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Uncertainty in Everyday Situations

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CMST SCOLLARCITY Lesson Plan Template-Lesson Plan using **TI Technologies**
(Due Tuesday, July 27\textsuperscript{th})

*Submit as hard copy AND electronically through ANGEL*

Name: Kimberly Lombard

Grade level(s)/Subject taught: Grade 7 math

Objectives: (Remember…*How will the modeling tool help the student better learn the objective?*)

- The student will be able to collect and combine data.
- The student will be able to show that a large number of trials will produce probability results close to theoretical probability.
- The student will be able to successfully use the graphing calculator to demonstrate a basic knowledge of technology in mathematics.
- The student will use simulation techniques to estimate probabilities.
- The student will interpret probabilities in real-world situations.

Items to include in your TI Technologies lesson plan: (use your area/discipline/concepts).

**For the math teacher:**

1. Write the **Mathematical Concept** or “key idea” that TI Technologies 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)

Students use ideas of uncertainty to illustrate that mathematics involves more than exactness when dealing with everyday situations.
For your **TI Technologies** lesson and using the following prompts, 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 using the TI technology. Pay special attention to the modeling package in your description. Also, construct and submit a tentative rubric that you might use with your students. ** see example page 5
“...a rich one-page, typed, single-spaced, description or a vision of your best thinking...”

Prompts:
1. How will you assess the prior knowledge of the student?
2. How will you begin the lesson?
3. What are the teacher and students doing every 5-10 minutes? (Teacher Actions and Student Actions)
4. How will you assess the learning for the lesson?
5. How will TI be integrated into your teaching? (i.e. you may want to discuss a problem or describe how you might use the chosen modeling package in your plan. How does the model/tool help the concept(s) to be taught?)

Using the TI-84 Application/Probability Simulation, I plan on having my students collect data about real world math and probability. I would begin class by asking if anyone had ever flipped a coin to make a decision. I would give each group 2 post-it notes and ask them to write one thing they already know about flipping a coin on one post-it, write one thing that they want to know about flipping a coin on the second post-it note. One person from each group would then add their post-it to a large chart paper with a T-chart on it, one side stating, “know”; one side stating “want to know”. I would introduce a real life situation about my daughter wanting to only eat sugary Fruity Pebbles and I want her to eat healthy Cheerios. To determine which cereal my daughter will eat, every morning we will flip a coin to decide. If the coin lands on heads, she gets to eat Fruity Pebbles. We will discuss, as a whole group, if this seems fair or not. After discussions of the misconceptions about probability we will begin to flip coins. Day One – every group uses real coins for 50 flips. Note how long the student part of the lesson took after the experiment and charting the findings. Day Two – same lesson, only teacher models the probability simulation on the overhead using TI-84 and view screen. Students use one graphing calculator per person to conduct experiment and chart findings. Again, note how long using the technology took to conduct experiment and chart findings. I would assess the learning for the lesson by having each student fill out another post-it note, this time writing about one thing they learned. I would also give a writing assignment as an assessment with the following questions: Would you rather solve real-life probability questions with or without technology? Explain your answer. Will my daughter get to eat Fruity Pebbles or Cheerios more often? Prove your answer.

The rubric I would use to access their understanding would look like the following:

5 – Assignment is complete, math is correct; work is neat and easy to follow.
4 – Assignment is mostly complete, most of the math is correct; work is neat and easy enough to follow.
3- Assignment has some missing pieces, some of the math is correct; it takes some effort by the teacher to follow the work.
2 – Assignment is missing some major parts, there are several problems with the math, and it takes extra effort on the teacher’s part to follow the work.
1 – Little to no significant work.
0 – No assignment turned in.