Washington State LASER
Dennis Schatz, Senior Vice President
Pacific Science Center
February 18, 2010
Science on Wheels
Day-to-day Stewardship of Science Education in Washington State
LASER - Based on the NSRC Theory of Action and Building Blocks of Reform

Theory of Action
NSRC developed the Theory of Action to
- guide school districts in establishing research-based science education programs
- improve teaching and learning
- increase overall student achievement.

Building Blocks of Reform
Washington State LASER uses the NSRC Theory of Action to
- offer a portfolio of products and services
- help key stakeholders plan, implement and sustain effective science education programs.
Vision & Mission

Provide support to all 295 school districts in Washington State to implement:

• Exemplary standards-based instructional material
• Effective student assessment
• Regular professional development for staff
• Appropriate materials support
• Broad-based community and administrative support
• Effective strategies to use science as a vehicle to support reading, writing, communication and mathematics learning
Background & Context for Washington

Factors to Keep in Mind

1. Decentralized state – local control
2. Not a curriculum adoption state
3. 295 school districts – many small
4. Nine Education Service Districts which serve school districts
Many Successes Over 10 Years

- Developed leadership teachers and administrators across the state through our Strategic Planning Institutes, National Academy for Curriculum Leadership and projects to develop Foundational Professional Development Providers

- Number of LASER school districts grew from 30 to 203, serving about 90% of students in the state

- Number of Regional Alliances grew from 4 to 9, with leadership involved from each associated ESD

- Services expanded from elementary to include middle school and now expanding into high school
Many Successes Over 10 Years

- Focused on leadership, curriculum, professional development of classroom teachers and technical assistance
- Emphasized current research and best practices
- Built strategic relationships with business, government, the public and the K-16 system
- Leveraged federal, state, local and corporate funding to improve instruction, provide teacher professional development, access to equipment/materials, and enhance leadership and community support
LASER Demonstrates Positive Impacts

PD Hours Per FTE

Chart 1

Percent of Students Who Met Science Standard

30.56% 32.73% 34.50% 37.01%

3.75 or Less 3.75 to 7.69 7.69 to 13.42 More Than 13.42

Chart 3

Pre-Post

Mean Scale Score

Electric Circuits: 42.7 Pre, 62.1 Post
Human Body: 42.5 Pre, 62.4 Post
Rocks and Minerals: 37.4 Pre, 56.5 Post

Chart 1

PD Hours Per FTE

Chart 3

Proficient

Below

Greatly Below

Treatment | Control | Treatment | Control | Treatment | Control

Environments Proficiencies
Magnetism & Electricity Overall Proficiencies
Human Body Overall Proficiencies
Many Successes Over 10 Years

• More than 22,000 teachers received Foundational Professional Development -- foundational experiences in the use of the standards-based instructional materials

• Almost 2,400 teachers received the 54 hours of Foundational Professional Development over a three year period that is the program’s goal

• Emphasized a coordinated, articulated curriculum across all grades resulting in an implementation of two to four instructional materials at each grade level
Still Many Challenges

Half of the elementary teachers spend 1 hour or less a week teaching science.
Still Many Challenges

• Not enough students are reaching proficiency on the state’s science assessments

• Although 22,000 teachers were involved in IUPD, the 2,400 teachers that received the full 54 hours of IUPD represent only about 11% of the potential number of teachers that need to be reached
Too Many Opportunities, Not Enough Time
Need for Targeted Supplemental Experiences

2nd grade students visit the Mercer Slough Environmental Education Center at a specific point in the Soils module.

Kindergarten students visit Pacific Science Center’s Butterfly Atrium at a specific time in the Wood module.