4

Science 4

Microlearning Module

QUARTER 3 – Module 7

Effects of Force when Applied to an Object

Microlearning Module

REGION XII - DIVISION OF SULTAN KUDARAT

Science 4
Microlearning Module (MLM)
Quarter 3 – Module 7: *Effects of Force when applied to an object*

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MICROLEARNING MODULE

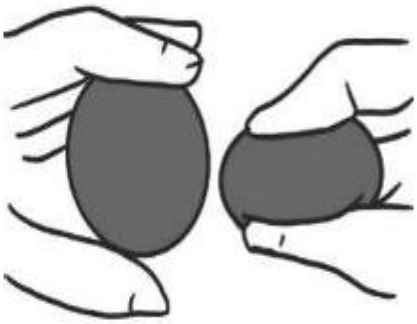
Name: _____Grade & Sec: _____ Score: _____
Subject: Science 4 Quarter: 3 MLM No. 7
Teacher: _____
Learning Competency**: The learners determine how forces can change the shape of objects such as when they are pushed, pulled, stretched, bent, twisted, or squeezed.**

Effects of Force when Applied to an Object

A. Look Back!

Directions: Complete the statement using the pictures below as clues. Write your answers on a separate sheet of paper.

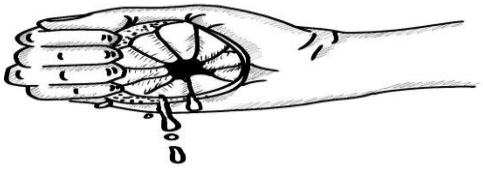
I have learned that force is a _____ or a _____. Applying force can change the object's _____, _____, and _____.



B. What's New?

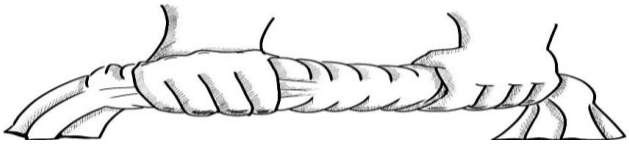
Activity B.1 **Complete Me**

Directions: Study each of the pictures and solve the mystery word to reveal what is being demonstrated. Write your answers on a separate sheet of paper.



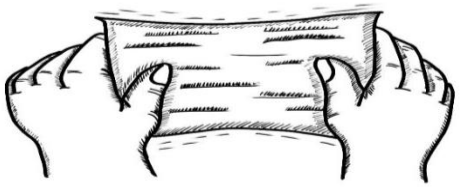
1.

s	q			e	z		i	g



2.

t	w		s	t		n	



3.

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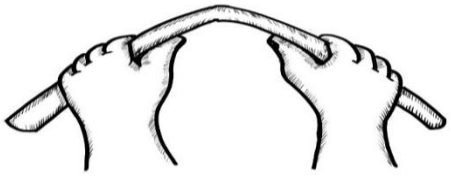


4.

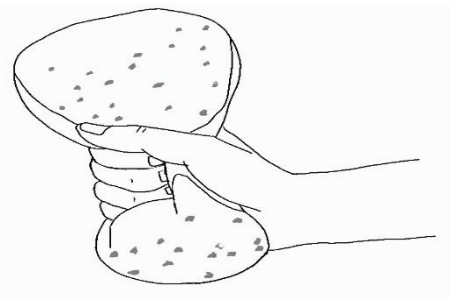
b		n	d		n	

C. What Is It?

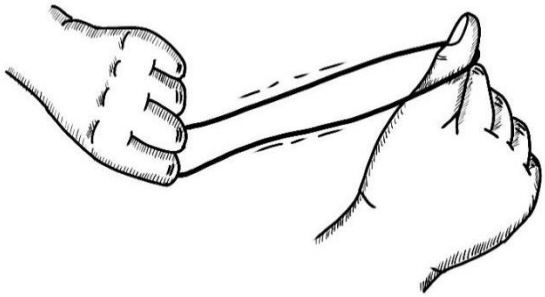
Force can also change the object's shape, size, or movement. The shape of an object may change when force is applied to it.

Ways of changing the shape of an object include pushing, pulling, stretching, bending, twisting, and squeezing.

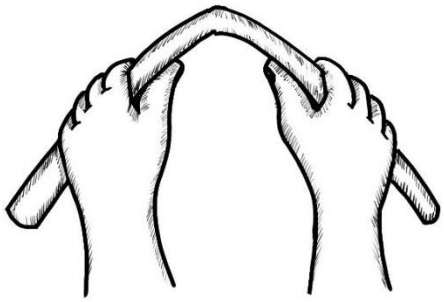
For example:



1. A sponge is a rectangular object used in washing dishes. Try to squeeze the sponge. Will it change its shape? What will happen to the shape if you squeeze it?



2. A string or rubber band changes its shape when pulled or stretched.



3. A metal rod is a solid. When bent, the shape of the metal rod is changed.

D. Let's try!

Activity D.1 Can You Change Me?

Materials Needed:

newspaper

sponge

plastic bottle

ruler

rubber bond

Directions:

1. Collect all the needed materials and complete the table.
2. Change the shape of the materials found in column A 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.

Materials	How can you change the shape of an object?	What happened to the object after you applied force?
1. Newspaper		
2. sponge		
3. plastic bottle		
4. ruler		
5. Rubber band		

Guide Questions:

1. What did you apply when you bent, stretched, and twisted the object?
2. What happened to an object when force is applied?
3. What is the effect of force on the shape of an object?
4. How would you describe the shape of an object before force was applied to it?

Activity D.2. Make a Pocket Notebook

Materials Needed:

a small sized notebook

scissors

glue

Procedures:

Step 1: Prepare the materials needed.

Step 2: Collect or gather pictures from the old magazines

Examples:

a. Squeezing a rubber ball
b. Stretching a rubber band
c. Compressing a spring
d. Bending a ruler

Step 3. Cut /print pictures that show changes in their shape when force is applied. Paste it in your notebook.

Rubrics to rate a Pocket Notebook

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

E. Let's Evaluate

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

1. How can you change the shape of an electrical wire?
   A. by bending B. by pressing C. by pushing D. by squeezing
2. The following objects can be bent **EXCEPT**
   A. iron bar B. paper clip C. ruler D. stone
3. What physical change may happen when you twist a sponge?
   A. color B. odor C. shape D. taste
4. If a boy will kick one object, which one from the list will move the farthest upon kicking?
   A. avocado B. coconut C. guava D. mango
5. What will happen to the shape of the sponge when force is applied?
   A. It will move. C. It will remain.
   B. still the same D. It will be flattened.
6. Which of the following activities applies force but cannot change the shape of an object?
   A. throwing the paper clip C. sharpening a pencil
   B. cutting a paper D. pulling a rubber band
7. Mel, who has a larger body size than his brother Mac, attempted to wear his brother's t-shirt without permission. Finding it too small, he attempted to stretch it. What is the probable result for the t-shirt?
   A. It will tear.
   B. Nothing happens.
   C. It will be fitted to him.
   D. The shape of the T-shirt will still be usable.
8. What is the effect of force when you slice a cake?
   A. Force changes the taste of the cake.
   B. Force changes the color of the cake.
   C. Force changes the shape of the cake.
   D. Force changes the position of the cake.
9. Which of the following is **TRUE** about force?
   A. Force can only change the direction of an object.
   B. Force cannot change the speed of a moving object.
   C. Force can change the chemical properties of objects.
   D. Force can change the shape, size, speed and direction of an object.
10. Which statement is **NOT** true about force?
   A. Slicing a banana changes its shape and size.
   B. A rolling ball on a surface will continue moving unless a force is applied on it.
   C. A ball moving on top of the table stops when you apply force opposite to the direction of its motion.
   D. To slow down or stop a heavy object, the force applied must be lesser than the mass of that given object.

F.References

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ANSWER KEY

Grade 4 SCIENCE **Quarter: 3** **LC No. 7**

A. Look Back!
1. Push
2. Pull
3. Shape
4. direction

B. What's New?

1. squeezing
2. twisting
3. stretching
4. bending

C. Let's try!

Materials	How can you change the shape of an object?	What happened to the object after you applied force?
1. Newspaper	twisting	Change the shape of the material.
2. sponge	Twisting/ squeezing	Change the shape of the material.
3. plastic bottle	Twisting	Change the shape of the material.
4. ruler	bending	Change the shape of the material.
5. Rubber band	stretching	Change the shape of the material.

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

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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