Presented by:

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LTEC

- NSF STEM+C research project (awards #1542828 & #1742466)
- Currently in Year 4 of 5
- Developed learning trajectories (LTs) for computational thinking (CT) at the elementary level
- Used those LTs to design, develop, and test a sequence of interdisciplinary math+CT activities for grades 3 and 4
- Activities built using Scratch and a Common Core aligned mathematics curriculum (Everyday Mathematics)
- Testing in small number of G3 & G4 classrooms in 2019–2020

A continuum of integration, adapted from Vasquez, Sneider, and Comer (2013) THEME Disciplines **Multidisciplinary** Transdisciplinary Interdisciplinary Skills from multiple Skills in each discipline Tightly linked skills taught separately but disciplines from two or more disciplines taught with reference to applied to a central driving question a common theme together **Debugging LT** 4.1: Compile errors should --- advanced ---Cumulative Effect be fixed in the order the compiler reports them. 8: Reproducing a 3: Iterative bug can help find refinement can and fix it. help fix errors. 4: Intermediate 5: Step-by-step results can help 3.1: Small errors can execution of find and fix errors. change outcomes. instructions can help find and fix errors. 9: Errors can be caused by missing, as opposed 6: Debugging to incorrect, information strategies can be 2: Errors play a within instructions. chosen strategically. 7: Code can always be valuable role in Connect to improved, but may not problem solving. Quality and be worth the effort. Interative Development



Disciplinary Skills in each discipline taught separately





Fractions + Computational Thinking (with Scratch)

"Learning Trajectories for Everyday Computing" (LTEC) at the Illinois Council of Teachers of Mathematics, Peoria, IL, October 18–19, 2019

The LTEC Team

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Fraction Circles 1



Resources available at:

http://www.canonlab.org/actionfractionslessons

LTEC: Learning Trajectories for Everyday Computing http://everydaycomputing.org







Fraction Number Line





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