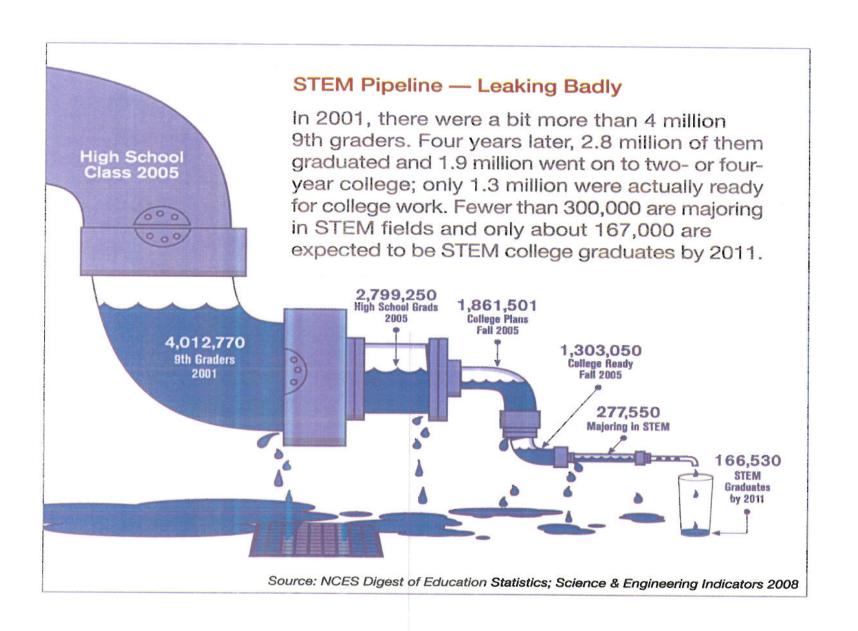
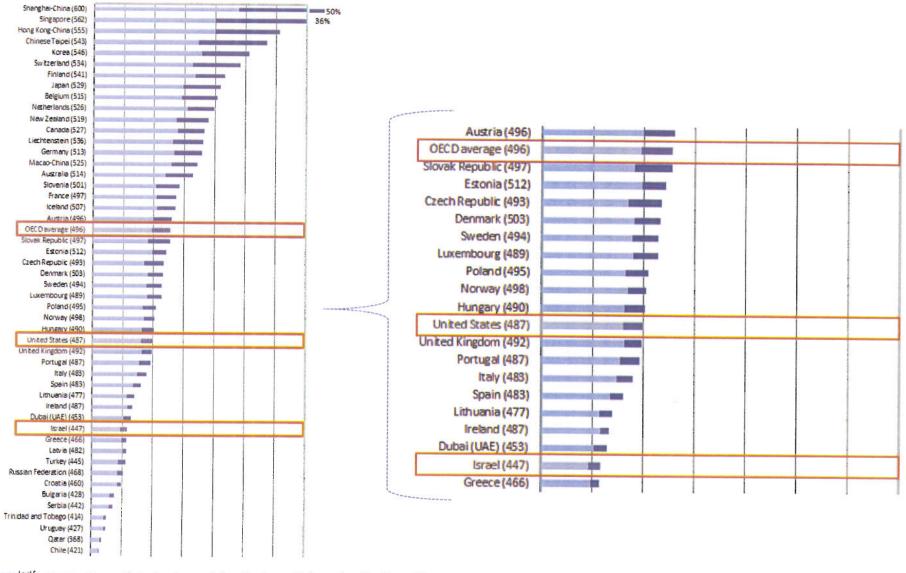
### The Problem: A Leaky STEM Pipeline

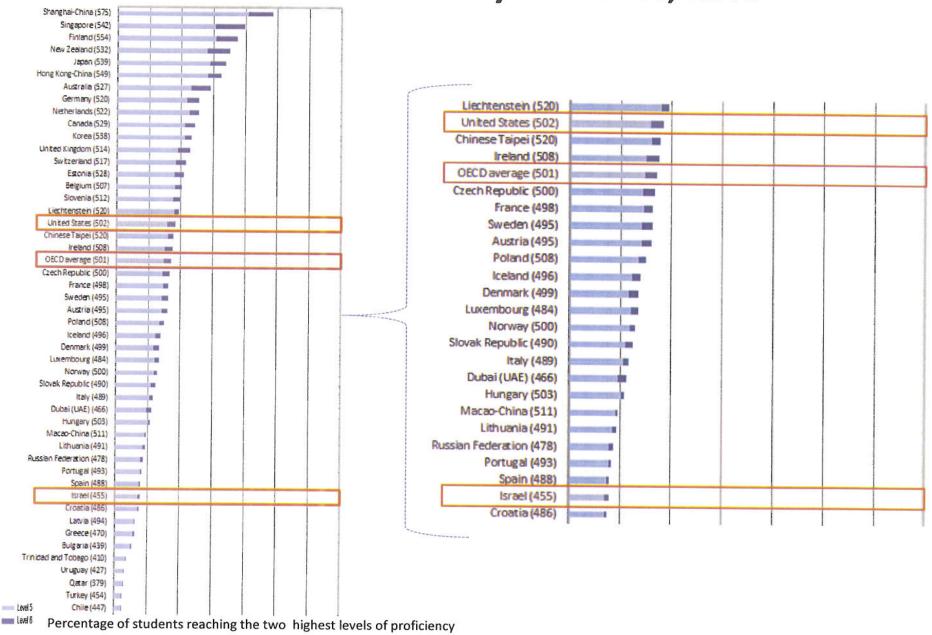


# **PISA Math Scores by Countries, 2009**



Leads Percentage of students reaching the two highest levels of proficiency

### **PISA Science Scores by Countries, 2009**



SOURCE: PISA 2009 Results: What Students Know and Can Do Student Performance in Reading, Mathematics and Science, Volume 1

## What are STEM Capabilities?

#### O\*NET COMPETENCIES ASSOCIATED WITH STEM Cognitive STEM Knowledge STEM Skills STEM Abilities Production and Processing Mathematics Problem Sensitivity Computers and Electronics Science Deductive Reasoning Engineering and Technology Critical Thinking Inductive Reasoning Design Active Learning Mathematical Reasoning **Building and Construction** Complex Problem Solving Number Facility Mechanical Operations Analysis Perceptual Speed Mathematics Technology Design Control Precision Physics **Equipment Selection** Chemistry Programming Biology Quality Control Analysis **Operations Monitoring** Operation and Control Equipment Maintenance Troubleshooting Repairing Systems Analysis Systems Evaluation **Non-Cognitive** STEM Work Interests STEM Work Values Realistic Achievement Investigative Independence Recognition