Using and Integrating New Curricula

Goals

• To offer students meaningful mathematical problems
• To emphasize depth in mathematical thinking rather than superficial exposure to a series of fragmented topics
• To substantially expand the pool of mathematically literate students
• To communicate mathematics content and pedagogy to teachers
Student Experiences

• Students spend time exploring problems in depth
• Students find more than one solution to many of the problems they work on
• The invent their own strategies and approaches, rather than rely on memorized procedures
• They choose from a variety of concrete materials and appropriate technology, as a natural part of their everyday mathematical world
Student Experiences

• They express mathematical thinking through drawing, writing, talking and manipulating

• They work in a variety of groupings, individually, whole group, pairs and small groups

• They move around the classroom as they explore the mathematics in their environment and talk with their peers
Transformative Experiences for Teachers

- Learning mathematics content in a deep and flexible way
- Pedagogical environment that models inquiry and constructivism
- Recognition of the key ideas with which students’ grapple
- Appreciation of the power and complexity in student thinking
- Considering questions that will help students deepen their mathematical understanding
Transformative Experiences for Teachers

• Analyzing activities to uncover the mathematics students will learn from them
• Making mathematical connections for ourselves thus enhancing our ability to help students make those connections
• Collegial conversations around how children learn mathematics based on research
Continuing To Reflect

• Do my students think fluently and flexibly? Do I?
• How do my beliefs impact learning?
• What are the implications for building intellectual community?