

LESSON LOG OF M10SP-III-j-1 (Week Ten-Day Two)

School		Grade Level	Grade 10										
Teacher		Learning Area	Mathematics										
Teaching Date and Time		Quarter	Third										
I. OBJECTIVES	<i>Objectives must be met over the week and connected to the curriculum standards. To meet the objectives, necessary procedures must be followed and if needed, additional lessons, exercises and remedial activities may be done for developing content knowledge and competencies. These are assessed using Formative Assessment Strategies. Valuing objectives support the learning of content and competencies and enable children to find significance and joy in learning the lessons. Weekly objectives shall be derived from the curriculum guides.</i>												
A. Content Standards	The learner demonstrates understanding of key concepts of combinatorics and probability.												
B. Performance Standards	The learner is able to use precise counting technique and probability in formulating conclusions and making decisions.												
C. Learning Competencies/ Objectives	Learning Competency: Solves problems involving probability. (M10SP-III-j-1) Learning Objectives: 1. Solve problems involving probability of mutually exclusive and not mutually exclusive events. 2. Demonstrate appreciation of the concepts of probability in solving problems.												
II. CONTENT	Problem Solving involving Mutually Exclusive or Not Mutually Exclusive Events												
III. LEARNING RESOURCES	teacher's guide, learner's module, markers, manila papers and tape												
A. References													
1. Teacher's Guide	Pages 293-294												
2. Learner's Materials	Pages 337-338												
3. Textbook pages													
4. Additional Materials from Learning Resource (LR) portal													
B .Other Learning Resources	e-Math IV (Advanced Algebra & Trigonometry) by Orlando Oronce and Marilyn Mendoza; pages 502-503												
IV. PROCEDURES	<i>These steps should be done across the week. Spread out the activities appropriately so that pupils/students will learn well. Always be guided by demonstration of learning by the pupils/ students which you can infer from formative assessment activities. Sustain learning systematically by providing pupils/students with multiple ways to learn new things, practice the learning, question their learning processes, and draw conclusions about what they learned in relation to their life experiences and previous knowledge. Indicate the time allotment for each step.</i>												
A. Review previous lesson or presenting the new lesson	Describe a situation in your life that involves events which are mutually exclusive or not mutually exclusive. Explain why the events are mutually exclusive or not mutually exclusive. <i>Possible Answers:</i> <i>The children of two different families are mutually exclusive because it is impossible for both families to have a common child.</i> <i>You and your friends are aeting in a restaurant. The event that you and your friends ordering the same food or drinks (e.g. rice, drinks) may not be mutually exclusive because you may be ordering the same drink.</i> Let students give their own situation.												
B. Establishing a purpose for the lesson	The teacher lets the students realize that recognizing mutually exclusive events and not mutually exclusive events are important skills to solve problems involving probability.												
C. Presenting examples/ instances of the new lesson	The teacher discusses with the students the following problem as an example. Mutually Exclusive Events All humans have one of the four different blood types: A, B, AB or O. Statistics on the distribution of blood types is different in other parts of the world. The chart at the right below shows the distribution of blood types in certain country.												
	<table border="1"> <thead> <tr> <th>Blood Type</th> <th>Probability</th> </tr> </thead> <tbody> <tr> <td>O</td> <td>0.31</td> </tr> <tr> <td>A</td> <td>0.38</td> </tr> <tr> <td>B</td> <td>0.22</td> </tr> <tr> <td>AB</td> <td>0.09</td> </tr> </tbody> </table>		Blood Type	Probability	O	0.31	A	0.38	B	0.22	AB	0.09	
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	<p>According to the table, what is the probability that a randomly selected blood donor will have either type O or type A blood?</p> <p>Since a person can have only one blood type, the events of two different blood types are called <i>mutually exclusive events</i>. Mutually exclusive events are events in which one or the other of the two events, but not both, can occur.</p> <p>The probability is $0.31 + 0.38 = 0.69$. So, on the average, 69 times out of 100, a randomly selected donor will have type O or type A blood.</p>										
<p>D. Discussing new concepts and practicing new skills #1</p>	<p>The teacher lets the students in groups of three, work on the following problems.</p> <p>The Red Cross ran a blood drive at the Geom Corporation. Fifty employees gave blood which these results.</p> <table border="1" data-bbox="597 550 1265 687"> <tr> <td>Blood Type</td> <td>O</td> <td>A</td> <td>B</td> <td>AB</td> </tr> <tr> <td>Number Giving</td> <td>26</td> <td>16</td> <td>6</td> <td>2</td> </tr> </table> <p>What is the probability of the blood type for a randomly selected donor?</p> <ol style="list-style-type: none"> Type O blood? Type A blood? Type B blood? Type AB blood? Type A or Type B? Type A, B or O blood? not Type AB blood? <p><i>Answers:</i></p> <p>a. $\frac{26}{50} = \frac{13}{25}$</p> <p>b. $\frac{16}{50} = \frac{8}{25}$</p> <p>c. $\frac{6}{50} = \frac{3}{25}$</p> <p>d. $\frac{2}{50} = \frac{1}{25}$</p> <p>e. $\frac{8}{25} + \frac{3}{25} = \frac{24}{25}$</p> <p>f. $\frac{8}{25} + \frac{3}{25} + \frac{13}{25} = \frac{24}{25}$</p> <p>g. $1 - \frac{1}{25} = \frac{24}{25}$</p>	Blood Type	O	A	B	AB	Number Giving	26	16	6	2
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Number Giving	26	16	6	2							
<p>E. Discussing new concepts and practicing new skills #2</p>	<p>The teacher discusses with the students the process of arriving at the answer of the given problem.</p>										
<p>F. Developing mastery (leads to formative assessment 3)</p>	<p>Working in pairs, the teacher lets the students answer the problem below:</p> <p>What is the probability of drawing a queen or a king from an ordinary deck of cards?</p> <p><i>Answer: $P(\text{queen or king}) = P(\text{queen}) + P(\text{king})$</i></p> $= \frac{4}{52} + \frac{4}{52} = \frac{8}{52} = \frac{2}{13}$										
<p>G. Finding practical applications of concepts and skills in daily living</p>											
<p>H. Making generalizations and abstractions about the lesson</p>	<p>The teacher reiterates the following concepts:</p> <p>If A and B are mutually exclusive, then</p> $P(A \text{ or } B) = P(A) + P(B).$ <p>If two events, A and B, are not mutually exclusive, then the probability that either A or B occurs is the sum of their probabilities decreased by the probability of both occurring. In symbols,</p> $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$										
<p>I. Evaluating Learning</p>	<p>The teacher lets the students answer individually the formative assessment.</p>										

	<p>Consider each problem below. Determine whether the events are mutually exclusive or not mutually exclusive. Then, find the probability.</p> <p>1. Mario has 45 red chips, 12 blue chips, and 24 white chips. What is the probability that Mario randomly selects a red chip or a white chip?</p> <p style="text-align: center;"><i>Answer: Mutually exclusive event: $P(\text{red or white}) = \frac{23}{27}$</i></p> <p>2. Of 240 students, 176 are on the honor roll, 48 are members of the varsity team, and 36 are in the honor roll and are also members of the varsity team. What is the probability that a randomly selected student is on the honor roll or is a member of the varsity team?</p> <p style="text-align: center;"><i>Answer: Not mutually exclusive $P(\text{honor roll or Varsity}) = \frac{47}{60}$</i></p>
J. Additional activities or remediation	
V. REMARKS	
VI. REFLECTION	<i>Reflect on your teaching and assess yourself as a teacher. Think about your students' progress. What works? What else needs to be done to help the pupils/students learn? Identify what help your instructional supervisors can provide for you so when you meet them, you can ask them relevant questions.</i>
A. No. of learners who earned 80% of the evaluation	
B. No. of learners who require additional activities for remediation who scored below 80%	
C. Did the remedial lesson work? No. of learners who have caught up with the lesson.	
D. No. of learners who continue to require remediation	
E. Which of my teaching strategies worked well? Why did these work?	
F. What difficulties did I encounter which my principal or supervisor can help me solve?	
G. What innovation or localized materials did I use/ discover which I wish to share with other teachers	

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