4

Science 4

Microlearning Module

QUARTER 3 – Module 5

Force Can Change the Speed and Direction of an Object

Microlearning Module

REGION XII - DIVISION OF SULTAN KUDARAT

Science 4
Microlearning Module (MLM)
Quarter 3 – Module 5: Force Can Change the Speed and Direction of an Object
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Development Team

Writer : Alpha S. Diamante
Editors : Cherry B. Escoto
Agnes S. Morante
Mary Gayle L. España
Evaluator : Dominador B. Rebugio Jr.
Cover Art Designer: 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

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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: Science_____Quarter: 3_____ MLM No. 5
Teacher: _____
Learning Competency**: The learners participate in guided activities to demonstrate that pushes and pulls can be used to change the speed and direction of an object including making it go faster, turn it to a different direction, slow it down, and stop it.**

Force Can Change the Speed and Direction of an object

A. Look Back!

Activity A.1

Direction: Arrange the scrambled letters to reveal the mystery words. Write your answers on a separate sheet of paper.

1. D E P S E - The rate of change of position of an object in any direction.
2. O N O M I T - Changed an object's position to a reference point
3. S D T I E N C A- The measure of how far or near two points are From one another.

B. What's New?

How are you today? Do you feel great? What are your favorite sports? Do you play tug of war?

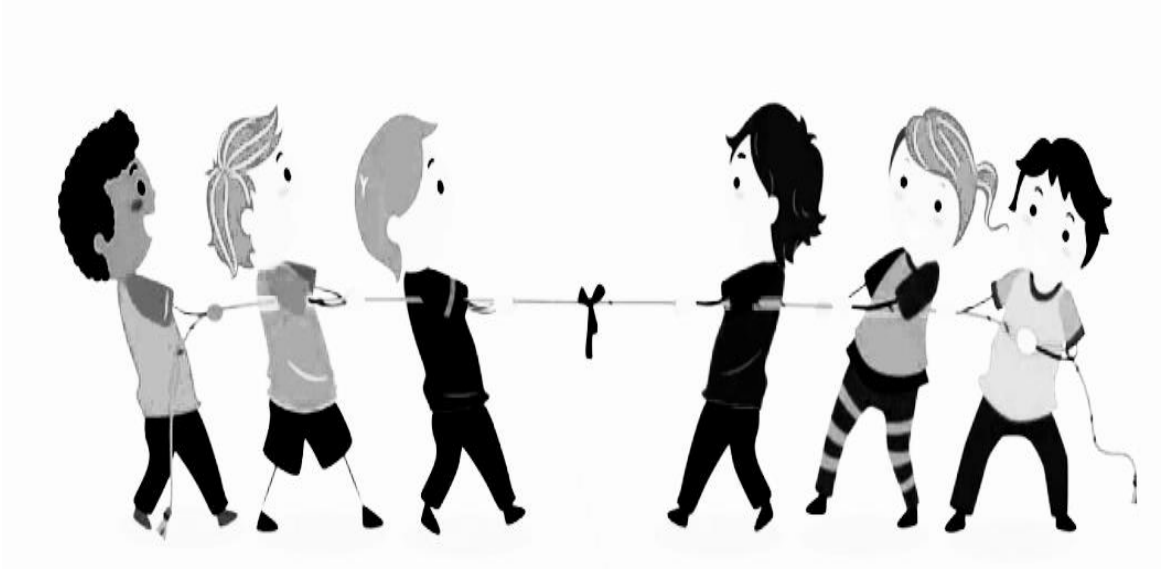

Figure A: Children are playing tug of war

Tug of war is a sport wherein two teams pull at opposite ends of a rope until one drags the other over the central line.

How will you win the game? Remember to keep your feet forward on your knees at an angle. Move as one. The key to success is teamwork. Pull as one, don't waste energy on short tugs, let your thighs take the strain, work together, and effectively use each pulling power, and with a concerted effort, you should tug the other team into submission.

C. What Is It?

We encounter various moving objects in our daily lives, such as cars, buses, airplanes, boats, motorcycles, bicycles, and animals, all of which are examples of moving objects. An object in motion is said to be moving.

Force and motion are deeply related in nature. We can say that force is the cause of motion. Suppose something is moving, we can say that some force must be acting on it or some force must have acted on it which produced this motion.

Force is a strength or energy. It is a **push or a pull.**

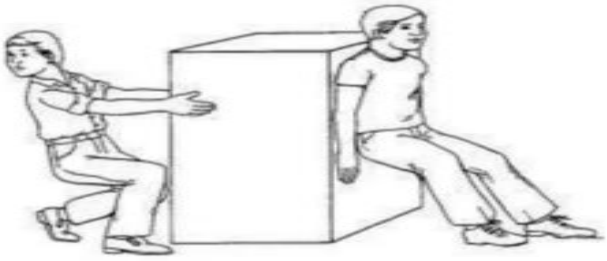

Figure B: The boys are pushing and pulling at the same time.

When an object is pushed or pulled, it will move in the direction of the force.

The bigger the force, and the lighter the object, the faster the object moves. It can also make something slow down, speed up, or change direction.

Without **force,** the object will never **move.**

For example, a cyclist uses force to pedal his bicycle and increase its speed or a football player uses force to change the direction of a ball.

Here are some illustrations from Pinterest that show the person is using force.

Force can change the speed of the moving object.

Force can move the stationary object.

Force can stop the moving object.

Force can change the direction of the moving object.

D. Let's try!

Activity D.1: Block is Block

Materials needed: wooden or plastic block, ruler

Procedure:

1. Flick the block on the table. First, flick it gently and then flick it with all you might. Write your observations in your science notebook.

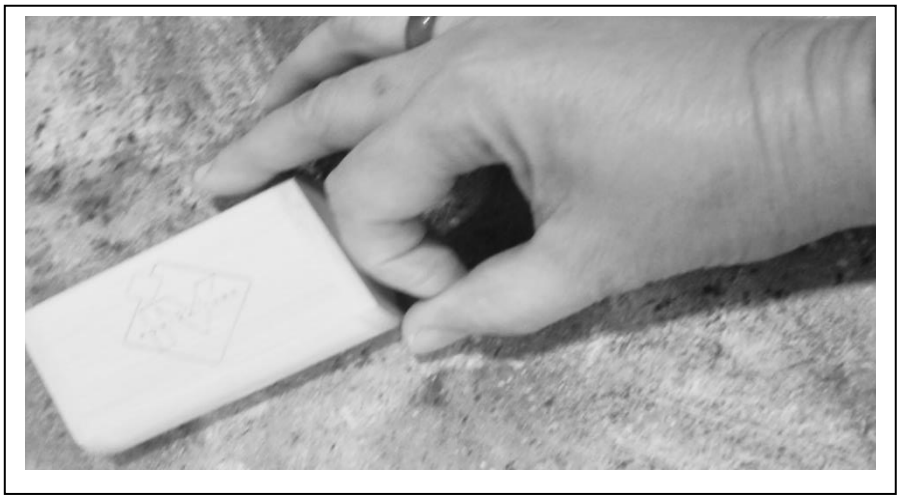

Figure 1. A finger is flicking a block
(Photo captured by the author)

Guide Questions:

1. How far does it move when you flick it gently? When you apply some force? Measure it with a ruler.
2. In which trial did the block move the farthest? Why?

Activity D.2: Push or Pull? 1, 2, 3, Action!

Procedure:

1. Act out or imagine the following scenarios listed from a to e.
2. Write push or pull after every scene on a sheet of paper.
3. If you can act it out, remember to do it with minimum safety,
   a. opening the door _____
   b. kicking a ball _____
   c. pounding a solid soil with a hammer _____
   d. raising a flag _____
   e. inserting an atm card into the machine _____

E. Let's Evaluate

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

_____.1. What causes an object to move?

A. force B. gravity C. magnet D. weight

_____ 2. A _____ is a force moving something towards you.

A. bump B. flick C. pull D. push

_____3. To move a loaded trolley, we have to _____ it.

A. bump B. flick C. pull D. push

_____4. Which among the objects will move faster upon the application of a greater force?

A. beach ball B. marble C. ping-pong ball D. stone

_____5. If a pupil has to kick one object, which one from the list below will move the farthest upon kicking?

A. golf ball B. soft ball C. shotput ball D. tennis ball

_____6. Which of the following objects will move easily when a force is applied to it?

A. plastic dining table C. refrigerator

B. empty steel cabinet D. wooden dining table

_____7. Which among the objects require lesser force to move?

A. blackboard eraser C. cell phone

B. book D. pencil

_____8. The following objects will require a greater force **EXCEPT** one.

A. refrigerator C. monobloc chair

B. study table D. television

_____9. Analyze this statement. "A force can change the direction of the moving object."

A. false C. never

B. maybe D. true

_____10. The following statements are true, **EXCEPT** one.

A. Force can change the direction of an object.

B. Force cannot make a stationary object move.

C. Force can change the speed of a moving object.

D. A force is a push or a pull, which occurs when two or more objects interact with each other.

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ANSWER KEY

Grade 4 :Science: 4 **Quarter : 3** **LC No 5**

A. Look Back

1. Speed .2. Motion 3. Distance

B. What's New

(Answers may vary.). Possible answers.

1. The team won because they were stronger than their opponent.

2. The team won because they worked as one unit.

C. Let's try

Activity 1- 1. Pull 2. Push 3. Push 4. Pull 5. Push

Activity 2- Answers may vary.

Possible answers: The block went nearer when lesser force was applied to it. It went farther when the force applied was stronger.

E. Evaluation

1. a 2. C 3. D 4. c 5. a

6. a 7. d 8. c 9. d 10. b

DISCLAIMER

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