Lesson Plan Format
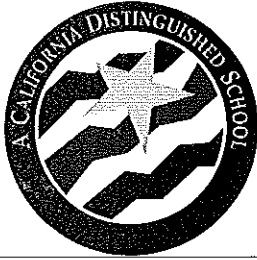
Teacher Name:		Date :	
Class Subject:	Algebra II	Period:	2nd
Student Grade Levels:	9th-12th	Lesson Length (min):	120 min
Description of Students: (1.4b)	22 students total. No students with learning disabilities are enrolled in period 2. However, the lesson is designed to accommodate students with learning disabilities in the following ways: There are however 6 students who are higher level students and the lesson has also been designed to accommodate them in the following ways: Groups are used at the classroom set up to further support all students and to encourage sharing/explanation of the work students are engaged in.		

Standard(s):	PS1.0-Students know the definition of the notion of *independent events* and can use the rules for addition, multiplication, and complementation to solve for probabilities of particular events in finite sample spaces. 19.0-Students use combinations and permutations to compute probabilities.
Lesson Objective(s): (1.1a, 1.1b)	*Note* Lesson Objective are defined as Learning Targets PS1a-I can find the probability of an event occurring. 19d-I can determine when to use permutation or combination and explain why. 19e-I can compute probabilities involving combinations or permutations
Rationale for Objective(s): (1.2b, 1.4a, 1.5a)	★ Learning target 19d was taught in the previous days lesson and the exit ticket data shows that 70% of the students are able to identify when a problem involves combination vs. permutation. Therefore, cycling 19d into today's lesson will help review for the remaining 30%, and it is crucial for students' success in learning target 19e. ★ PS1 is designed to be the introduction lesson before getting into the meat of the entire standard PS1.0 and this will be the first time students are introduced to finding probabilities in Algebra II ★ 19e builds off of the prior days lesson on computing permutations and combinations but works to combine this prior knowledge with the new concept of probabilities

Lesson Assessment(s): (1.1b, 4.1, 4.2)	Lesson assessments will be both formative and summative and take place numerous times during the day's lesson... ★ Accommodations: calculators, deck of cards cheat sheet, partners/group activities ★ Formative: Error Analysis, Reflection on levels, TPS and CFU (levels and fingers) ★ Summative: Exit Ticket

Instructional Plan

(1.2a, 1.3, 1.4b, 1.5b)

Teacher Actions (incl. Lesson Agenda)	Time	Student Actions
Write agenda, learning targets, and homework on whiteboard. Agenda ★ Error Analysis ★ Log Levels ★ HW Check ★ Hook: Ms.＿＿＿'s Card Trick ★ Probability of an Event ★ Probability Stations ★ Probabilities Involving Combination or Permutation ★ Word Scramble ★ HW Choice ★ Exit Ticket Learning Targets ★ See above Homework ★ Choose 10 problems from a learning target you need to improve on in this unit	Before class starts	N/A
Hand out previous day's exit ticket along with solution key (Instructing Ss to get portfolios and calculators)	8:27	Ss come in get their portfolios and calculators.
Walking around checking HW, submitting attendance, writing necessary encore slips, helping with error analysis when needed	8:30	Ss are completing error analysis on exit ticket and logging levels on their learning target logs.
I will show Ss my card trick and then ask them do to a TPS on this question: Why is Ms.＿＿＿'s card trick so impressive?	8:40	Watch trick and answer TPS question first on their own then with table groups. One Ss chosen using popsicle sticks to answer for class (more if clarification is needed)
Hand out deck of cards to each group and have them list what they "know" about a deck of cards.	8:45	Ss work together to generate a list of "knowns" about a deck of cards
Explains why knowledge of deck of cards is important in this unit and hands out Deck of Cards Cheat Sheet at each table for those who might need to refer to it	8:50	Compares their list to the Cheat Sheet
Direct Ss to copy learning targets into notes and then tape the copy of notes into their notebooks (note Ss do not usually tape into notebook; however this unit has lots of writing and providing Ss with some notes pre-typed saves class time)	8:55	Copy learning targets for the day and tape notes into their notebooks
Read through part A of notes with Ss showing them important information to highlight and putting in brain bubbles where needed.	9:00	Highlighting and copying necessary brain bubbles

Goes through part B #1 in notes. T explicitly writes down steps to solving the problem (I DO), placing brain bubbles where necessary	9:05	Ss copy steps and brain bubbles
Goes through part B #2 (WE DO) using CFU on number of kings in a deck, and number of cards in a deck. Brain bubbles if needed	9:20	Ss participate in CFU and copy notes only copying brain bubbles when needed
Goes through part B #3 (WE DO) using CFU (TPS) on number in numerator and why brain bubbles if needed	9:30	Ss participate in CFU and copy notes only copying brain bubbles when needed
CFU on level Ss think they are for probability problems	9:40	Ss show levels on fingers
CFU two problems (one for level ¾ Ss and one for level ½ Ss) Not talking, use notes given 4min	9:41	Ss complete CFU on post-it identifying the one they believe they can complete correctly and then place post-it on white board under problem they completed
Groups Ss based on station they need using data from post-its (3/4 got it correct them station #3, ¾ got it wrong then station #2, ½ right station #2, ½ wrong station #1)	9:45	Ss wait to see which station to go to
Facilitates stations	9:50	Ss complete work in station, if they finish one station they move into the next station
Hands out second set of notes for Ss to tape into notebooks	10:10	Ss tape notes into notebook
T directs Ss to answer this question: TPS-What is the difference between combination and permutation problems? Given an example of each	10:15	Ss TPS and then one (or more if clarification is needed) answers the question, chosen using popsicle stick
Goes through part A #1 in notes. T explicitly writes down steps to solving the problem (I DO), placing brain bubbles where necessary using CFU 1 for combination and 2 for permutation	10:20**	Ss copy steps and brain bubbles. Participate in CFU
T explains that this is where we will pick up on Friday, has Ss choose HW based on levels on learning target logs, and then hands out exit ticket	10:25	Ss choose HW and complete exit ticket
If time has gone faster than planned lesson continues as below		
Goes through part A #2 in notes. T explicitly writes down steps to solving the problem (WE DO), placing brain bubbles where necessary using CFU 1 for combination and 2 for permutation		Ss copy steps and brain bubbles. Participate in CFU
Goes through part A #3 or 4 depending on Ss understanding and time in notes. T explicitly writes down steps to solving the problem (WE DO), placing		Ss copy steps and brain bubbles. Participate in CFU

brain bubbles where necessary using CFU 1 for combination and 2 for permutation		
Hand out math puzzle		*Ss complete the active practice working together*
T explains that this is where we will pick up on Friday, has Ss choose HW based on levels on learning target logs, and then hands out exit ticket		*Ss choose HW and complete exit ticket*