



**LASerS** (Literacy and Academic Success for English Learners through Science)  
**Supporting STEM Learning for Young Children**

Partnership for Early Education Research (PEER) Conference  
May 24, 2016

 **LASerS**  
Literacy and Academic  
Success for English  
Learners through Science

 **EDC** Learning  
transforms  
lives.

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**Presenters**

  
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**Video Activity: Science and Language**

- **Context:** A Pre-K teacher from the Hartford area uses the natural environment to engage her students and facilitate learning science
- **Focus for viewing:** Note the science concepts and the language being used by the teacher and children



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## Turn & Talk

- What did you see?
  - Science learning
  - Language used
- Why does it matter?



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## Goals of LASERs

**Overarching Goal**

Improved literacy and academic outcomes for English Learners (ELs) in Hartford

**Short and Long term Goals**

- Integrated program of supports for ELs, across contexts, grades, and content domains
- Increased system-wide capacity
- Model and recommendations for state-wide scale up

**Key Components**

- Professional Development (PD) for Teachers
- PD and Supports for Coaches
- Family Supports
- Leadership Alliance

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## Timeline

		Academic Year			
		Jan-Sept 2015	2015-2016	2016-2017	2017-2018
PreK	Development		Teacher PD Coach Training Family Supports	Cont. implementation with coaching, Family Supports	Cont. implementation with coaching, Family Supports
K			Development	Teacher PD Coach Training Family Supports	Cont. implementation with coaching, Family Supports
G1				Development	Teacher PD Coach Training Family Supports

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### Component 1: Professional Development for Teachers

- Pre-K through grade 1 teachers from participating Hartford schools
- Instructional sessions and online resources
- Coaching




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### Engage-Explore-Reflect Cycle



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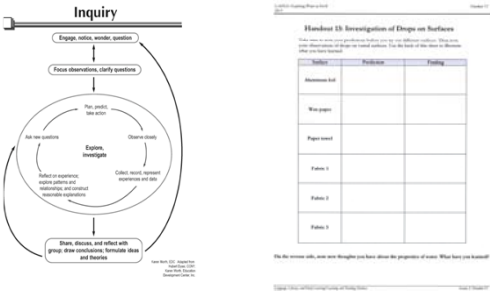
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### Sample Materials



Surface	Observation	Findings
Aluminum foil		
Wax paper		
Paper towel		
Plastic 1		
Plastic 2		
Plastic 3		

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### Component 2: PD and Supports for Coaches

Face-to-face PD  
Coaching protocols

Virtual coach supports including:

- Webcasts
- Webinars
- Resource library




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### Goals for Coaching Teachers Around Science:

- Build a collaborative relationship with the same teacher or group of teachers over an extended period of time
- Provoke teachers' own thinking about children and how they learn science concepts and skills
- Support teacher reflection on the effectiveness of their own science-teaching practices
- Collect, use, and share documentation of science teaching and coaching to support collaborative reflection for children, teachers, coaches, and instructors
- Model the types of interactions and guidance you want teachers to provide for children

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### Video Activity: *Teacher Questions about Planting with Children*

- **Context:** LASERs professional development specialists developed this video to demonstrate and discuss how to engage children in planting without using soil
- **Focus for viewing:** Note how inquiry-based science can be used to investigate plants

<https://www.youtube.com/watch?v=FzoVh14n01E>



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### Turn & Talk

How do planting experiences:

- Engage children in science inquiry?
- Support children's learning about the characteristics and needs of plants?



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### Component 3: Family Supports

- Home activities & science-literacy kits
- School-based family nights
- Summer family events at Connecticut Science Center (CSC)




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### Goals for EL Families:

- Be informed about children's school science explorations and the LASerS project
- Facilitate literacy-integrated science activities and conversations at home that connect to children's school explorations
- Engage in school-based family science events
- Participate in a summer family event at the CSC and utilize the CSC family guide as a resource
- Understand their important role in supporting children's science, language, and literacy learning

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### School-Based Activities: Harnessing the Combined Power of School & Home

**Water Flow Exploration** – students & families explore how water flows using different tools

**Reflection Station** – students & families reflect on their experiences at the stations through drawings

**Drops Exploration** – students & families explore how drops look and act on different surfaces

Sign-in with information for families created by LASerS teachers & coaches

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### Home-Based Activities: Harnessing the Combined Power of School & Home

**Exploring Water at Home**

**Exploring Water Drops**

**Tips for Reading I am Water To Your Child**

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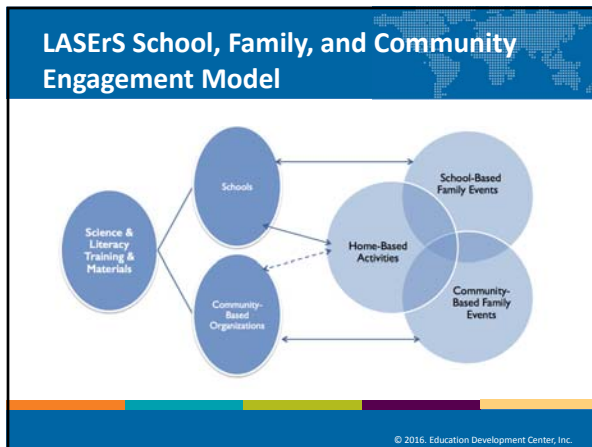
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**Community-Based Activities:**  
 Harnessing the Combined Power of School & Home



With the assistance of the Connecticut Science Center, events will be hosted at:

- Family Life Education  
 (30 Arbor Street #102, Hartford, CT)
- Catholic Charities El Centro Family Center  
 (45 Wadsworth Street, Hartford, CT)

These events will take place in May and June 2016.

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**Component 4: Leadership Alliance**

Key LASerS staff, state and district leaders, and EL literacy experts support LASerS' sustainability and make recommendations for statewide scale up

- Receive updates during development
- Provide input
- Plan for knowledge transfer
- Identify lessons learned



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**Organizations Represented**

- Annenberg Institute for School Reform
- Boston College
- Capitol Region Education Council
- Connecticut Science Center
- Connecticut State Department of Education
- Edward Zigler Center in Child Development & Social Policy, Yale Child Study Center
- Hartford Foundation for Public Giving
- Hartford Public Schools

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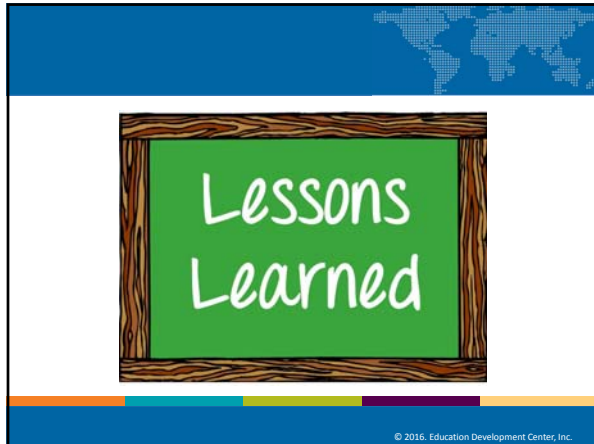
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### Lessons Learned: PD for Teachers

**Year 1 Summary**

- Successful delivery
- Attendance Issues
- Variable Implementation




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### Lessons Learned: PD for Teachers

<b>Year 1 Summary</b>	<b>Year 2 Modifications</b>
• Successful delivery	➢ Gradual introduction of content
	➢ Debriefing with HPS
• Attendance Issues	➢ School site visits
• Variable Implementation	➢ More scaffolding for implementation
	➢ For K: integration with HPS Literacy Guide

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### Lessons Learned: Coach Training

**Year 1 Summary**

- Supports through PD
- Variable Implementation




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### Lessons Learned: Coach Training

<b>Year 1 Summary</b>	<b>Year 2 Modifications</b>
<ul style="list-style-type: none"><li>• Supports through PD</li><li>• Variable Implementation</li></ul>	<ul style="list-style-type: none"><li>➢ Co-instructors to “shadow” coaches</li><li>➢ Status of online component unclear</li><li>➢ One coaching cycle between sessions</li></ul>

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### Lessons Learned: Family Supports

**Year 1 Summary**

- Home activities & science-literacy kits
- School-based family nights
- Summer family event at CSC



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## Lessons Learned: Family Supports

Year 1 Summary	Year 2 Modifications
<ul style="list-style-type: none"><li>• Supports through activities and events</li><li>• Variable Implementation</li></ul>	<ul style="list-style-type: none"><li>➢ Number of school-based events modified</li><li>➢ Teacher flexibility for scheduling events (day or night)</li><li>➢ CBO-based events planned and scheduled</li></ul>

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## Refining the LASERs Model

Goal 2: Build capacity for supporting young English language learners by fostering the integration of literacy and science learning across school, home, and community contexts.

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## Thanks!



The contents of this presentation were developed under a grant from the U.S. Dept. of Education, Investing in Innovation (I3) Program. However, those contents do not necessarily represent the policy of the U.S. Dept. of Education, and you should not assume endorsement by the Federal Government.

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