

8-10-2006

Probability of Marbles Using Project Interactive

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McGreevy, Sandy, "Probability of Marbles Using Project Interactive" (2006). *Lesson Plans*. 195.
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Generic Lesson Plan Template

You should submit this form in addition to any computer generated files/documents/models to your group folder on Angel. Please create a .zip file and upload the group of files as a single archive.

Name: Sandy McGreevy
Grade level(s)/Subject taught: 11 th /Intermediate Algebra and Trigonometry
Objectives: By the end of the lesson, the student will be able to calculate multistage probability with or without replacement by using a web-based activity for a discovery lesson.

Please provide a rich **one-page, single-spaced**, description or a *vision* of your best thinking on a way or ways you might teach the planned lesson. (approximately ½ page for the teacher role, ½ page for the student role). Also, construct a tentative rubric that you might use with your students (see example)

Items to include in your lesson plan: (Choose your discipline/concepts from your own area).

1. Write the Mathematical Concept or “key idea” that modeling will be used to teach: (e.g. Students use mathematical modeling/ multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships)

- Data Analysis and Probability
 - understand and apply basic concepts of probability

and/or...

- 1b. Write the Science Concept or “key idea” that modeling will be used to teach: (e.g. Organisms maintain a dynamic equilibrium that sustains life).

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Materials:

(First ten minutes) I will begin the lesson by having a die in my hand and ask the students what is the probability of getting a "2" if I roll the die once. They should have prior knowledge of how to calculate it, but the purpose is to reinforce that concept before beginning multi stage experiments. I will tell them that we will learn today how to calculate the probability of getting two "2"s when rolling two dice or the probability of picking two red marbles out of a bag of marbles. I will also reinforce with them what it means to have replacement in an experiment and not having replacement.

I will then let the students know that we will be going down to the computer lab and give them the expectations of proper behavior around computers. I will let them know the web site and pass out hand outs before we go. The students will be using the marbles activity in Project Interactive.

(25 minutes) Following the work sheet, the students will do a non-teacher lead discovery lesson. They will first start with simple probability and move to multistage probability as they go through the worksheet both with and without replacement. They will discover rules and patterns that they will then use to design their own experiment and then use the computer to check if they were correct.

For grading, I will walk around the room and observe how the partners are working together and also review their sheets after they hand them in. I will not grade if they calculated the probability correct on their own experiment, but how they corrected it if they were wrong. They will also be given some problems from the text for homework.

(10 minutes) Closure. I will ask for some groups to stand and present their experiment and have the other groups add it onto their work sheets. They can then go over the answers.