4

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 3
Lesson
1

Lesson Exemplar for Science Grade 4
Learning Resource Unit on Describing Force
Quarter 3: Lesson 1 (Week 1)
S.Y. 2024-2025

Development Team

Writer:

- Jessa V. Logronio (Silliman University)

Validator:

- Edwin Auditor (Philippine Normal University - Manila)

Management Team

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

LESSON EXEMPLAR

SCIENCE / QUARTER 3 / GRADE 4

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	*The learners learn that:* 1. Science processes help in observing and predicting how things move. 2. Pushes and pulls can change the position and shape of objects. 3. Gathering scientific information helps explain the behavior of objects and materials. 4. Magnets affect some objects and materials without touching them. 5. Energy is present whenever there is movement, sound, light, or heat.
B. Performance Standards	*By the end of the quarter, learners* use simple equipment and processes to measure and record data related to movement and describe and predict the way things around them move using more scientifically technical language and concepts, such as speed and force. They demonstrate an understanding that science processes are used to gain a deeper understanding about forces that cannot be seen directly, including the properties of magnets.
C. Learning Competencies and Objectives	***Learning Competency: The learners participate in guided activities to discover and predict how rigid and soft objects can be moved and/or changed in shape.*** The learners will be able to: **1.** Lesson Objective 1: identify rigid and soft objects based on physical characteristics. **2.** Lesson Objective 2: classify objects as rigid and soft objects. **3.** Lesson Objective 3: define force as a push or a pull exerted on an object. **4.** Lesson Objective 4: describe forces using arrows in given situations. **5.** Lesson Objective 5: identify forces in our daily tasks. **6.** Lesson Objective 6: investigate how rigid and soft objects respond to applied forces.
C. Content	Describing Force ● A force is an action that changes or maintains the motion of a body or object. It is either a push or a pull. ● Forces can change an object's speed, its direction, and even its shape.
D. Integration	Safety – When pushing or pulling, one must be aware of the direction of force and movement of the object. Responsibility (Grade 3 GMRC & VE): Students understand their responsibilities at home and school.

II. LEARNING RESOURCES
• *Booth, G., McDuell, B., & Sears, J. (1999). World of Science: Students'. OUP Oxford.* • Department of Education. (2023). *MATATAG Curriculum in Science*. DepEd Complex, Meralco Avenue, Pasig City, Philippines. • Embile, R., & Gongora, K. (2023). *Science and the New World 4*. Jo-es Publishing House, Inc. • *force.* (n.d.). Britannica Kids. https://kids.britannica.com/learners/article/force/323538#:~:text=A%20force%20is%20an%20action • *Lenin's Science Experiments. (2018, February 8). How Force can change Position, motion, shape, size and direction of objects | Effects of Force [Video]. YouTube.* https://www.youtube.com/watch?v=L9KY43hDSzI • Manaher, S. (2023, August 9). *Soft vs Rigid: Do These Mean The Same? How To Use Them.* The Content Authority. https://thecontentauthority.com/blog/soft-vs-rigid

III. TEACHING AND LEARNING PROCEDURE		**NOTES TO TEACHERS**
A. Activating Prior Knowledge	**DAY 1** **1. Short Review** **A. Think-Ink-Share: Pushing & Pulling Experiences (10 minutes)** Instruct the students to think about the following questions and make individual written responses in their science notebooks. After writing their responses, they will share their answers with their seatmates. • "Have you ever experienced being pushed or pulled by somebody?" • "Have you encountered situations where objects were pushed or pulled?" • "Have you been involved in pushing or pulling something or someone?" • "In your experiences, was anyone hurt due to pushing or pulling?"	Start by introducing the Think-Ink-Share activity and explaining its purpose. Emphasize that reflecting on personal experiences can help them grasp pushing and pulling more effectively. Guide the students to review the concepts of pushing and pulling by sharing their personal experiences related to these actions. Allow them to recall and discuss these experiences with a seatmate. Following the sharing, invite volunteers to discuss their experiences with the whole class.

		Emphasize safety, especially when incidents involve someone getting hurt, prompting students to think about safety precautions when pushing or pulling objects or people. Students' responses may include pushing and pulling experiences when they play with friends in the playground or with their siblings or cousins at home. They may also mention students pushing when they are crowded during line formation or during dismissal. Remind them to maintain enough distance from other students during dismissal or assemblies to avoid getting hurt or accidentally pushing others. Be sensitive to students' responses, especially when they were hurt by their experiences.
B. Establishing Lesson Purpose	**2. Lesson Purpose** **a. Activity 1: Self-Assessment (10-15 minutes)** Instructions: Read the listed learning targets below. Instruct the students to assess themselves to see if they have developed these skills already and rate themselves according to the guide below. They write their ratings in the column Before Learning the Lesson. After learning the lesson, we will go back to this.	Guide the learners in answering the Self-Assessment activity. As a class, review each learning target on the list and ask them to rate themselves individually. After they answer each item, ask how many rated themselves with one, two, or three stars.

	☆ I still need help to do this. ☆☆ I can do this by myself. ☆☆☆ I can do this by myself and in different ways.	Let them raise their hands or stand to be identified. This gives an idea of how many need to learn more about the lesson and how many have already developed the skills. You may ask them to copy the table with the learning targets in their notebook since this will be revisited at the end of the lesson.

Learning Targets	**Before Learning the Lesson**	**After Learning the Lesson**
1. I can identify rigid and soft objects based on their physical characteristics.		
2. I can describe the characteristics of rigid and soft objects.		
3. I can classify objects as rigid or soft objects.		
4. I can define force as a push or pull exerted on an object.		
5. I can describe forces using arrows in given situations.		
6. I can identify forces in our daily tasks.		
7. I can investigate how rigid and soft objects respond to applied forces.		

3. Unlocking Content Area Vocabulary

Activity 2: Anagram Game - Unscramble the Letters! (15 minutes)

Instructions: Rearrange the letters in each anagram to form the correct vocabulary word. After unlocking the vocabulary words in this game, ask the learners to write a keyword related to the unlocked work or draw a symbol to represent the word in the third column of the table.

Part 1:

Anagram	**Answer**	**Related Keyword or a Symbol**
1. Mtneovem		
2. Girdi bojetcs		

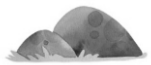
In the unlocking of vocabulary, encourage students to think of a keyword that relates to the given term, or they can draw a symbol that also relates to the word. If they can, they may give both the keyword and the symbol.

Answer Key:

1. Mtneovem → Movement

3. Sotf bjsceto		
4. Froce		

Part 2:

Term	Definition	Symbol
1. Movement	is the change in the position of an object over time.	
2. Rigid objects	Objects that are hard and cannot be easily bent, deformed, or compressed.	
3. Soft objects	Objects that can be easily bent, deformed, or compressed.	
4. Force	Push/pull	

2. Girdi bojetcs → Rigid objects
3. Sotf bjsceto → Soft objects
4. Froce → Force

Here are examples of keywords and symbols that relate to each term:

1. Movement - “walking”, “running”, etc.
   Symbol: arrow or a running figure
2. Rigid Objects - "stiff" or "hard"
   Symbol: solid block
3. Soft Objects - "squishy"
   Symbol: pillow
4. Force -"push" or "pull"
   Symbol: arrows in opposite directions

The symbols given here are only samples of possible symbols.

C. Developing and Deepening Understanding

DAY 2

1. Explicitation

Relate the learners’ responses on the Think-Ink-Share: Pushing & Pulling Experiences to this week’s lesson on describing force.

a. Force Brainstorm Activity (10-15 minutes)

Ask the learners what comes to mind when they hear the word force. Then, they share their ideas with their seatmates and write them on a piece of sticky paper or colored paper with tape. Ask them to post their paper on the board around the word force.

Summarize and connect their ideas to the scientific definition of force.

Recall learners’ responses in the first activity, Think-Ink-Share: Pushing & Pulling Experiences.

To elicit further ideas about force, conduct the brainstorming activity. Use their answers to introduce the definition of force.

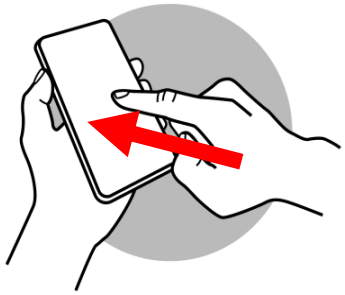
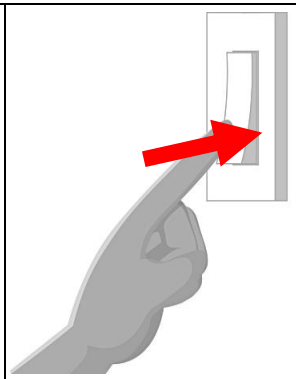
	A force is an action that changes or maintains the motion of a body or object. It is either a push or a pull. Forces can change an object's speed, its direction, and even its shape. Before learning further about forces, ask the students what they need to do first if they need to conduct an experiment using certain materials. Tell them that scientists explore, describe, and try to discover more about the things around us. Similarly, students start exploring the things around them by describing and classifying them based on their characteristics. For this lesson, they will focus on soft and rigid object. **b. Activity 3: Rigid and Soft Materials (30-40 minutes)** Instruct the students to answer Activity 1: Rigid and Soft Materials. Assign each student a partner for this activity. Each pair is asked to observe the listed objects/materials in the classroom, describe their characteristics, like size and texture, and classify them as rigid or soft objects based on their characteristics. Ask them to write their answers on the worksheet. Synthesize the activity by discussing their answers to the following process questions: 1. When can you say an object is rigid? 2. What are the physical properties of soft objects? 3. Why is it important to distinguish between soft and rigid objects?	In the following activities, students will work in groups to promote collaboration and share ideas with their group mates. Use Activity 3 to build students' concepts of rigid and soft objects. You may expand the list or replace some materials based on what is available. Suggested materials include the chair, table, leaf, stone, shelf, floor, paper, bread, sponge, doorknob, cotton, and cloth. Discuss their answers to the process questions to clarify their basis for classifying an object as soft or rigid. Encourage students to explore and engage with the objects in a respectful manner. Remind them not to disturb or damage any items in the classroom. Possible answers to Activity 3 guide questions. 1. An object is considered rigid if it is hard and cannot be easily bent, deformed, or compressed. 2. Soft objects can be easily bent, deformed, or compressed. 3. It is important to distinguish between soft and rigid objects because it determines how much

		force is needed to change their shape, move, stop, or change their direction. When we know an object is rigid, we can exercise caution to avoid getting hurt or injured in pulling or pushing it. *Activity 1 Classification of Objects:* Soft / Rigid Leaf / Chair Paper / Table Bread / Stone Sponge / Shelf Cotton / Floor Cloth / Doorknob
	DAY 3 **2. Worked Example** After defining force, guide students to describe forces by drawing arrows in a diagram to indicate where the force is directed and by writing a phrase including who applies the force to what object. The phrase is given in this pattern: something or someone pushes or pulls an object or person. A force can be represented by an arrow in a diagram. The arrowhead shows the direction of the force. The arrows representing forces may be directed upward ↑, downward ↓, to the right or forward →, to the left or backward ←, or diagonally, depending on the force applied.	Use Activity 4 to develop students' skills in describing forces in their daily activities. Go through the first scenario together as a class. Discuss the forces acting on the object and model how to use arrows to represent these forces.

a. Activity 4: Describing Force (15-20 minutes)

In Activity 2: Describing Force, students will learn to identify and describe different forces acting on objects and represent these forces using arrows to indicate direction.

Answers:

 A girl pressing the phone screen	 A boy is carrying a bag	 boy is pushing the light switch
 A boy is pulling a chair	 The bigger hand is pulling the rubber band	 The girl is sweeping the floor

Allow students to work individually or in pairs to complete the remaining scenarios on the worksheet. Circulate the classroom to provide support, answer questions, and ensure students are correctly representing forces with arrows.

Ensure students understand that arrows represent both the direction and strength of forces. But for this level, they are not required to measure the length of the arrow. You may tell them that a short arrow represents a small force, and a long arrow represents a big force.

Possible answers to Activity 2 guide questions.

1. I represented a pushing or pulling force in the diagram using arrow.
2. Yes, if my friend and I are pulling both ends of a rope in a tug-o-war with equal forces. The arrows representing our forces are two equal arrows in opposite directions.

	After completing the activity, lead a class discussion to reinforce the concepts learned. Ask students to share their drawings and discuss their answers to the following questions: 1. How would you represent a pushing force in a diagram? What about a pulling force? 2. Can you identify situations in which forces are balanced or equal? How would you draw the arrows for balanced or equal forces? **3. Lesson Activity** **a. Activity 5: Forces in My Everyday Life (20-25 minutes)** Deepen students' understanding of forces by asking them to identify different forces present in their everyday lives. Ask them to answer Activity 3: Forces in My Everyday Life. Ask each student to illustrate four situations wherein they do actions (that apply a push or a pull) to accomplish daily tasks at home or at school. They must draw arrows to show where the force is directed and label or caption each situation using the pattern: I am *pushing/pulling* an *object + direction*. Discuss their answers to the process questions below: 1. What is the most important task you do daily? Why? 2. Why is it good for you to do different daily actions? Summarize the lesson's key points, emphasizing how understanding forces in everyday life is essential. Encourage students to remain observant of forces in action around them and consider how these forces impact their daily activities. **Key points of the lesson:** 1. Forces are Everywhere: Forces are all around us, influencing how objects move and interact. 2. Impact on Daily Activities: Forces influence how we interact with objects around us, like pushing a shopping cart, pulling a rolling backpack, or playing with friends. 3. Applying Scientific Processes: By observing how things move, we can better understand the forces at play in our environment.	Use Activity 5 to deepen their understanding of the forces in their daily activities. Go through the first scenario together as a class. Give them enough time to think about their situations in their daily lives. Establish deeper connections between the word force and learners' daily activities at home or school to accomplish tasks. This activity reminds them of home and school responsibilities, like cleaning, washing, sweeping the floor, and other chores.

D. Making Generalizations

DAY 4

1. Learners' Takeaways (10 minutes)

Real-life Connection

1. Why do we need to be aware of how the things around us are moving?
2. Why is it important to learn how forces affect how things move?
3. What important scientific skills have you developed in this lesson? Why do you need to develop them?

Values Integration

1. How can you ensure safety when doing your daily tasks that involve pushing or pulling objects?
2. What are your responsibilities at home and school? Why do you think you're assigned these responsibilities at a young age?

2. Reflection on Learning (10 minutes)

Self-Assessment

Instructions: Revisit the Self-Assessment checklist used at the start of this week. Ask your students to write their self-assessment ratings using the scale below in the third column of the table below.


I still need help to do this.


I can do this by myself.


I can do this by myself and in different ways.

Learning Targets	**Before Learning the Lesson**	**After Learning the Lesson**
1. I can identify rigid and soft objects based on their physical characteristics.		
2. I can describe the characteristics of rigid and soft objects.		
3. I can classify objects as rigid or soft objects.		

Conduct a short discussion about real-life connection and values integration of the lesson on forces using the given guide questions.

Possible answers:

Real-life Connection

1. We need to be aware of how things around us are moving for it helps us understand potential dangers and avoid accidents. For example, being aware of moving vehicles on the road can prevent accidents while crossing.
2. Learning how forces affect how things move is crucial because it helps us how forces affect the speed, direction, and shape of objects. For example, understanding the force of gravity helps explain why objects fall towards the Earth.
3. In this lesson, important scientific skills that I developed are observation and experimentation. These skills help us gather information about what happens to objects when we apply forces on them.

Values Integration

1. We can ensure safety when pushing or pulling objects by making sure the area is free of obstacles to prevent tripping or

		stumbling while pushing or pulling. 2. Answers may vary. Responsibilities at home and school may include tasks such as chores, homework, and helping others. These responsibilities are assigned at a young age to teach important life skills and instill values such as responsibility, accountability, and teamwork. These responsibilities help children develop into responsible and capable individuals.

4. I can define force as a push or pull exerted on an object.		
5. I can describe forces using arrows in given situations.		
6. I can identify forces in our daily tasks.		
7. I can investigate how rigid and soft objects respond to applied forces.		

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		**NOTES TO TEACHERS**
A. Evaluating Learning	**1. Formative Assessment (25 minutes)** **I. True or False.** Carefully read the statements below. Write True if the statement is true; otherwise, write False on the blank space before each number. _____ 1. A force is a push or pull applied to an object. _____ 2. A doorknob is an example of a rigid object. _____ 3. A clay is an example of a soft object. _____ 4. You push a broom to sweep trash on the floor. _____ 5. When an object is pulled, it moves towards the direction of the pull.	Assess students' knowledge and skills using the assessment provided. **Answer Key** *I. True or False* 1. True 2. True 3. True 4. True 5. True

II. Table Completion. Complete the table below by drawing an arrow to represent the force applied in each daily task below.

Daily Task	
1. Wiping the blackboard upward	
2. Pulling a chair backward	
3. Lifting a box	

II. Table Completion

1.

2.

3.

4. Pushing a door		
5. Throwing a trash into the bin		

2. Homework

For our lesson next week, define the following terms in your notebook:

a. Magnet
b. Repel
c. Attract
d. Demagnetization

4.

5.

B. Teacher's Remarks	*Note observations on any of the following areas:*	**Effective Practices**	**Problems Encountered**	
	strategies explored			
	materials used			
	learner engagement/ interaction			
	others			
C. Teacher's Reflection	*Reflection guide or prompt can be on:* ▪ *principles behind the teaching* *What principles and beliefs informed my lesson?* *Why did I teach the lesson the way I did?* ▪ *students* *What roles did my students play in my lesson?* *What did my students learn? How did they learn?* ▪ *ways forward* *What could I have done differently?* *What can I explore in the next lesson?*			