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Lesson Plan: Investigating Equally Likely Outcomes

**Standard:**

1.1.1.7 Use counting and comparison skills to create and analyze bar graphs and tally charts.

**Objectives:**

* Students will be able to represent numbers using tally marks.
* Students will be able to create a tally chart to organize data.
* Students will be able to answer questions and make predictions based on data organized in a tally chart.
* Students will be able to make predictions about the outcomes of dice rolls.

**Materials:**

* Math Journal 1, p. 3
* Die

**Instruction:**

Getting Ready:

Teacher will ask children which number they think will come up most often when they roll a die. Teacher will record what students estimate on the SMART board. Then, teacher will demonstrate rolling the die and sharing what they roll. Teacher will explain to students that they will be rolling die today and recording what they roll with tally marks in their math journals.

Task:

* "Today you will be working in partners. We are going to use the same partners that you used for reading earlier today."
* "Once you are in your partners, each of you will get a chance to roll the die. Once one of you rolls, both of you will record with a tally mark under what number you rolled. Then, the next player rolls and you continue to take turns. Each of you should have the same number of tallies on your page for each side of the die. Leave the total section blank for now, we will come back and talk about that section as a group."
* Teacher asks students to find a place on the carpet with their partner. Passers are asked to pass out the math journals to the class.
* Once math journals are passed out, teacher passes out a die to each group.
* The partnerships roll die and record their tally marks for 2 minutes.
* "Freeze. Now that you got to roll the die with your partner a few times, did your estimate on which side of the die would come up more often change?"
* Teacher will record a new list of estimations.
* Students will then get 3 more minutes to roll the die with their partner.
* "Alright, everyone come back to the carpet please."  
  Teacher will collect die and then ask the class as a whole these questions:
* "How many times did you roll 1? 2? 3? 4? 5? 6?"
* "How could you figure out how many times your partnership rolled the die altogether?"
* "Which did you roll fewer times, 2 or 3? How many fewer times?"  
  "Which did you roll more times, 5 or 6? How many more times?"
* Teacher will add up a cumulative total for all partnerships in the class for each side of the dice. Each side should come out about the same.

Discourse:

* *"Today we learned that each number on a die has an equal chance of being rolled. We know this because of the data we collected and answered questions about."*

**Evaluation:**

The student will be able to demonstrate creating a tally chart to organize data. The teacher will informally assess progress during class discussion.