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DepED
DEPARTMENT OF EDUCATION

Learning Activity Sheet for Mathematics

Quarter 3

Lesson

1

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

Development Team

Writer:

- Edrian D. Saraos (Mariano Marcos State University)

Validator:

- Clemente M. Aguinaldo Jr. (Philippine Normal University – North Luzon)

Management Team

Philippine Normal University
Research Institute for Teacher Quality
SiMERR National Research Centre

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	3
Lesson No.:	1	**Date:**	
Lesson Title/ Topic:	Data Collection and Sampling Techniques		
Name:		**Grade & Section:**	

I. Activity No. 1: Formative Assessment

II. Objective(s): The learners should be able to:

1. understand the importance of data collection.
2. know the data collection process.
3. apply the different sampling techniques.

III. Materials Needed: Paper and Pen

IV. Instructions:

A. Classify the following examples into qualitative or quantitative data. Discuss your reasoning within the group.

1. Determining the heights of students in a class.
2. Classifying fruits as "tropical" or "temperate".
3. Counting the number of flowers in a garden.
4. Describing the texture of different fabrics.
5. Measuring the weight of bags in a grocery store.
6. Categorizing books based on their authors.
7. Rating a restaurant's service on a scale of 1 to 5.
8. Identifying the types of clouds in the sky.
9. Giving the ages of family members in a household.
10. Describing the mood of a piece of music.

B. True or False. Write True if the statement is correct. Otherwise, write False.

1. Simple random sampling ensures that every individual in the population has an equal chance of being selected.
2. Systematic sampling involves dividing the population into subgroups and then randomly selecting individuals from each subgroup.
3. In stratified sampling, the population is first divided into strata, and then individuals are randomly selected from each stratum.
4. Simple random sampling is advantageous when there is a need to guarantee representation from different subgroups or strata within the population.

5. Systematic sampling assures that every individual in the population is equally likely to be included in the sample.
6. In stratified sampling, the goal is to have each individual in the population included in the sample at least once.
7. Simple random sampling is more efficient than systematic sampling when the population is already ordered in a systematic way.
8. Systematic sampling involves selecting individuals at regular intervals from a randomly chosen starting point.
9. Stratified sampling is often used when significant differences exist between subgroups within the population.
10. Simple random sampling is the most complex and time-consuming of the three sampling techniques mentioned.

C. Match Column A with the most appropriate method of collecting data in Column B.

Column A	Column B
1. It involves gathering detailed information about a particular individual, group, or phenomenon through a comprehensive and in-depth examination.	a. Observation
2. It is employed when researchers systematically manipulate one or more variables to observe the effect on another variable.	b. Interview
3. A method that involves the systematic gathering of information through direct interaction with participants, allowing for a personalized and in-depth exploration of their experiences and perspectives.	c. Case Study
4. It is a structured set of questions designed to gather information from a large number of respondents, often used for statistical analysis.	d. Experiment
5. The most appropriate method if researchers want to collect data by watching and recording behaviors or events as they naturally occur without interference.	e. Questionnaire

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	**Quarter:**	3
Lesson No.:	1	**Date:**	
Lesson Title/ Topic:	Data Collection and Sampling Techniques		
Name:		**Grade & Section:**	

I. Activity No. 2: Formative Assessment

II. Objective(s): The learners should be able to:

1. understand the importance of data collection.
2. know the data collection process.
3. apply the different sampling techniques.

III. Materials Needed: Paper and Pen

IV. Instructions:

A. Choose the best answer. Select the response that you believe most accurately answers the question.

1. What is data?
    a. Information collected from surveys
    b. Facts, statistics, or information collected for analysis
    c. A type of computer software
    d. Random numbers
2. What is the difference between qualitative and quantitative data?
    a. Qualitative data is numerical, and quantitative data is descriptive.
    b. Qualitative data is descriptive, and quantitative data is numerical.
    c. They are the same thing.
    d. Qualitative data is collected first, followed by quantitative data.
3. Which of the following is an example of qualitative data?
    a. Height in centimeters
    b. Temperature in degrees Celsius
    c. Types of fruits
    d. Distance traveled by a car
4. What is the purpose of data collection?
    a. To confuse people
    b. To organize information
    c. To make predictions
    d. To play games

5. Which term refers to the entire group of individuals being studied?
    a. Sample
    b. Variables
    c. Population
    d. Data
6. What is the first step in the data collection process?
    a. Analyzing data
    b. Collecting data
    c. Drawing conclusions
    d. Reporting findings
7. Which of the following is an example of quantitative data?
    a. Grade 7 subjects in the curriculum
    b. Grade 7 teachers this School Year
    c. Grade 7 students in this school
    d. Grade 7 scores in Mathematics
8. What is the purpose of a frequency distribution in data analysis?
    a. To confuse researchers
    b. To organize data into categories
    c. To eliminate data outliers
    d. To hide important information
9. What does the term "sampling" refer to in data collection?
    a. Collecting all available data
    b. Selecting a representative subset of data
    c. Ignoring data
    d. Deleting data
10. In a survey, what is a population?
    a. The sample selected for the study
    b. The entire group of individuals being studied
    c. The variables being measured
    d. The data collected

B. True or False. For each statement, determine whether it is true or false based on your understanding of the content. Place a clear "T" for True or "F" for False in the space provided.

1. Qualitative data can be measured in numerical terms.
2. Primary data is collected directly from original sources.

3. A questionnaire is an example of secondary data collection.
4. Sampling involves selecting a representative subset of data from the entire population.
5. The first step in the data collection process is reporting findings.
6. Frequency distribution is a method used to organize data into categories.
7. In a survey, the population is the sample selected for the study.
8. Data can be gathered by anyone.
9. Secondary data is more accurate than primary data.
10. In data analysis, the term "sampling" refers to collecting all available data.

C. From the given scenarios below, determine the most appropriate data collection method to be utilized.

1. You want to collect feedback from customers about their satisfaction with a recently launched product. To reach a large audience efficiently, you decide to distribute an online survey with a mix of closed-ended and open-ended questions.
2. You're conducting research on the reading habits of teenagers in your community. To gather detailed information on their preferences, you design a structured questionnaire that can be distributed to schools and youth organizations.
3. You are exploring the experiences and challenges faced by single parents in your city. Opting for a more personal approach, you conduct in-depth interviews with individual single parents to gain a deeper understanding of their daily lives.
4. You are testing the effectiveness of a new study technique on student performance. You randomly assign participants to two groups: one using the traditional study method and the other using the new technique. You then compare their exam scores to determine the impact of the new method.
5. Your focus is on understanding the success factors of a particular business that has consistently achieved high profitability. You conduct an in-depth case study, gathering information through interviews with key employees, analysis of financial records, and a review of the company's strategies over the years.
6. You are studying the behavior of customers in a busy shopping mall. Stationing yourself inconspicuously, you observe and record patterns of customer movement, interaction with products, and decision-making processes without direct interaction.
7. A researcher is investigating the experiences of individuals who have overcome significant life challenges. They conduct in-depth interviews with a diverse group of participants to gain insights into resilience, coping strategies, and personal growth.

8. A pharmaceutical company is testing the efficacy of a new drug for a specific medical condition. They conduct a controlled experiment with a randomly assigned experimental group receiving the new drug and a control group receiving a placebo, measuring health outcomes over a set period.
9. A company is conducting market research to launch a new food product. They design a detailed set of questions to be distributed at supermarkets, gathering information about consumer preferences, dietary restrictions, and likelihood of trying new products.
10. A researcher is studying the behavior of children on a playground to understand social interactions. Through systematic observation, the researcher notes patterns of play, communication, and collaboration among children during various activities.

D. Identify the most suitable sampling technique for each scenario: Stratified sampling, Systematic sampling, Simple random sampling.

Scenario 1:

You want to investigate the average commuting time of employees in a large office building with multiple departments.

Scenario 2:

You are conducting research on the preferences of customers in a specific shopping mall regarding product placement and store layout.

Scenario 3:

You are studying the behavior of shoppers in a grocery store, focusing on their decision-making processes and purchasing habits.

Scenario 4:

You are investigating the effectiveness of a new teaching method on student learning outcomes, and you want to ensure representation from each grade level.

Scenario 5:

You are interested in understanding the factors contributing to the success of students in a particular school, considering both academic performance and extracurricular achievements.