GENERAL MATHEMATICS

Name: _____   **Grade Level:** _____
Date: _____   **Score:** _____

LEARNING ACTIVITY SHEET
DISTINGUISHES BETWEEN SIMPLE AND COMPOUND PROPOSITIONS

Background Information for Learners

Welcome back students ☺ You are now ready for the next stage…your status. Are you single or complicated? In mathematics we call it Simple proposition or Compound proposition.

A simple proposition is composed of only one propositional variable. A proposition is simple if it cannot be broken down any further into other component propositions.

> *p1: Mathematics is challenging.*
> *p2: Two is the smallest prime number.*

A compount proposition is composed of subpropositions and various connectives. It can be constructed using connectors, conjunctions and transitional words. Examples of propositions contain ***if-then***, **and** *(∧), **or** (∨)* and ***not (∼)***
> q1: *Roses are red and violets are blue.*
> q2: *Either 2 is an even number or 2 is not the smallest prime*
> *number.*

SIMPLE PROPOSITION
- A proposition that contains only one idea
- It has only one subject and one predicate

- *"Math is fun."*

COMPOUND PROPOSITION
- A proposition that is composed of at least two simple propositions joined together by logical connectives

- *"Math is fun and challenging."*

Learning Competency 2: The learner distinguishes between simple and compound propositions   **M11GM-IIg-3**

Priming Activity

Directions: Determine whether the following statements are simple or compound propositions. If the proposition is a compound proposition, identify logical connectors used.

1. COVID 19 has over 2 million cases in the world.
2. If I will study harder, then I will pass the exam.
3. Either it is sunny in Isabela or its streets are flooded
4. Zero is not a negative number.

Numbers 1 is a simple proposition.
Number 2 is compound using 'if-then' as connector
Number 3 is compound with or as connector
Number 4 uses not as a connector.

Key Points

Activity 1: "Check my Understanding!"
Determine whether the following statements are simple or compound propositions.

1. Either 1 is an even number or 4 is a perfect square.
2. The immune system of my body is important in this time of pandemic.
3. The sum of two even numbers is always even.
4. Either logic is fun and interesting, or it is challenging.

Activity 2: "Deepen your Understanding!"
Determine whether the following statements are propositions. If the proposition is a compound proposition, identify the simple components and the logical connectors used.

1. If your score is more than 2, then you will pass the subject.
2. Ana's average is at least 90 and she is getting an academic award.
3. The square of an odd number is not even.
4. A password must be at least 6 characters or it must be at least 8 characters long.

Activity 3: "I Understand!"
Given the following simple propositions, construct compound propositions by adding another simple proposition. Use any connector.

1. I often wash my hands.

   _____

2. I study my lessons using my phone.

   _____

3. A proposition is simple.

   _____

4. My favorite subject is Mathematics

   _____

Reflection

1. What makes it simple (simple proposition)?
   Answer: _____
2. What are the connectors that can be used to form compound proposition?
   Answer: _____
3. Are simple propositions can be formed as compound propositions? Why
   Answer: _____

References

Conceptual Math and Beyond
General Mathematics, p. 203

Answer Key

Activity 1
1. Compound
2. Simple
3. Simple
4. Compound

Activity 2
1. p1: Your score is more than 2; p2: You will pass the subject. (If Then)
2. p1: Ana's average is at least 90; p2: Ana is getting an academic award (and)
3. not
4. p1: A password must be at least 6 characters; p2: A password must be at least 8 characters long (or)

Activity 3 (answers may vary)
1. I often wash my hands and wear mask.
2. I study my lessons using my phone or my books.
3. Either a proposition is simple or compound.
4. My favorite subject is either mathematics or English.