Anoka-Hennepin Secondary Curriculum Unit Plan

Department:	Mathematics	Course:	Statistics and Probability	Unit 1 Title:	Counting Methods	Grade Level(s):	10-11
Assessed Trimester:	Trimester A	Pacing:	6-8 Days	Date Created:	1/29/2014	Last Revision Date:	1/29/2014

Course Understandings: Student will understand that:

A. Selecting and applying counting procedures to determine the number of outcomes and calculating probabilities can be applied to real-world situations to make informed decisions. H. Technology can be used to assist with calculations, simulations, and data analysis.

DESIRED RESULTS (Stage 1) - WHAT WE WANT STUDENT TO KNOW AND BE ABLE TO DO?

Established Goals						
Minnesota State/Local/Technology Standard(s) addressed:						
 Standard (9.4.3.#): Calculate probabilities and apply probability concepts to solve real-world and ma Benchmark: 9.4.3.1 Select and apply counting procedures, such as the multiplication and addition principles probabilities. 	thematical problems. and tree diagrams, to determine the size of a sample spa					
Transfer						
 Students will be able to independently use their learning to: (product, high order reasoning) Make decisions in real-world situations using probability concepts (9.4.3.8) 						
Μ	Meaning					
Unit Understanding(s): Students will understand that: • Permutations and combinations can be used to determine the composition of a committee • Fundamental counting principle is used to find the number of different meal choices when at a restaurant. • Combinations, permutations and fundamental counting principle are used to identify sample space. • Tree diagrams and lists are a helpful tool to find a sample space or specific outcomes.	Essential Que Students will keep considering: • What is the process for determining how many lice • What is the process for determining how many difficult particular constraints regarding the available population • What do restaurants consider when they advertised					
Acquisition						
 Knowledge - Students will: Know combinations and permutations Use different counting methods Know tree diagrams and tables to list out a sample space Reasoning - Students will: Distinguish which principles and counting methods are appropriate to use for various situations Distinguish the difference between the multiplication and addition principles 	 Skills - Students will: Use appropriate rules to calculate size of sample Create Venn Diagrams 					

ce (the number of possible outcomes) and to calculate

uestion(s):

cense plates are possible in a given state? fferent ways a committee can be formed given ulation from which to choose? e how many different meals they offer?

space

Common Misunderstandings	Essential new vocabulary
 Students cannot determine whether or not order matters. 	Combinations
 Students cannot decide which method to use. 	Factorial
Students choose incorrect operations.	 Fundamental counting principle
 Students cannot draw and read a Venn diagram properly when the events are overlapping 	 Permutations
	Sample space
	Tree Diagram