

7

Learning Activity Sheet for Science

Quarter 3

Lesson

1

GOVERNMENT PROPERTY
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Worksheet for Science Grade 7
Quarter 3: Lesson 1 (Week 1)
SY 2024-2025

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LEARNING ACTIVITY SHEET

Learning Area:	Science	Quarter:	3rd Quarter
Lesson No.:	1	Date:	
Lesson Title/ Topic:	Forces		
Name:		Grade & Section:	

I. Activity 1. Contact and Noncontact Forces (15 Minutes)

II. Objective(s):

At the end of the activity, you should be able to:

1. Identify different forces acting on an object; and
2. Differentiate contact from noncontact forces.

III. Materials Needed:

book, string, block of wood, ball, chicken feather, spring, plastic comb or pen, magnet, piece of iron nail, stone, Styrofoam

IV. Procedures:

1. Identify and label the forces in each scenario below.
 - a. Lift a book above the table and then release it. What happened to the book as soon as you released it? What makes it move downward? Observe what happens to the book when it hits the table. What keeps it from falling further?
 - b. Tie the block of wood using a string. Hold the end of the string and drop the block of wood. Did the block of wood fall on the floor? What force prevents it from falling?
 - c. Gently push a ball so that it starts moving. After a while, does the ball continue to move? What makes it slow down and or eventually stop?
 - d. Crumple a whole sheet of paper (scratch paper may be used in this activity) and lift it at the same height as uncrumpled paper. Release these papers at the same time from the same height. Which reaches the floor first? Why do you think this happened?
What keeps the uncrumpled paper from reaching the floor at the same time as the crumpled paper?
 - e. Attach the block of wood at the end of a spring. Fixed one end of the spring by holding it firmly. Stretch the spring by pulling the wood away from the fixed end of the spring. Do you feel something pulling it back? Release the block of wood? Observe what happened. Why do you think it moves toward the fixed end? What makes it move toward the fixed end?
 - f. Using a cloth, rub a plastic pen several times. Place the plastic pen near bits of paper, but not touching them. Observe what happens. What makes it possible?

- g. Place a magnet near a piece of iron nail. Why do you think the iron was attracted to the magnet? What makes it possible?
 - h. Place the block of wood in a glass full of water. Observe what happens. Why do you think it happens? What makes it possible?
2. Classify the forces you identified by filling out the first column of the table below. Put a check on the second or third row if it is classified as contact or noncontact forces.

Table 1. *Contact or Noncontact Forces*

Situation/Type of force	Contact Force	Noncontact Force

V. **Synthesis/Extended Practice/Differentiation**

Answer the following guide questions:

1. Which situation/s show/s contact forces?

2. Which situation/s show/s noncontact forces?

3. What is/are the difference/s of contact and noncontact forces?

LEARNING ACTIVITY SHEET

Learning Area:	Science	Quarter:	3rd Quarter
Lesson No.:	1	Date:	
Lesson Title/ Topic:	Forces		
Name:		Grade & Section:	

I. Activity 2. Measuring a Force (20 Minutes)

II. Objective(s): At the end of the activity, you should be able to:

- construct an improvised force measurer;
- measure the force applied by Earth on different objects.
- measure the applied force by a person to move an object at different surfaces.

III. Materials Needed:

For A – improvised force measurer: ruler, small spring (or coil or rubber band), paper clip

For B: Improvised force measurer, cup, string, nine marbles

For C: improvised force measurer, three different surfaces (e.i. very smooth, smooth, and rough surface), a block of wood with a hook

IV. Procedures:

A. Designing a force measurer

1. Attach the spring at the end of the ruler.
2. Attach the spring to the ruler.
3. Hook one end of the spring on the zero-mark of the ruler.
4. Stretch the spring along the ruler, ensuring it is taut.
5. Use the paperclip to secure the other end of the spring at a specific measurement on the ruler.
6. Calibrate the device by applying known forces to the spring at marked intervals and adjust the paperclip accordingly to ensure accurate measurements.
7. attach the object to the paperclip and pull the force measurer to measure the force.

B. Measuring the force applied by the Earth on objects

1. Set up the materials shown at the right.
2. Place three marbles in the cup.
3. Record the force measurer reading in column two.
4. Do the same, but for six and nine marbles.

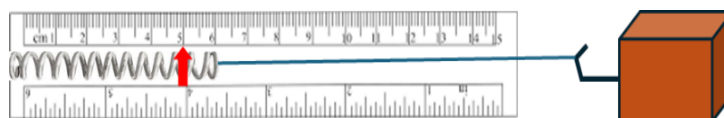
Number of Marbles	Measurement
Three	
Six	
Nine	



5. Compare the masses of the three setups and compare the readings on the force measurer. What can you say? What factor relates these two quantities?

C. Measuring the applied force to start moving an object

1. Place a block of wood with a hook on a table. Attach the force measurer to the hook.



2. Gently pull the force measurer horizontally. Measure the reading on the force measurer before the block of wood starts moving on the three different surfaces.
3. Compare the measurements in the three setups. What factors affect the readings?

V. Synthesis/Extended Practice/Differentiation

Answer the following questions:

1. What factor/s affects the force applied by the Earth on an object?

2. What factor/s affects the amount of force needed to start moving the object?
