

## Mrs. Place Lesson Plan - Malaspina University-College

Grade	Seven	Topic	Probability
Date	November 27, 2007	Allotted Time	Hour
Cite sources used to develop this plan: <a href="http://www.mathgoodies.com/puzzles/probability_ws.html">http://www.mathgoodies.com/puzzles/probability_ws.html</a>  <a href="http://www.pleasanton.k12.ca.us/pleasanton/MathWeb/Grade7/Probability/GreedyPig/GreedyPig.html">http://www.pleasanton.k12.ca.us/pleasanton/MathWeb/Grade7/Probability/GreedyPig/GreedyPig.html</a>			

1. **Rationale:** *Why is this lesson relevant at this time with these students?*

This is an introduction to a new unit. The class recently finished a unit on percents and fractions, this unit will tie into those lessons.

2. **Provincial Learning Outcome(s):** *What IRP outcome(s) does this lesson develop?*

SWBAT use simulation or experimentation to solve probability problems

3. **Assessment**

Lesson Outcome What will students learn?	Sources of Evidence What product or action will show what students have learned?	Criteria What will you look for in this evidence?
<ul style="list-style-type: none"> <li>○ Basics understanding of probability</li> <li>○ Analyze probability through games/experimentation</li> </ul>	<ul style="list-style-type: none"> <li>○ Paragraph at end of lesson</li> <li>○ Strategies discussed as a class</li> </ul>	<ul style="list-style-type: none"> <li>○ Uses correctly the words likely, not likely, chance and probability in defining probability or describing strategies developed to win and in oral discussion</li> </ul>

4. **Resources, Material and Preparation:** *What resources, materials and preparation are required?*

One die

Two dice if playing variation of PIG

PIG worksheet (30+ “tables” and overhead as demonstration)

Probability word search (30 copies)

5. Lesson Development	Pacing
<ul style="list-style-type: none"> <li>• <b>Introduction:</b> <i>How will you introduce this lesson in a manner that engages students and activates their thinking?</i></li> </ul> <p>Play PIG right away (doing this I hope will allow them to create their own understandings and will get them thinking without me telling them what to think right off the bat)</p>	15 minutes

PIG Rules:

- ❖ I will roll a six-sided die (1-6).
- ❖ Students will be sitting at their desks keeping their own score and I will keep a tally on the board/overhead (that will be an aid to add scores quickly for the students and to have as “accountability”)
- ❖ They continue to keep score and sitting until they want to stop, keeping in mind that if I roll a one on the die, they will lose all their points for that round.
- ❖ Once they want to stop, they stand up next to their desk and stop adding points.
- ❖ If I roll a one, the round ends and we start a new round.
- ❖ We will play five rounds, winner is the one who has the most points at end of five rounds

- **Teaching/Learning Sequence:** *What steps and activities are you going to use to help students acquire and practice the knowledge, skills and/or attitudes needed to meet the outcome?*

*NOTE: I really want to let this part of the lesson be dominated by them. I do not know what they know of probability. I know that most years they are (at least according to the IRP) taught probability; therefore, I just want to find out what they know and go from there as an intro to the unit the questions below are discussion starter questions, I will not ask and answer then as it looks here, I will draw them into the discussion, based on their input, that way I can alter lesson based on their needs*

Go over the scores made as a class as well as how many rolls they took. Those that got the highest scores, how did you do it? Was it luck? Did you have a plan? What is the best place to stop? \*I will ask these questions in between each game.

This was a game of chance. What does that mean? Have you played other games of chance?

How did probability come into this game?

Q: What are the possible outcomes when rolling the die?

A: Possible outcomes: 1, 2, 3, 4,5, 6

Q: What are the favourable outcomes? Meaning, what do we want to get?

A: The favourable outcomes are 2,3,4,5,6

Q: What are the chances that I will roll a 1? 2? 3? 4? 5? 6?

A: They are equally likely, 1/6. But the more I roll, the chances increase that I will get a one

- KEY WORDS: likely, equally likely, probability, chance, favourable outcome

Play another game of PIG as a class, once more with one die, later with two dice changing the rules to rolling a one or two ones (snake eyes) means losing all points for that round

15 minutes

15 minutes

<p>In total, 3-4 games will be played, depending on time allotment and discussion time in between games</p> <ul style="list-style-type: none"> <li>• <b>Closure:</b> <i>How will you solidify the learning that has taken place and deepen the learning process?</i></li> </ul> <p>Okay, we learned many things about probability today in our game. Now is the time you tell me what you know. Instead of doing a “math” assignment, you are going to display your knowledge of probability, chance, what is likely and favourable outcomes through writing.</p> <p>One option is to tell me your definition of probability and give some examples of when probability occurs in your life. To get you thinking, when do we hear the words “1 in 4 chances” or “75% chance”? (<i>examples to share with those that need them: chances of making a shot in basketball, chances of hitting the last pin in bowling, chances of landing on boardwalk in monopoly, chances of it raining, chances of an earthquake, chances of winning the lottery</i>)</p> <p>Or, you can tell me the strategy you developed in the game. What did you do to increase your chances of winning? When did you stay sitting? Why did you stand up? Did your strategy work? (this will be about why they stopped where they did, was it based on score accumulated? Was it based on the odds of rolling a one? Whatever strategy they used should be explained with terms from the lesson, explained below)</p> <p>For either choice of assignment, this is what will be required:</p> <ul style="list-style-type: none"> <li>➤ The title (for Nic) is “Probability: Math Can Be Fun!”</li> <li>➤ Their name needs to be on it; every great artist signs their work!</li> <li>➤ They will have to use at least two of the words in their explanation (likely, favourable outcome, chance, probability) but I am sure that we can use all four!</li> <li>➤ They should write a paragraph answer – five lines or more</li> <li>➤ Since it is a paragraph, answers should not be in point form; they need to be sentences.</li> <li>➤ This is a chance to let us know what you know, to guide our teaching and your learning!</li> <li>➤ This is also an independent writing activity; I want to know what you learned today so it is quiet writing time! When finished, bring sheet to me and get probability word search, again noting this is quiet work time!</li> </ul>	<p>10-15 minutes</p>
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6. **Accommodations** (adaptations, extensions, other): *How will you plan for students who have learning/behaviour difficulties or require enrichment?*

Choices in writing assignment allows students to choose which one is easier for them  
Word search is available for students