



Science 4 **Microlearning Module**

QUARTER 3 – Module 6 Push and Pull can be used to change the speed and direction of an object





REGION XII - DIVISION OF SULTAN KUDARAT

Science 4 Microlearning Module (MLM) Quarter 3 – Module 6: Push and Pull can be used to change the speed and direction of an object First Edition, 2024

Republic Act 8293, Section 176 states that "No copyright shall subsist in any work of the Government of the Philippines." However, obtaining prior approval from the government agency or office where the work originated is required for the commercial use of such work. This agency or office may, among other things, impose as a condition the payment of royalties.

Materials borrowed for this module (e.g., songs, stories, poems, images, brand names, trademarks, etc.) are the property of their respective copyright owners. The publisher and authors do not assert ownership or representation over them.

Published by the Department of Education- RO XII, Division of Sultan Kudarat

Development Team						
Writer	: Roselyn M. Besmanos					
Editors	: Cherry B. Escoto					
	Gina R. Abonado					
Mary Gayle L.España						
	Maribel M.Torreña					
Evaluator	: Dominador B. Rebugio,Jr.					
Illustrator	· · · · · Orlie L. Antenorio					
Cover Art De	signer: Jann Mark P. Oriel					
Management Team: Crispin A. Soliven Jr., CESE – Schools Division Superintendent						
	Meilrose B. Peralta, EdD – Asst. Schools Division Superintendent					
	Ismael M. Ambalgan – Chief, CID					
	Sheryl L. Osano – EPS, LRMS					
	Eric R. Balancio -EPS, Science					
	Cherry B. Escoto - Principal III					

Printed in the Philippines by

Department of Education – Region XII, Division of Sultan Kudarat

Office Address: Kenram, Isulan, Sultan Kudarat Telefax: 064-471-1007 E-mail Address: depedsk.r12@deped.gov.ph

MICROLEARNING MODULE

Name:			Grade & Sec:		Score:	
Subject: <u>Science 4</u>			Quarter: 3		MLM No. <u>6</u>	
Teacher: _						
Learning	Competency:	The	learners	demonstrate	through	guided
activities	that push as	nd pul	ll can be	used to chang	ge the spe	ed and
direction	of an object.					

Push and Pull can be used to change the speed and direction of an object

A. Look Back!

Study the pictures below and answer the succeeding questions to test your understanding of our previous lesson.



- 1. Which picture exerts greater force? lesser force?
- 2. Which degree of force applied makes the ball travel at a shorter distance?
- 3. Examine the pictures A and B. Describe the force exerted by the boy towards the ball.

B. What's New?

Rap the song titled "Push and Pull" and understand the lyrics. Answer the guide questions below.

Song: Push and Pull

(Verse 1)

Push, push, push it away Give it a little force, make it sway Push, push, push it along Watch it move, hear it sing its song

Chorus)

Push and pull, that's what we do Change the speed and direction too With a little force, we can make it go Push and pull, let the objects flow

Today is windy,windy day. Today is windy,windy day. It's a windy,windy, windy day.

Today is a stormy,stormy day. Today is a stormy,stormy day. It's a stormy,stormy, stormy day.

(Bridge)

Push and pull, it's a game we play Changing motion in a special way Understanding forces, it's so cool Exploring science, we're no fool (Repeat Chorus) Push, pull, push, pull Changing motion, it's so cool With a little force, we can make it go Push and pull, let the objects flow

Guide Questions:

1. What actions are mentioned in the song that can change the motion of an object?

- 2. How can we change the speed and direction of an object?
- 3. What is the purpose of the song "Push and Pull"?

C. What Is It?

Force is a push and pull acting on an object. It is important in our daily life. We use force to perform various activities. We use it in all our activities like walking, playing, lifting objects, throwing a ball, doing our chores, or moving objects in a particular direction. We use force to live and apply it to different objects around us.

Pushing and **pulling** an object can change the speed and direction of an object. The bigger the force, and the lighter the object, the greater the acceleration. It can also make something slow down, speed up, or change direction. When an external force is applied to an object, it can cause the object to accelerate, decelerate, or change direction depending on the magnitude and direction of the force applied.

Changing Speed:

Pushing to Accelerate- By applying a pushing force in the direction of motion, such as pushing a toy car forward, the object's speed increases. This demonstrates how a force in the direction of motion can accelerate an object.

Pulling to Decelerate- Conversely, pulling against the direction of motion, such as pulling a toy car backward, can slow down or decelerate the object. This illustrates how opposing forces can act to reduce the speed of an object.

Changing Direction:

Pushing at an Angle- when pushing an object at an angle to its current direction of motion, such as pushing a ball sideways, the object changes its direction of motion. This showcases how pushing forces can alter the path of an object.

Pulling with a curved Path- Similarly, pulling an object along a curved path, such as pulling a toy car around a bend, changes the object's direction of motion. This demonstrates how pulling forces can influence the direction of an object.

Some pushes and pulls that might happen at home include:



A wheelbarrow being pushed by the gardener



Doors that open or close when they are pushed or pulled



A cabinet being pushed or pulled



A child pushing a toy car

D. Let's try!

Activity D.1 Push and Pull Activity

Materials:

rubber ball

table or any flat surface

Directions:

Demonstrate the following situations using the rubber ball on a table or any flat surface.

- a. From at rest, make the object move.
- b. Make the moving object move faster.
- c. Make the moving object move slower.
- d. Make the moving object change its direction.
- e. Make the moving object stop.

Guide Questions:

- 1. What did you apply to the object in all situations?
- 2. Without force, will the object at rest move?
- 3. Without force, will the object in motion stop?
- 4. Without force, will the moving object change direction?
- 5. What did you do to make the object move faster? slower?
- 6. How does the force affect the motion or movement of the object?

Activity D.2. Check Me

Directions: Read and understand the following situations. Tell whether the situations apply push and pull by checking the column.

Situations	Push	Pull
1. Carla is flying a kite. To keep the kite in the air, should		
she push the string or pull the string?		
2. Paul is kicking a ball. Is kicking a push action or a pull		
action?		
3. Michael has stepped outside, but before he can play, he		
must shut the door. Do you think he should push or pull		
the door to close it?		
4. Sieve is done playing. He wants to go inside. How will		
he open the door? Should he push the door or pull the		
5. The mother is trying to move a heavy basket. Does she		
appear to be pushing or pulling the basket?		

Activity D.3. Cut and Paste Activity Materials:

pictures glue scissor cartolina

Procedures:

- 1. Find 5 pictures that show push and pull activity.
- 2. Cut and paste it into the cartolina.
- 3. Make a mobile chart.



Rubrics to be used to rate Cut and paste activity.

Criteria	5	4	3
Accuracy	The work demonstrates	The work is mostly	The work
	a high level of accuracy,	accurate, with few	inaccurate.
	with all information	minor errors. Most of	Lacks sufficient
	presented correctly and	the information is	evidence to
	supported by evidence.	correct and supported	support its
	There are no factual	by evidence.	claims. Some
	errors.		information may
			be incorrect.
Neatness	The work is	The work is neatly	The work is
	exceptionally neat and	presented with few	disorganized.
	well-organized	minor organizational	
		issues.	
Creativity	The work demonstrates	The work shows	The work lacks
	exceptional creativity.	creativity and	of creativity.
		originality, with some	
		innovative elements.	
		Ideas are presented in	
		an interesting and	
		engaging way.	

E. Let's Evaluate

Directions: Choose the letter of the best answer. Write your answer on a separate sheet of paper.

1. It is a push or pull.

A. force B. gravity C. mass D. speed

2. If you push a cart, a big box, and a bicycle to a certain distance from the line, which will require you to exert a greater force?

A. big box B. bicycle C. Cart D. all of them

- 3. It is an act of applying force to move something towards you.A. a pullB. a pushC. a push and a pullD. none of the above
- 4. Which among the following objects will require a greater force to move?

A. chair B. table C. refrigerator D. television

5. Which among the objects below require lesser force to move? A. book B. eraser C. notebook D. pencil 6. Which among the objects will move the fastest upon the application of a force?

A. ball B. marble C. stone d. tire

- 7. Which of the following objects will move easier when a force is applied to it?
 - A. plastic dining table
- C. empty steel cabinet
- B. empty steel cabinet D. small wooden dining table
- 8. A large stone that is standing still will move when_____.
 - A. bumped by another stone
 - B. touched by a person
 - C. there is a strong wind
 - D. more or stronger force is applied on the stone
- 9. The picture shows that two players are pulling a rope with the same amount of force. What will likely to happen?



A. both will fall

C. learner A will win

B. learner B will win

- D. they will not move at all
- 10. Why do you need to use force in moving a ball up a ramp?
 - A. to add force to the ball
 - B. to let the ball roll on the ramp
 - C. to allow the ball to stay on the ramp
 - D. to move the ball away from the ramp

F. References

Abutay,Lelani R.,Dinah C. Bonao, Editha B. Crucis, Jimmie C. Eslabra, EsterT. Gramaje, Michelle H. Guadamor, Aniano I. Hernandez, Ligaya G. Ilagan, Ferdinand M. Llamera, Raylene S. Manawatao, Hermogenes M. Panganiban, Jennifer M. Rojo, Regin Rex P. Tosco. 2015 Science-Grade 4 Learner's Material,Pasig City LEXICON PRESS,INC.

Torrero, Rechilda B. Science – Grade 4 Alternative Delivery Mode, Legazpi City, Department of Education, 2020

Australiancurriculumlessons. Available at: https://www.australiancurriculumlessons.com.au/wpcontent/uploads/2016/07/Push-and-Pull-Science-Unit-for-Years-1and-2.pdf (Accessed: 26 April 2024).

ANSWER KEY

Grade 4 SCIENCE

Quarter: 3 LC No. 6

A. Look Back!

- 1. Picture B exert greater force. Picture A exert lesser force.
- 2. lesser force
- 3. In picture A the boy exerted lesser force. In picture B the boy exerted greater force.

B. What's New?

- 1. Push and pull.
- 2. By applying force through pushing and pulling.
- 3. To help us understand how forces like push and pull can change the motion of objects.

C. Let's try!

А.

- 1. Force
- 2. No
- 3. No
- 4. No
- 5. Applying greater amount of force/lesser amount of force
- 6. Force can change the movement of the object. It can make things move or stop moving. It changes the direction of a moving object. It also makes the movement faster or slower.

В.

- 1. pull
- 2. push
- 3. push
- 4. pull
- 5. Push

D. Evaluation

- 1. A
- 2. A
- 3. A
- 4. C
- 5. D
- 6. B
- 7. A
- 8. D
- 9. D
- 10. B

DISCLAIMER

This Microlearning Module has been developed by DepEd -Division of Sultan Kudarat for educational purposes only. It is designed to supplement classroom instruction and should not be used as the sole source of information. Teachers are encouraged to exercise their professional discretion and tailor the content to suit their students' individual needs.

This resource is the exclusive property of DepEd-Division of Sultan Kudarat and is accessible to enrolled learners solely for academic purposes, at no cost. Any reproduction or conversion of this material in any form is strictly prohibited.

REGION XII - DIVISION OF SULTAN KUDARAT