Sample Class Project for EDU 6380 Algebraic Reasoning and Patterns
Dr. Candace Walkington, Southern Methodist University

Algebra in the Dallas Community Project

The Dallas community offers a number of great resources for teaching children mathematics concepts – including the Perot Museum of Nature and Science and the Dallas Arboretum. For this project, you will be creating an algebra lesson you could teach students in your class if you brought them on a field trip to one of these sites. The lesson must use one of the exhibits at either location, and allow students to explore and discover how important algebra concepts arise in their lives and communities. Exhibits at these sites that utilize algebra concepts include:

- The Kaleidoscope Exhibit at the Dallas Arboretum (patterns)
- The Boon Pickens Pure Energy Exhibit at the Dallas Arboretum (rate of change)
- Exploration Center and Plaza Exhibit at the Dallas Arboretum (modeling variation and change in population and weather)
- The Sports Hall Exhibit at the Perot Museum (movement rate, coordinate graphs)
- The Expanding Universe Exhibit at the Perot Museum (energy, weight & mass)
- The Texas Instruments Engineering and Innovation Exhibit at the Perot Museum (force and pressure, electrical current, programming and logic, wind resistance)

You will be responsible for submitting an original lesson plan relating to one of these exhibits. The lesson plan should describe how you will introduce the activity to students, the exploratory task and instructions they will be given, and how you will facilitate a mathematical discussion of their solutions. You lesson must be designed to teach specific, grade-level appropriate TEKS or CCSS-M, and incorporate a problem-solving approach to instruction that utilizes students unique “funds of knowledge.” You will be presenting your lesson plan to the class.