# CoreValueChesterfield County Public Schools

# Lesson Plan Guide

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| **Date:** **06/27/11** | **Subject:****Math** | **Teacher:****Stephens** |
| **SOL/CPR:** **Math 4.19 Probability and Statistics, 4.20 Graphing Data**  | **Grade:** **4**  | **Estimated time:****1 hour x 2 class periods** |
| **Objectives:** **To predict probable outcomes of the robot kicking a soccer ball into a goal from 10 feet away.**  |
| **Assessments:****Students will turn in a self assessment of work done in a cooperative group. Students will turn in data collected and completed graphs from their trials.** |
| **Materials/Resources:****5 robots (with side arm for "kicking"****Multiple computers programmed with Mindstorm****Meter sticks (to measure 3 feet and 10 feet)****Soccer goals****Plastic balls** |
| **Check and Review:****Teacher will meet with all groups to check for understanding of objective and use of materials needed.** |
| **Anticipatory Set:** **Students will watch YouTube video of students competing with robots in a soccer match.** |
| **Modeling:****Use the promethean board to review tools in Mindstorm. Students will use netbooks to follow teacher directions in Mindstorm. Discuss power and how that can effect the successful kicking of the ball. Demonstrate one kick from 3 feet and one kick from 10 feet.**  |
| **Research-Based Strategies Used:** |
| [x]  Similarities and Differences[ ]  Summarizing and Note Taking[x]  Reinforcing Effort and Providing Recognition | [ ]  Homework and Practice[x]  Nonlinguistic Representations[x]  Cooperative Learning | [x]  Setting Objectives and Providing Feedback[x]  Generating and Testing Hypotheses[x]  Cues, Questions, and Advance Organizers |
| **Guided Practice/Check for Understanding:****See modeling** |
| **Independent Practice:****Students will set up their soccer goals and measure distances of 3 feet and 10 feet with the meter sticks. Students should use mindstorm to determine movement and power of "kicker". Students should make predictions before trials begin. Students should complete 10 trials at 3 feet (students may adjust power for accuracy if needed) and record all goals and non goals. After first 10 trials students should then discuss probability of kicking the ball in the goal at 10 feet. Students should complete 10 trials at 10 feet and record data.**  |
| **Closure:** **Students should talk about their actual results in relation to what they had thought probable. Students will graph all data.** |
| **Reflections:****Students will complete an individual self assessment and turn in graphed data.** |

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