overnight so sediments settle at the bottom of the container. 5. Gently pour out the solution without sediments into a cup. Tips of the Activity
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1. How does the model represent the lungs' function during breathing?
2. What happens to the balloons as you pull the rubber sheet downward?
3. How about pushing the rubber sheet upward, what do you observe?
4. How does the half-cut balloon (diaphragm) movement relate to breathing?
5. How does the exchange of gases occur?

Activity 2: The Breathing Buddies: Teamwork of Lungs and Diaphragm

Look at the diagram: Describe the diaphragm and lungs during inhalation and exhalation by completing the statements below.



When you inhale, the diaphragm _____ (contracts/flattens down) and moves _____ (downward). This creates more space in your chest cavity. The lungs _____ (expand/get bigger), allowing air to rush in through your nose and mouth.

When you exhale, the diaphragm _____ (relaxes/returns to dome shape) and moves _____ (upward). This reduces the space in your chest cavity. The lungs _____ (contract/get smaller), pushing the air out.

1. Limewater must be prepared a night prior to the lesson.
2. Pour out limewater into a cup from the 500ml container.
3. Tie the plastic bags tightly so it doesn't spill when shaking.
4. Be careful not to allow students to taste or drink the limewater.
5. Plastic bag with exhaled air will be cloudy as it indicates carbon dioxide is present.

NOTE: Limewater is used to test for presence of carbon dioxide in breath.

Expected Result:

- Limewater with air did not change its color.
- Limewater with the exhaled air turned cloudy.
- Exhaled air contained more carbon dioxide than the air.



Air



Exhaled air

		Emphasize the mechanics of gas exchange: Gas Exchange: The primary function of the lungs is gas exchange. When you inhale, air travels down the trachea and splits into the bronchi, then bronchioles, finally reaching the alveoli. Here, oxygen from the inhaled air diffuses across the thin alveolar membrane and enters the bloodstream. Simultaneously, carbon dioxide, a waste product from cellular respiration, diffuses from the blood into the alveoli and is exhaled 3. Lesson Activity Activity 1: Making a Lung Model Tell them to look for their partner because they will be doing this activity by pair. For the preparation of the bottle, tell them to carefully ask an adult for help cutting off the bottom third of the plastic bottle. They can use scissors or a sharp knife. Guide students through the steps of constructing their lung models, referring to the instructions provided for students (see previous instructions). You can demonstrate each step visually for better understanding
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		Once the models are built, instruct students to simulate breathing by pulling down on the diaphragm balloon (inhalation) and pushing it back up (exhalation). Encourage them to observe the changes in the lung balloon. Have students record their observations in a notebook or on a worksheet. Prompt them to consider how the diaphragm movement affects the lung balloon and relate it to inhaling and exhaling. Facilitate a class discussion to share observations and reinforce key concepts. Process Questions: 1. How does the model represent the lungs' function during breathing? 2. What happens to the balloons as you pull the rubber sheet downward? 3. How about pushing the rubber sheet upward, what do you observe? 4. How does the half-cut balloon (diaphragm) movement relate to breathing? 5. Explain the breathing process using the lung model. Expected Result: When we pulled on the middle of the half-cut balloon and let go, the balloon
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		got bigger. When we gently pushed the half-cut balloon up, the balloon got smaller. The balloon represents the lungs, and the balloon with the half-cut represents the thin sheet of muscle called the diaphragm. Activity 2: The Breathing Buddies: Teamwork of Lungs and Diaphragm Assess your students, you may follow this activity or you may modify this by giving them options like adding a word bank <table><tr><td>Contracts</td><td>downward</td></tr><tr><td>Relaxes</td><td>upward</td></tr><tr><td>Expand</td><td></td></tr></table> Or you may do it like this: Instead of writing the answer on the blanks, tell them to underline the correct answer. When you inhale, the diaphragm (contracts or relaxes) and moves (upward or downward). This creates more space in your chest cavity. The lungs get (expand or contract), allowing air to rush in through your nose and mouth. When you exhale, the diaphragm (contracts or relaxes) and moves (upward or downward). This reduces the space in your chest cavity. The	Contracts	downward	Relaxes	upward	Expand	
Contracts	downward							
Relaxes	upward							
Expand								

		lungs get (expand or contract), pushing the air out.
	SUB-TOPIC 3: Respiratory Diseases 1. Explicitation "Experience Sharing" Activity- 10 minutes Encourage students to volunteer to share their experiences or answer the following questions: Questions: 1. Have you ever experienced a cold, the flu, or allergies? (Raise hands or use a quick poll) 2. If you have, what were some of the symptoms you experienced? (Students share experiences voluntarily) 3. How did these symptoms affect your breathing? (Students elaborate on their experiences) 4. How can we avoid these diseases? (Discuss the connection between each habit and lung function) 2. Worked Example A. Healthy Lungs, Happy Body 1. Modeling Healthy Breathing: - o Instruct the "Healthy Lungs" team to stand in front of the class. - o Explain that they will demonstrate deep, relaxed breathing. - o Guide them through the following steps: ▪ Stand tall with feet shoulder-width apart. ▪ Place one hand on their chest and the other on their belly. ▪ Slowly inhale through their nose, feeling their belly expand as the diaphragm contracts. (The chest movement should be minimal.) ▪ Hold their breath for a brief moment.	The lesson will start with "Experience Sharing" Activity Briefly introduce the importance of a healthy respiratory system for overall well-being. Explain that we'll be exploring experiences and habits related to lung health. Ask the process questions: 1. Have you ever experienced a cold, the flu, or allergies? (Raise hands or use a quick poll) 2. If you have, what were some of the symptoms you experienced? (Students share experiences voluntarily) 3. How did these symptoms affect your breathing? (Students elaborate on their experiences) 4. How can we avoid these diseases? (Discuss the connection between each habit and lung function) Summarize the key points about respiratory health and healthy habits. You can mention the existence of chronic respiratory diseases but avoid dwelling on them at this stage.

	▪ Slowly exhale through pursed lips, feeling their belly move back in as the diaphragm relaxes. ○ Encourage the "Healthy Lungs" team to exaggerate their movements slightly so the class can easily observe the deep breathing technique. 2. Modeling Unhealthy Breathing: ○ Ask the "Unhealthy Lungs" team to come forward and demonstrate shallow breathing. ○ Explain that they will show how breathing can be affected by illness. ○ Guide them through the following steps: ▪ Stand with shoulders slumped and hunched over slightly. ▪ Take short, shallow breaths primarily using their chest muscles. (Their belly movement should be minimal.) ▪ Simulate labored breathing with some exaggerated coughing or wheezing sounds (optional). Process Questions: 1. Compare the two types of breathing. Which seemed easier? 2. What body parts were involved in each type of breathing? 3. Why do you think deep, relaxed breathing is considered healthier for your lungs? 4. How do you think unhealthy breathing might affect your body? B. Gallery Walk Listen to the instruction that will be given by the teacher. Each group should go around the gallery. Allocate a specific time for each station (3-5 minutes). At each station, students should: ● Read the information about the ailment	Shift the discussion towards the broader themes of respiratory health and disease prevention. Notes: ● Wait Time: Provide wait time after questions to allow students time to think and formulate responses. ● Sensitivity: Be mindful of students who may have had difficult experiences and offer support if needed. ● Positive Reinforcement: Acknowledge and appreciate students' willingness to share their experiences. You may do some modifications depending on your learners like ● For students who are hesitant to share personal experiences, offer alternative ways to participate, like contributing to the brainstorming of healthy habits. ● Use pictures or diagrams of the respiratory system to support the discussion, especially if some students are unfamiliar with the terms. By creating a safe and inclusive environment for sharing, this whole-class activity allows students to learn from each other's experiences
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- Write down key points or answers on the provided sticky notes and attach them to the station's poster.

Rotate groups to the next station after the allotted time. Continue the rotation until all groups have visited each station.

Pneumonia:

- **Symptoms:** Fever, cough (may produce mucus), shortness of breath, chest pain (worsens with breathing), fatigue, chills.
- **Causes:** Bacterial or viral infection of the lungs' air sacs.
- **Prevention:** Get vaccinated (pneumococcal vaccine), practice good hygiene (handwashing), avoid secondhand smoke.
- **Treatment:** Antibiotics for bacterial pneumonia, rest, fluids, pain relievers

Tuberculosis (TB):

- **Symptoms:** Persistent cough (may produce blood), weight loss, fatigue, night sweats, fever, chest pain.
- **Causes:** Bacterial infection spread through inhaled droplets from an infected person.
- **Prevention:** good ventilation, avoid close contact with infected individuals.
- **Treatment:** Long-term antibiotics, isolation precautions to prevent spread.

Asthma:

- **Symptoms:** Recurrent wheezing, coughing (especially at night or early morning), chest tightness, shortness of breath. Symptoms may worsen with triggers like allergens, exercise, cold air.
- **Causes:** allergens, dust, fumes, and other air pollutants, changes in climate
- **Prevention:** Identify and avoid triggers, allergy control measures (if applicable), get vaccinated against flu and pneumonia.
- **Treatment:** Inhalers (bronchodilators, steroids), medications to prevent inflammation, allergy medications (if applicable).

Bronchitis:

- **Symptoms:** Cough (may produce mucus), chest congestion, wheezing, fatigue, low-grade fever.
- **Causes:** Viral or bacterial infection of the airways.
- **Prevention:** Frequent handwashing, avoid close contact with sick individuals.
- **Treatment:** Rest, fluids, over-the-counter cough suppressants (use with caution), pain relievers (for fever).

Flu:

- **Symptoms:** Sudden onset of fever, chills, fatigue, muscle aches, headache, sore throat, cough, congestion.
- **Causes:** Viral infection of the respiratory tract.
- **Prevention:** Get vaccinated annually, frequent handwashing, avoid close contact with sick individuals.
- **Treatment:** Rest, fluids, over-the-counter pain relievers and fever reducers, antivirals (if prescribed within 48 hours of symptoms).

and gain a deeper understanding of the importance of respiratory health and disease prevention.

Then connect it to text activity about healthy lungs, happy body.

2. Worked Example

A. Healthy Lungs, Happy Body

Split the students into two groups (roughly equal numbers). Assign one group to be the "Healthy Lungs" team and the other the "Unhealthy Lungs" team.

Class Discussion:

After both teams have demonstrated their assigned breathing styles, bring the class back together for a discussion using the process questions.

Guided Practice of Deep Breathing:

- As a class, lead the students through a few rounds of deep breathing exercises like the one demonstrated by the "Healthy Lungs" team.
- Encourage them to focus on feeling their belly expand and contract with each breath.
- Discuss the benefits of practicing this type of breathing

	regularly for lung health and overall well-being. Remember: • Adapt the complexity of the breathing exercises based on students' abilities. • Emphasize the importance of breathing properly for lung health and overall well-being. • Encourage students to practice deep breathing throughout the day to experience the benefits firsthand. B. Gallery Walk Divide students into small groups and assign a starting station for each group. Allocate a specific time for each station (3-5 minutes). At each station, students should: • Read the information about the ailment • Write down key points or answers on the provided sticky notes and attach them to the station's poster. Rotate groups to the next station after the allotted time. Continue the rotation until all groups have visited each station. 3. Lesson Activity
	Process Questions: 1. Identify some common symptoms that appear across several conditions. 2. Throughout the gallery walk, we learned about different respiratory ailments. How does the body's immune system play a role in fighting off these illnesses? 3. Are there ways to strengthen the immune system to better defend against respiratory infections? 4. Why is it important to cover your mouth and nose with a handkerchief when sneezing? 5. How do you think air pollution affects the lungs? 3. Lesson Activity 3.1 Spreading the Word: Promoting Respiratory Health Design a short slogan or message promoting healthy habits for respiratory health. This also includes the importance of having clean air. How can you share this message with your family, friends, or classmates? 3.2 A Mask is a Must: Design Your Own Mask! Use markers, paints, or other materials (depending on fabric type) to personalize your mask with designs or messages promoting mask-wearing. What is the importance of proper mask-wearing?

		A. Spreading the Word: Promoting Respiratory Health The goal of this activity is to create a catchy slogan or message to promote healthy habits for respiratory health. Students can work individually or in pairs to create their slogans or messages. Encourage creativity among the students! 1. (5 minutes) Begin with a class discussion about the healthy habits learned in previous lessons (e.g., regular exercise, avoiding smoke, etc.). You can also briefly mention the importance of clean air for lung health. 2. 10-15 minutes) Explain that students will be creating a short slogan or message promoting healthy habits for respiratory health and the importance of clean air. Encourage them to consider who their target audience is (family, friends, classmates) and how their message can be most impactful for that group You can provide a brainstorming worksheet with prompts like: - What healthy habits keep our lungs healthy? - Why is clean air important for our lungs? - How can we encourage others to take care of their lungs?
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		Students can choose how to present their message. Here are some options: Simple Slogan: Write a clear and concise slogan on a piece of paper or create a poster with the slogan and some illustrations. Short Message: Write a short message explaining the importance of healthy habits and clean air for lung health. Drawing/Poster: Create a drawing or poster that visually represents their message. This can be combined with a written slogan or message. Digital Message: If technology is available, students can create a digital message using presentation software or other tools. 3. If there is still time, let your students share their slogans, messages, or artwork with the class. This allows them to practice communication and presentation skills. 4. Discuss how students can share their message with their target audience outside of class. Encourage them to think creatively about ways to spread awareness about healthy habits and clean air (e.g., hanging a poster at home, talking to friends, creating a social media post). B. A Mask is a Must: Design Your Own Mask!
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		Introduce the activity by showing a picture illustrating how germs travel through the air when someone coughs or sneezes. Explain that masks act as barriers, preventing the spread of germs from an infected person to others. Show students a real mask and demonstrate how to wear it properly (covering nose and mouth, snug fit). Tell them masks can be disposable or cloth. Design. Distribute fabric scraps and explain that students will be designing their own masks. Encourage them to consider: Functionality: The mask should still cover the nose and mouth effectively. Comfort: The design should allow for easy breathing and a comfortable fit. Creativity: Students can use markers, paints, or other materials (depending on fabric type) to personalize their masks with designs or messages promoting mask-wearing. Briefly review the importance of proper mask-wearing. Emphasize that mask-wearing is not just about protecting ourselves, but also about
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		protecting those around us, especially those at higher risk.		
D. Making Generalizations	2. Learners' Takeaways			
	A. Rate your understanding			
	Check one of the boxes describing how the lesson helped you attain the focus points intended for the lesson.			
	How much did this lesson help you....	Fair (5 points)	Better (8 points)	Best (10 points)
	1. Identify the nose, windpipe, and lungs in pictures and diagrams of the respiratory system.			
	2. Describe the function of each part of the respiratory system (nose, windpipe, lungs)			
	3. Label the nose, windpipe, and lungs on a diagram of the respiratory system.			
	4. Explain how air moves in and out of the lungs through observing a lung model			
	5. Create a simple model of the			

	respiratory system			
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3. Reflection on Learning

A. KWL Chart: Using the KWL chart you used in the beginning of the lesson, fill out the third column that shows your learnings.

KWL

(Respiratory System)

What I <u>KNOW</u>	What I <u>WONDER</u>	What I <u>LEARNED</u>
Add the information you know about the topic.	Based on what you already know, what other things are you wondering about? List your questions here.	Add new information here, especially those that answer your earlier question.



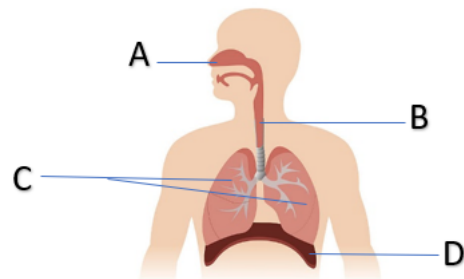
IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
A. Evaluating Learning	1. Formative Assessment A. Multiple Choice. Read carefully the questions and choose the letter of the correct answer 1. What are the major organs of the respiratory system? A. Eyes, ears and mouth	

- B. Nose, trachea and heart
- C. Trachea, lungs and oxygen
- D. Nose, trachea and lungs

2. When you inhale _____.

- A. the diaphragm expands and the chest goes up
- B. the diaphragm expands and the chest goes down
- C. the diaphragm contracts and the chest goes up
- D. the diaphragm contracts and the chest goes down

For numbers 3-6, refer to the diagram below.



- 3. During inhalation, air enters the body through_____.
 - 4. Exchange of gases takes place in _____.
 - 5. The passageway to the lungs lined with cilia and mucus is _____.
 - 6. It contracts or expands during breathing.
7. You must cover your mouth when you sneeze so that _____.
 - A. you cannot talk
 - B. you don't sneeze further
 - C. people won't see your mouth
 - D. you don't spread the droplets that might contain germs
8. Which of the following is NOT a symptom of a respiratory disease?
 - A. Fever
 - B. Shortness of breath
 - C. Chest pain
 - D. Upset stomach

	9. How does the diaphragm help the lungs to move when breathing? 10. Name the gas that we breathe in and how it moves through the main organs of the respiratory system			
B. Teacher's Remarks	<i>Note observations on any of the following areas:</i>	Effective Practices	Problems Encountered	
	strategies explored			
	materials used			
	learner engagement/ interaction			
	others			
C. Teacher's Reflection	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?			

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