4

Science 4
Microlearning Module

QUARTER 3– Module 1

Forces and Movement

Microlearning Module

REGION XII - DIVISION OF SULTAN KUDARAT

Science 4
Microlearning Module (MLM)
Quarter 3 – Module 1: Forces and Movement
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MICROLEARNING MODULE

Name: _____Grade & Sec: _____ Score: _____
Subject: SCIENCE 4 Quarter: 3 MLM No.1___
Teacher: _____
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**

Forces and Movement

A. Look Back!

Imagine that you are pushing a chair or squeezing a can, what did you apply to do so?

1. Move your chair.
   Question: What makes the chair move?
   What did you apply to make the chair move?
2. Squeeze an empty can.
   Question: What is the appearance of a can now?

B. What's New?

Activity B.1. Investigate the Effects of Force

Problem: What are the effects of force on an object?

What You Need:

glass, piece of paper, toothpaste tube, plastic toy car, paper clip

What to Do:

1. Think of a force you will apply to the different objects given.
2. Describe the actions you did to allow the object to experience the different forces.
3. Observe the effects of the forces on the motion and physical properties of each object.

Objects	Actions Done	Effects
Drinking glass		
Piece of paper		
Toothpaste tube		
Plastic toy car		
Paper clip		

Guide Questions:

1. What are the common effects of forces on the object?
2. Can the effects of forces be increased? How?
3. Can you think of other possible effects of forces on objects that are not observed in the activity? If yes, what?
4. How do forces affect an object?

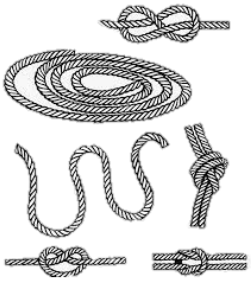
C. What Is It?

Force is defined as a push or pull that occurs when two or more objects interact with each other. Magnets, gravity, and friction can cause things to move. It can change the shape, size, or movement of an object. Every time objects start or stop moving, force is responsible. You meet forces all the time.

There are different types of forces, and some are applied force, friction force, air resistance force, tension force, normal force, gravitational force, and magnetic force.

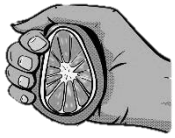
Applied force is used to change the shape and movement of an object. The shape of an object may change when force is applied to it. Pushing, pulling, pounding, compressing, bending, twisting, stretching, or squeezing are ways of changing the shape. In the change of the movement of an object, push and go, hang and pull are the forces applied.

Ways of changing the shape of an object

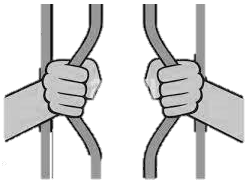


Twisting

Pounding



Squeezing



Bending

D. Let's try!

Activity D.1. How Objects Change In Shape After Applying Force

What you need:

sponge	rolling pin
rubber ball	fork and soon
modeling clay	hammer
bar soap	bottle cap
plastic drinking glass	eggshell
cupcake	chocolate bar
cardboard	pair of scissors

What to do:

1. Observe the materials given in column A.
2. Change the shape of the materials by applying force on it.
3. Fill out Column B with what you did to change the shape of the materials.
4. Fill out Column C with changes that took place after you have applied force on the materials.

A Objects	**B** What did I do to change the shape of the materials?	**C** What changes took place after I applied force to the material?
sponge		
rubber ball		
modeling clay		
bar soap		
plastic drinking glass		
eggshell		
bottle cap		
cupcake		
chocolate bar		
cardboard		

Guide Questions:

1. What are the common ways you did to change the shape of the objects? For each way, what did you use?
2. What do you think will happen to an object if you will:
   a. pound, b. bent, c. stretch, d. crumple and e. press it?
3. From your answers to the questions above, what do you think force can do to objects?

Activity D.2. How Objects Move After Applying Force

What you need:

ball
flat surface
rough surface

What to do:

1. Roll the ball to a smooth flat surface. Observe.
2. Roll the ball to a rough flat surface. Observe.

Guide Questions:

1. What did you do to make the ball roll?
2. How can you compare the movements of a ball on a smooth surface? rough surface? Why is that so?
3. What are some forces we observe or experience in our daily lives?

E. Let's Evaluate

Directions: Write **True** if the statement is correct. If it is wrong, change the underlined word with the correct answer. Write your answer on a separate sheet.

_____1. <u>Pressing</u> of the sponge will change its shape.
_____2. <u>Bending</u> was applied to a broken ceramic pot.
_____3. To move an object, <u>pushing</u> is needed.
_____4. The wire will change its <u>color</u> when it is twisted.
_____5. The paperclip when <u>pounded</u> will change its shape.
_____6. The iron bar will change its shape when it is <u>twisted</u>.
_____7. It is necessary to use <u>force</u> in moving a ball up a ramp.
_____8. Among the marbles, pebbles, and balls, the fastest to move when you apply a push is <u>the ball</u>.
_____9. A boy has to choose from among the softball, soccer ball, and tennis ball to kick that moves farthest. He chose a <u>soccer</u> <u>ball</u>.
_____10. If you pull a cart, big box, and a trolley bag to a hallway from the starting line, the <u>cart</u> will require you to exert a greater force.

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Answer Key

Grade 4 Science
Quarter: 3 LC No. 1

A.Look Back! - Answers may vary.

B.What's New? - Answers may vary.

D.Let's Try! - Answers may vary.

E.Evaluation

1. True
2. Pounding
3. True
4. Shape
5. Stretched
6. bended
7. true
8. ball
9. true
10. Big box

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.

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