7

DepED
DEPARTMENT OF EDUCATION

Learning Activity Sheet for Mathematics

Quarter 1
Week
4

DepED MATATAG
Bansang Makabata Batang Makabansa
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Learning Activity Sheet Mathematics Grade 7
Quarter 1: Week 4

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LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**1**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 1: Percentage Increase

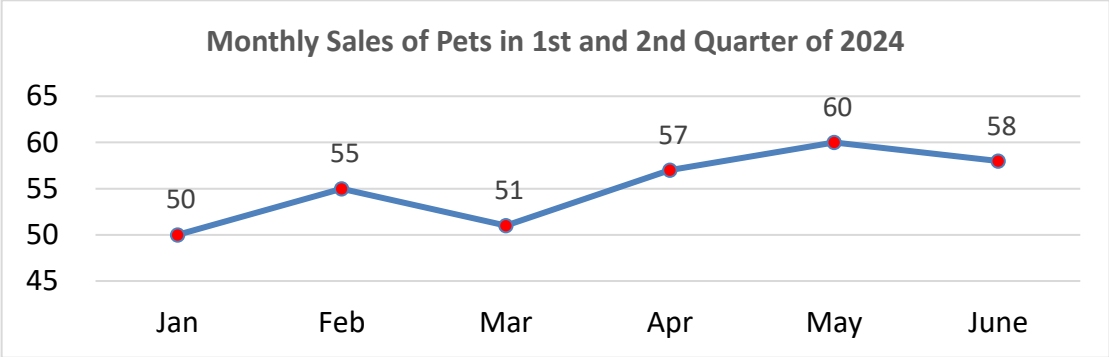
Objective(s): At the end of the lesson, the students are expected to visualize the percentage increase using a line graph and find the percentage increase.

Materials Needed: Activity Sheet

Duration: 10 minutes

Instructions: Use the given situation with the graph below to answer the questions that follow.

A pet store tracks its monthly sales of pets. The line graph shows the number of pets sold from January to June 2024.



Tasks:

From the graph, identify pairs of consecutive months that show an increase in sales of pets. Then, complete the table and solve for the percentage increase. Example months are given.

Months	Original Value	New Value	Percentage Increase	
			In Fraction	In Percent
January to February				

a) In which month does the pet store have the lowest sales?

b) In which month does the pet store have the highest sales?

c) In which consecutive months has the lowest percentage increase in sales?

d) In which consecutive months has the highest percentage increase in sales?

e) Based on the data, in which month shall the store provide many variations of pets for sale? Why?

f) From the graph, how do we determine that there is a percentage increase?

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**1**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 2: Mastering Percentage Increase

Objective(s): At the end of the lesson, the students are expected to find the percentage increase given the original and new values.

Materials Needed: Activity sheet

Duration: 10 minutes

Instructions: Complete the table below to the percentage increase (in fraction and percent).

Original Value	New Value	Difference	Percentage Increase	
			In Fraction	In Percent
25	34	34 – 25 = 9	$\frac{9}{25} = \frac{36}{100}$	36 %
50	65			
80	108			
100	121.5			
280	315			
372	465			
25	32			
40	54			
100	130			
190	300			
325	375			

1) How do we determine that there is a percentage increase between two values?

2) State the procedure for finding the Percentage Increase and write the formula.

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**1**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 3: The Test of Mastery

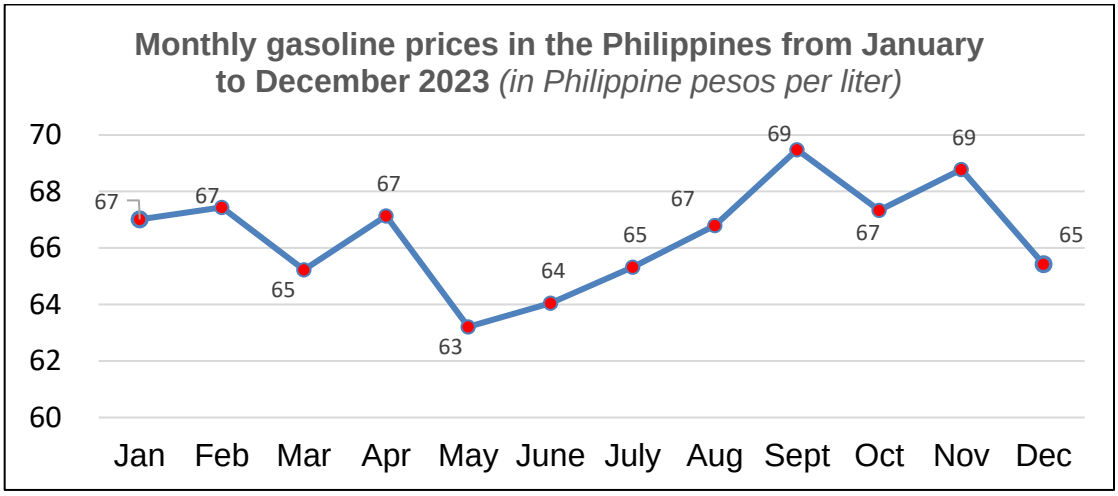
Objective(s): At the end of the lesson, the students are expected to visualize and solve for the Percentage Increase.

Materials Needed: Activity sheet

Duration: 15 minutes

Instructions:

Part A. The government of the Philippines tracks the average monthly gasoline prices to monitor inflation and the cost of living. The line graph shows the gasoline price per liter from January to December 2023.



https://www.statista.com/statistics/1250974/philippines-monthly-gasoline-prices/

Tasks:

From the graph, identify pairs of consecutive months that show an increase in gasoline prices. Then, complete the table and solve for the percentage increase. The use of a calculator is allowed.

Months	Original Value	New Value	Percentage Increase	
			In Fraction	In Percent
January to February				

a) In which month, has the highest price of gasoline?
b) In which month, has the lowest price of gasoline?
c) In which consecutive months has the lowest percentage increase (inflation rate) in gasoline prices?

d) In which consecutive months has the highest percentage increase (inflation rate) in gasoline prices?

e) Based on the graph, how can a percentage increase be determined?

Part B. Find the percentage increase of the given values. The first and second items are done as examples.

Original Value	New Value	Change	Percentage Increase	
			In Fraction	In Percent
10	18	18 – 10 = 8	$\frac{8}{10} = \frac{80}{100}$	80 %
20	37.5	37.5 – 20 = 17.5	$\frac{17.5}{20} = 0.875 = \frac{87.5}{100}$	87.5 %
24	32			
112	168			
377	471.25			
500	610			
625	875			

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**1**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 4: Unleashing Extra Power in Percentage Increase

Objective(s): At the end of the lesson, the students are expected to find the percentage increase of given values.

Materials Needed: Activity sheet

Duration: 15 minutes

Instructions: Answer the following questions:

Part A. Complete the table below and solve for the missing value.

Original Value	New Value	Change	Percentage Increase	
			In Fraction	In Percent
20	27	27 – 20 = 7	$\frac{7}{20} = \frac{7x5}{20x5} = \frac{35}{100}$	35 %
40	80			
125	150			
284	365			
386	579			
450	558			

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**2**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 1: Problem Solving Adventure

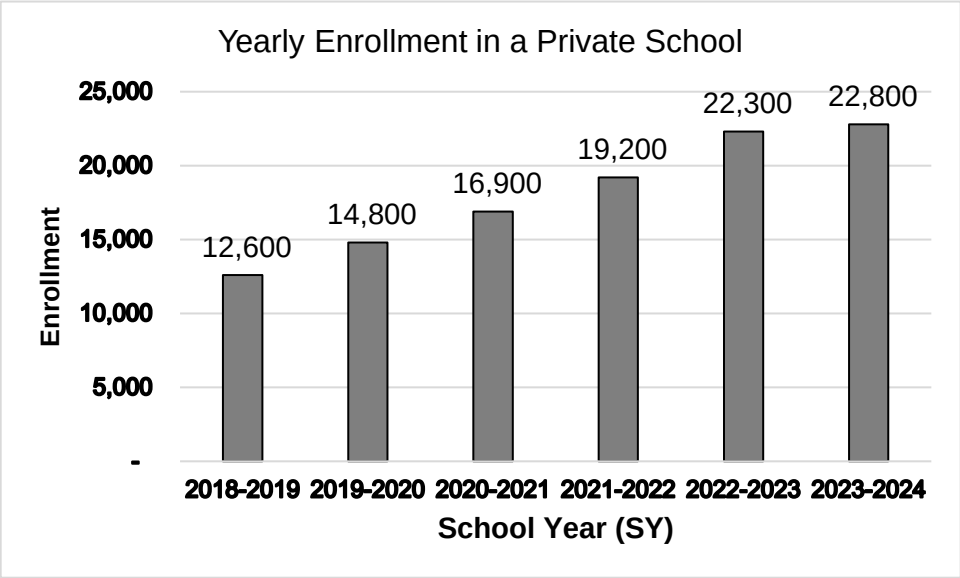
Objective(s): At the end of the lesson, the students are expected to solve word problems involving percentage increase.

Materials Needed: Activity sheet

Duration: 10 minutes

Instructions:

Part A. The teacher presented the bar graph below, which was taken from a magazine and presented to Section Matatag. The graph illustrates the yearly enrollment at a particular private institution.



1) What is the change in enrollment from SY 2018-2019 to SY 2019-2020?
2) What is the percentage of change in enrollment from SY 2018-2019 to SY 2019-2020? Is it an increase or a decrease?
3) Find the percentage of change in enrollment from

   (a) SY 2018-2019 to SY 2019-2020; and

   (b) SY 2019-2020 to SY 2020-2021. Determine if the change is an increase or a decrease.
4) How do you know from the graph that there is a percentage increase?

Part B. Solve the following problems. Data from the given issues have already been identified.

Problem 1)	The projected height of a teenager at the age of 12 years old increases from 191 cm to 221 cm after 9 years. Find the percentage increase in its height.
Given:	Peter's daily rendered time: Age of 12 years old: 191 cm After 9 years: 221 cm
What is Asked?	Percentage Increase in height
Solution:	Use the Percentage increase formula: Percentage Increase = $\frac{New\ value - Original\ value}{Original\ value}$ *Solve*:

Problem 2)	Ana sold bags worth ₱ 500 each. After realizing the high demand, she decided to sell it the next day for ₱ 600 each. What is the selling price's percentage increase?
Given:	Original price: ₱ 500 New price: ₱ 600
What is Asked?	Percentage Increase in selling price
Solution:	Use the Percentage increase formula: Percentage Increase = $\frac{New\ value - original\ value}{Original\ value}$ *Solve*:

Problem 3)	Mother went to the grocery store and bought 2 kilograms of meat at ₱350 per kilogram. After a week, she was surprised to find that the same kind of meat is ₱380 per kilogram. Find the percentage increase in the price of the meat.
Given:	Original price: ₱ 350 per kilogram New price: ₱ 380 per kilogram
What is Asked?	Percentage Increase in price
Solution:	Use the Percentage increase formula: Percentage Increase = $\frac{New\ value - original\ value}{Original\ value}$ *Solve*:

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**2**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 2: Elevate Problem-Solving Skills!

Objective(s): At the end of the lesson, the students are expected to solve non-routine problems involving percentage increase.

Materials Needed: Copy of Problem Set

Duration: 10 minutes

Instructions: Read and analyze the problems below. Use a separate sheet for the answers.

Problem 1) A 50 kg sack of rice was sold at ₱1,850.00 in a supermarket. Linda sold the same kind of rice at ₱43.00 per kilo. (a) What is the percent increase in her retail price compared to the price in the supermarket? (b) If she sells the same kind of rice at ₱2000.00 per sack, what is the percent increase in her selling price per sack?		
Given:	(a)	(b)
What is Asked?	(a)	(b)
Solution:		

Problem 2) Nathan's company earned ₱200,000.00 net from sales in the first quarter. If its net sales grow by 25% in the next quarter, how much will be the company's net sales?	
Given:	
What is Asked?	
Solution:	

LEARNING ACTIVITY SHEET

Learning Area:	**Mathematics**	**Quarter:**	**First**
Week:	**4**	**Day:**	**2**
Lesson Title/ Topic:	**Percentage Increase**		
Name:		**Grade & Section:**	**7**

Activity 3: Test Your Problem-Solving Prowess

Objective(s): At the end of the lesson, the students are expected to solve problems on percentage increase.

Materials Needed: Copy of Problem Set

Duration: 15 minutes

Instructions:

A. Solve the following problems.

1. Nicole's allowance is ₱ 200.00 per day. She requested her mother to increase her allowance to P 250.00 so she could buy pad paper and other school materials. How much percentage increase did she ask from her mother?
2. Susan is a service crew in a fast-food restaurant with a salary rate of ₱ 54.57 per hour. Due to her good performance, her salary was increased to P 59.89 per hour. How much is the percent increase in her salary per hour?
3. According to the news, oil companies will implement an increase of ₱ 0.50 per liter in the following week. If the cost of gasoline for the current week is ₱ 55.00 per liter, how much will it be in the following week? What would be the percentage increase per liter?

B. The data below is the historic population of the Philippines from 2005 to present (2024). Find the yearly change and yearly percentage change. The data was taken from the WorldOmeter website.

Population of the Philippines (2024 and historical)

Year	Population	Yearly % Change	Yearly Change
2024	119,106,224		
2023	117,337,368		
2022	115,559,009		
2020	112,190,977		
2015	103,031,365		
2010	94,636,700		
2005	86,261,250		
2000	77,958,223		
1995	69,250,468		
1990	61,558,898		

https://www.worldometers.info/world-population/philippines-population/

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**2**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 4: Unleashing Extra Power in Problem Solving in Percentage Increase

Objective(s): At the end of the lesson, the students are expected to answer the Intervention Activity.

Materials Needed:

Duration: 15 minutes

Instructions: Solve the following problems:

1. A basket of fruits worth ₱500.00 in an ordinary time became ₱550.00 after a storm. How much is the percentage increase?
2. Noel's first quarter grade in Mathematics is 90. What should be his second quarter grade if he aims for a 5% increase in the next quarter.

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**3**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 1: Percentage Decrease

Objective(s): At the end of the lesson, the students are expected to distinguish a scenario that suggests a percentage decrease and find the percentage decrease.

Materials Needed: Activity sheet

Duration: 10 minutes

Instructions:

Part A: Choose the scenarios that indicate a percentage decrease. Then, write down the original value and new value in the table and find the change in value and percentage decrease.

A. The land price rose from ₱ 2,000,000 to ₱ 2,500,000 after a year.
B. The price of an appliance marked down from P 28,500 to ₱ 23,700.
C. The gasoline price decreased from ₱ 58.90 per liter to ₱ 55.50 per liter.
D. The monthly house rental increased from P 10,000 to ₱ 12,500 after a year.
E. The value of a car depreciated from ₱ 1,500,000 to ₱ 900,000.00 after 5 years.
F. The value of a laptop worth ₱ 45,000.00 became ₱ 28,000.00 after a month of use.
G. A landowner sells his land at ₱ 2,000 per square meter, which he acquired at ₱ 1,800 per square meter.
H. School enrollment declined to 8,850 in the 2022-2023 school year from 9,300 in the 2021-2022 school year.

Letter	Original Value	New Value	Change in Value	Percentage Decrease

Questions:

1. How to determine that there is a percentage decrease between two values?
2. State the process of finding the percentage decrease and write the formula.

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**3**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 2: Mastering Percentage Decrease

Objective(s): At the end of the lesson, the students are expected to find the percentage decrease.

Materials Needed: Activity sheet

Duration: 10 minutes

Instructions: Find the change and percentage decrease (in fractions and percent).

Original Value	New Value	Change	Percentage Decrease	
			In Fraction	In Percent
35	28	35 – 28 = 7	$\frac{7}{35}$	20 %
80	60			
100	83			
140	106.4			
228	171			
308	231			
100	80			
180	130			
360	300			
100	85			
50	45			

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**3**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 3: The Test of Mastery

Objective(s): At the end of the lesson, the students are expected to solve problems involving percentage decrease.

Materials Needed: Activity sheet

Duration: 15 minutes

Instructions: Determine whether the change is an increase or decrease and find the percent of change using the formula.

Part A. Analyze the score before and after and complete the data in the table below.

	Score Before	Score After	Increase or decrease	Percent of Change
1.	10	17		
2.	15	11		
3.	75	60		
4.	110	143		
5.	240	200		
6.	260	160		
7.	180	350		
8.	700	500		

Part B. Analyze the insurance cost for the specific years, if depreciating (decreasing) or gaining (increasing) and complete the data in the table below.

	Cost of insurance for the particular year				depreciating or gaining	Percent of Change
	Old Cost		New Cost			
1.	2016	₱ 12,500	2020	₱ 18,800		
2.	2010	₱ 7,590	2013	₱ 4,900		
3.	2008	₱ 18,690	2023	₱ 40,600		
4.	1990	₱ 3,100	2000	₱ 9,400		
5.	2018	₱ 29,000	2021	₱ 20,800		

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**3**
Lesson Title/ Topic:	Percentage Increase		
Name:		**Grade & Section:**	**7**

Activity 4: Unleashing Extra Power in Percentage Decrease

Objective(s): At the end of the lesson, the students are expected to find the percentage decrease of given values.

Materials Needed:

Duration: 15 minutes

Instructions:

Complete the table below by solving the difference and Percentage Decrease.

Original value	New Value	Change	Percentage Decrease
100	75		
120	100		
150	30		
268	68		
984	590.4		

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**4**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 1: Problem Solving Adventure

Objective(s): At the end of the lesson, the students are expected to construct their own situation, leading to solving percentage decreases.

Materials Needed: Manila paper, pentel pen.

Duration: 10 minutes meaning

Instructions:

Read the problems carefully. Identify the given information and what is asked in the problems. Then, solve and show the solution. Write the answers on a separate sheet.

Problem 1) A sports enthusiast weighs 75 kilograms. After a month of tedious exercise, he weighs 68 kilograms. What is the percentage decrease in his weight after a month?	
Given:	
What is Asked?	
Solution:	

Problem 2) The price of a ₱ 50,000.00 television set was decreased by 10%. What is its new price?	
Given:	
What is Asked?	
Solution:	

Problem 3)	
Given:	
What is Asked?	
Solution:	

Questions:

1) What do the problems suggest? Explain.
2) How to solve problems involving percentage decrease?
3) How did you calculate for the percentage decrease?

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**4**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 2: Elevate Problem-Solving Skills!

Objective(s): At the end of the lesson, the students are expected to solve problems involving percentage decrease.

Materials Needed: Problems in Activity 4

Instructions:

The price of certain goods in a mall is given. Find its change and solve for the percentage increase or percentage decrease.

	Price of Goods in a Mall				Increase or decrease	Percent of Change
1.	Regular price of pants	₱ 5,900	Sale price of pants	₱ 4,050		
2.	Old price of refrigerator	₱ 60,000	New Price of refrigerator	₱ 90,000		
3.	Price of motorcycle before	₱ 1,500,000	Price of motorcycle after	₱ 2,000,000		
4.	Original price	₱ 9,990	New price	₱ 7,500		
5.	Price before	₱ 32,000	Price after	₱ 25,800		

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**4**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 3: Test Your Problem-Solving Prowess

Objective(s): At the end of the lesson, the students are expected to solve the Percentage Decrease.

Materials Needed: Activity Sheet

Duration: 10 minutes

Instructions:

Solve the following problems and present your solution to the class:

1. The mother needs to cut her expenses as her family grows. Last month, she budgeted ₱ 25,000 for food expenses. The budget for food expenses in the current month is ₱ 20,000. What is the percentage decrease in the budget for food expenses?

2. Evelyn's salary decreased from ₱38,000.00 per month to ₱35,000.00 per month due to companies' budget cut. How much is her salary's percent decrease per month?

3. According to the news, gasoline prices should decrease by ₱1.10 per liter the following week. If gasoline prices now are ₱54.40 per liter, how much will it be in the following week? What would be the percentage decrease per liter?

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	**First**
Week:	4	**Day:**	**4**
Lesson Title/ Topic:	Percentage Decrease		
Name:		**Grade & Section:**	**7**

Activity 4: Unleashing Extra Power in Problem Solving in Percentage Increase

Objective(s): At the end of the lesson, the students are expected to solve problems involving percentage decrease.

Materials Needed: Activity sheet.

Duration: 15 minutes

Instructions: Solve the following problems:

1. As a basketball player ages, his performance may decline due to injuries and other factors. If a player records an average score of 30.1 points per game during his peak age and declines to 20.5 points per game by the time he retires, what is the percentage decrease of his average score?

2. During the Christmas sale, a bag is marked 15% off. If its original cost was ₱ 1,500, what is its new price?