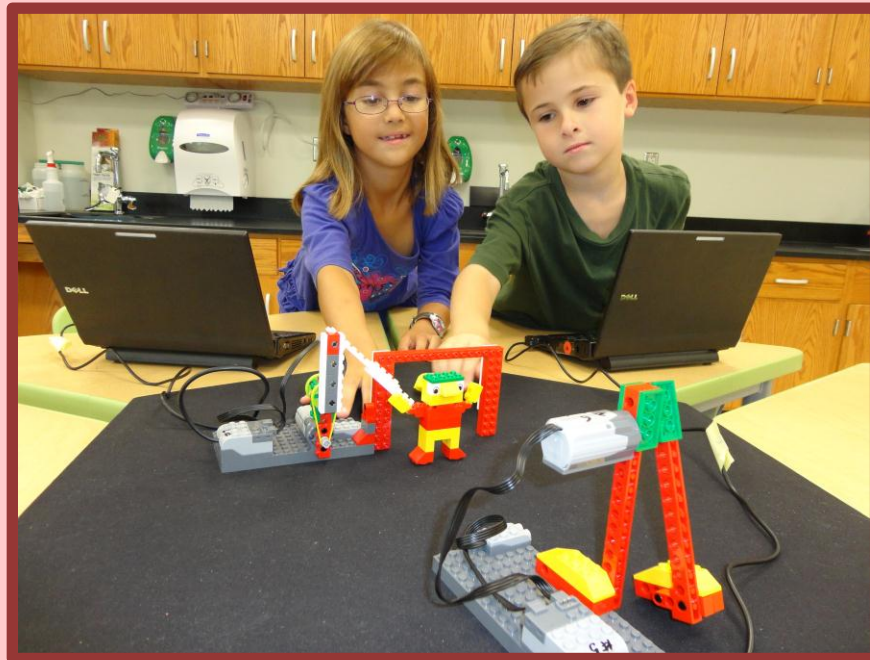


ELEMENTARY ROBOTICS IN THE SCIENCE LAB

How one science teacher uses LEGO® Education WeDo™ Robotics to expand student learning.



As a science lab teacher, I introduced each of the LEGO® Education WeDo™ robotics lessons as investigations. Following the outline presented in the LEGO Manual, I added my own teaching style using power point presentations focusing on scientific concepts that complemented our district's curriculum.

The students began the WeDo LEGO Robotics unit with the Kicker robot following the WeDo building manual specifications. Introducing the WeDo program language allowed the students to program the robot to kick a stationary ball placed in front of the Kicker. As their programming knowledge progressed, the students modified the program so that the robot would kick when a ball passed in front of the sensor. Each new situation provided additional programming knowledge challenging the students to problem solve thereby apply that knowledge to various scenarios.

Students worked in teams. At times both students programmed or one monitored while the other used the keyboard. In other groups there was a definite leader in the area of programming and perhaps another in the area of building. Students gravitated to their area of strength keeping the project moving forward.

Mathematics was an integral part of the lessons. Measuring the distance the paper balls traveled, identifying the number of goals made in a specified period of time, programming robots to move for a predetermined number of seconds or move at a certain speed, and charting or graphing results were key components of the lessons.

Consistent science investigation techniques and vocabulary provided the structure for understanding simple machines and utilizing that knowledge when modifying the LEGO robots to execute specific tasks.

The students were never so focused as when they were involved in the robotics lessons! They were intense! The class was buzzing in a very productive way. It was like they were off to the races and didn't look back!

Three years later our students still love the LEGO lessons. Our PTO supports robotics instruction and purchased 30 mini Dell computers on wheels (COW). Student interest is high so WeDo LEGO Workshops are available after school for more intensive investigation opportunities.

Debra Heath, K-4 Science Lab Instructor
Walnut Grove Elementary School
Southlake, TX