woot math

Helping Teachers Close the Gap

Transform Your Students' Understanding of Fractions

Krista Marks, CEO Woot Math
Dr. Terry Wyberg, University of Minnesota

NCTM Boston, April 16, 2015

Contact Information and Resources

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Interactive Online Demo:	https://wootmath.com/demo
In-Person Demo:	Booth #741
Efficacy White Papers:	https://wootmath.com/research

“National tests show nearly half of eighth-graders aren't able to put three fractions in order by size.”

The Wall Street Journal, “New Approaches to Teaching Fractions,” 9/2013

“If you don't understand fractions, it's literally impossible for you to understand algebra, geometry, physics, statistics, chemistry... It closes a lot of doors.”

Bob Siegler, Ph.D., Carnegie Mellon Univ., *The Wall Street Journal*, 9/2013

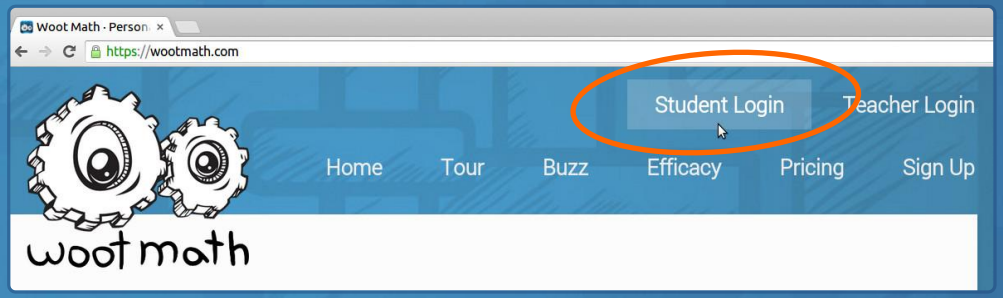
Woot Math Interactive Demo - Setup

Step 1 (iPad)

Download Woot Math
from the App Store

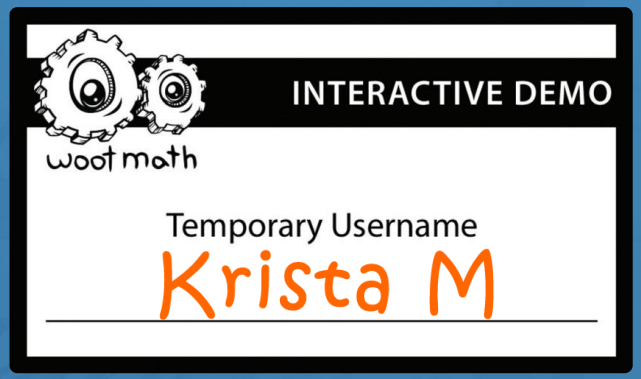
Step 1 (Laptop)

www.wootmath.com
Student Login

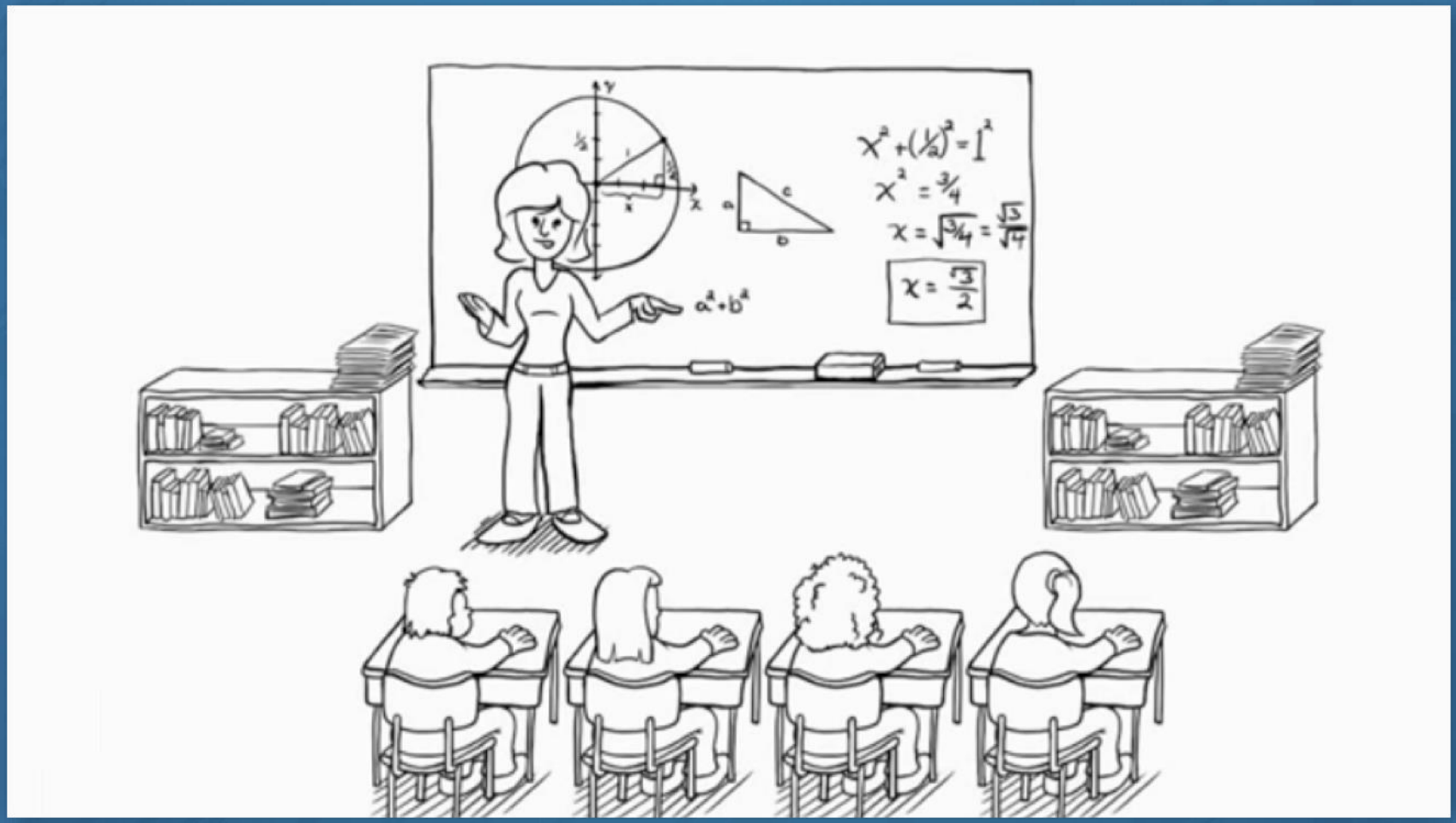


Step 2 (iPad and laptop)

Fill out a
username card



Woot Math Demo

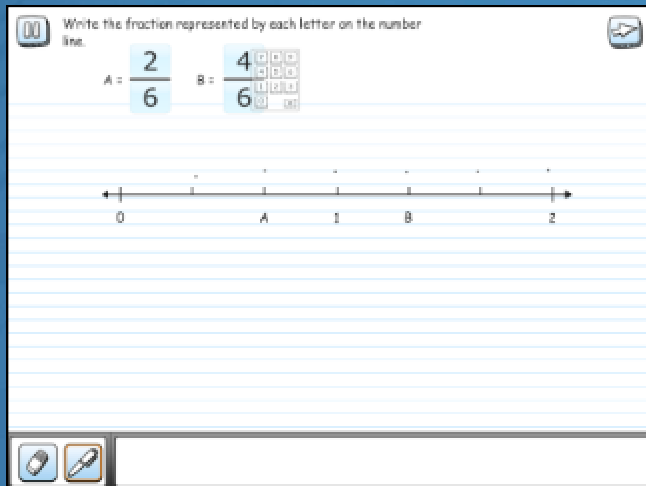


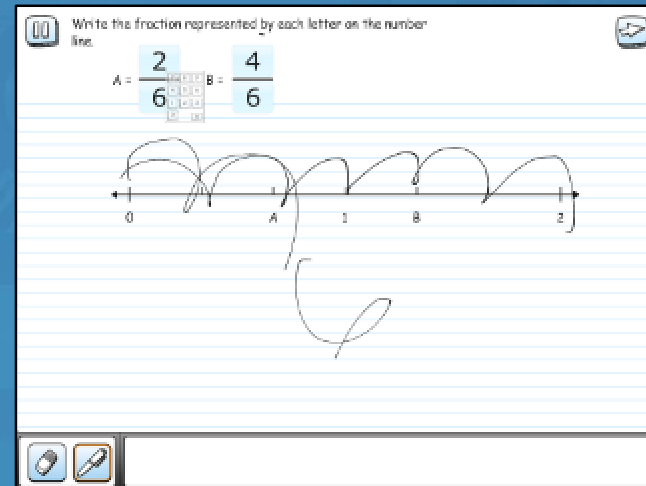
Watch on YouTube

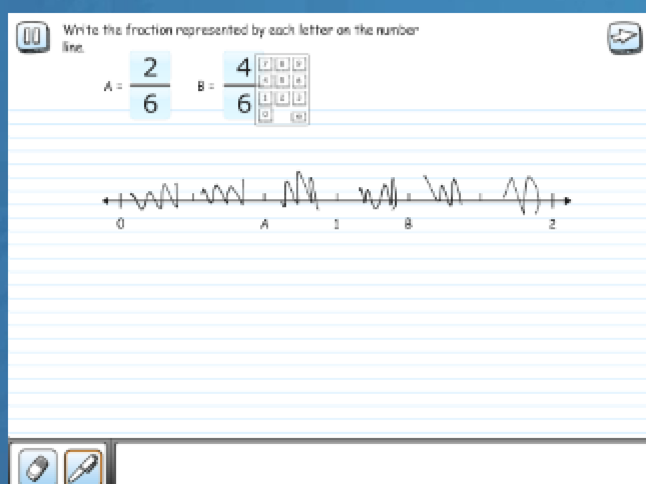
Personalized Learning

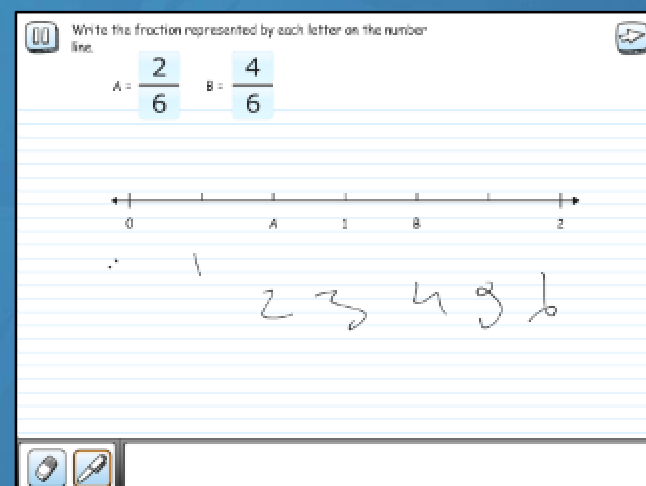
Dr. Terry Wyberg,
University of Minnesota

Adaptive Personalized Learning

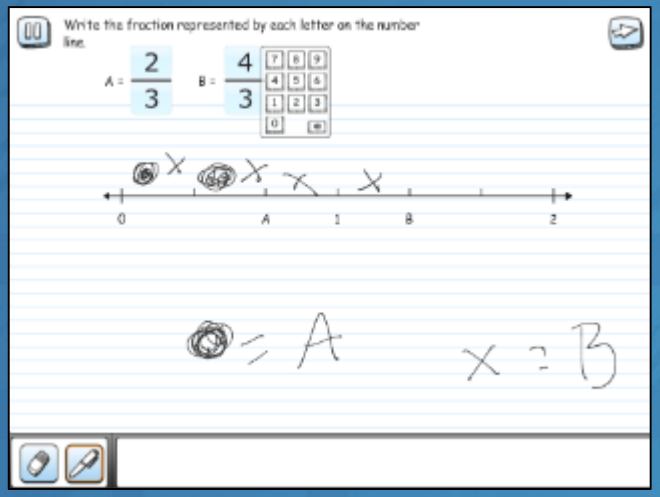


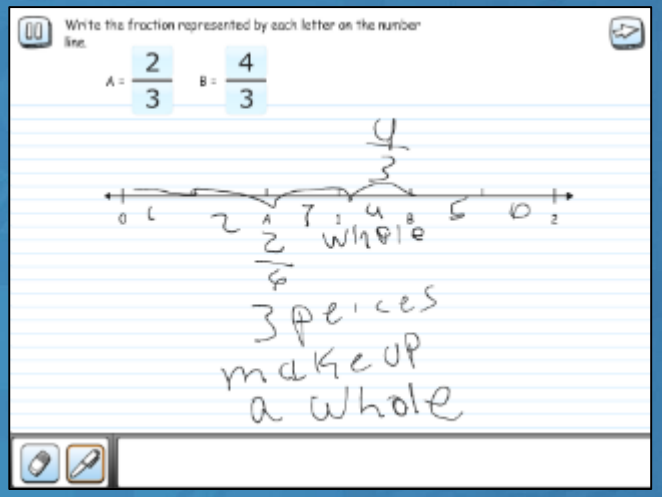






Adaptive Personalized Learning





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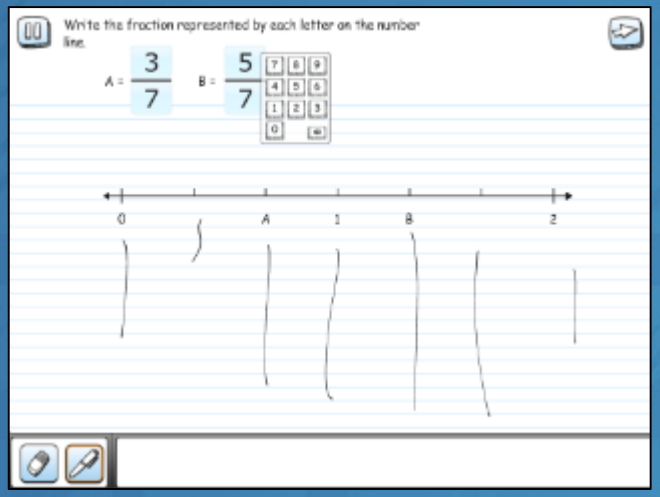

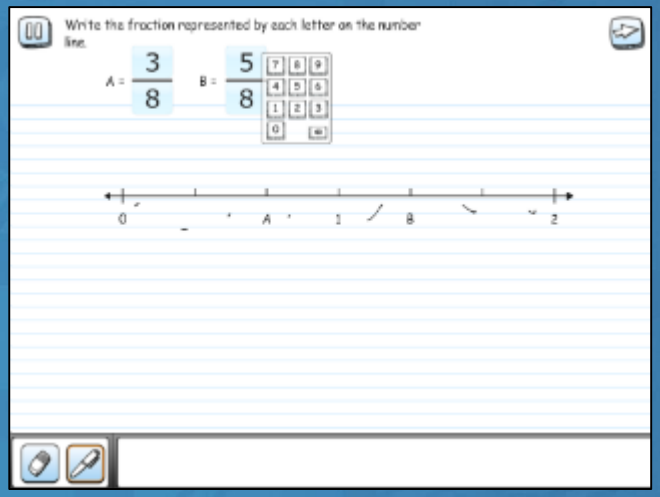

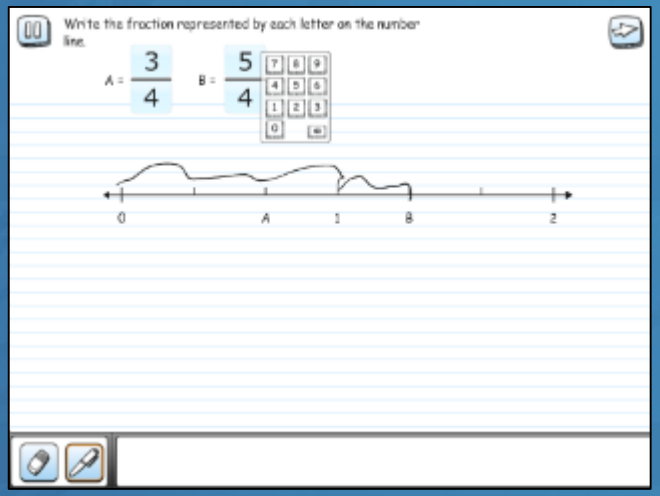

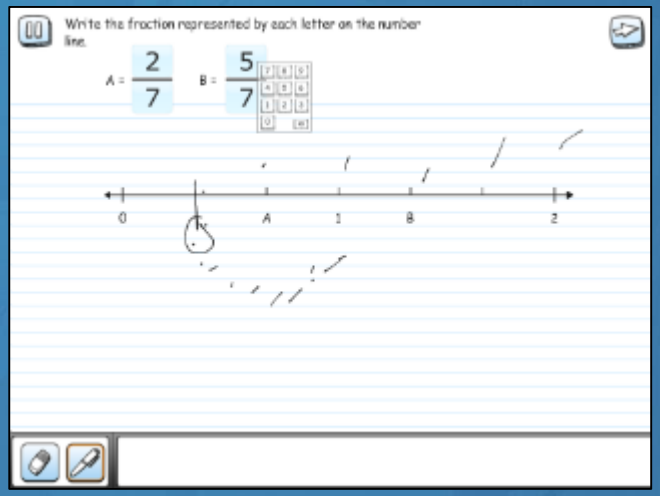

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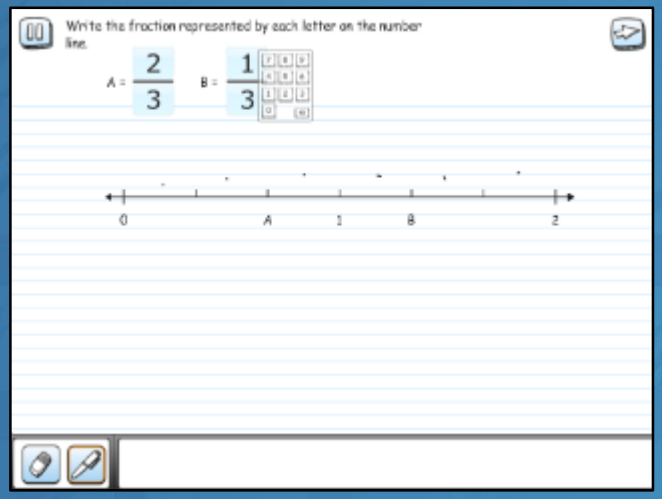

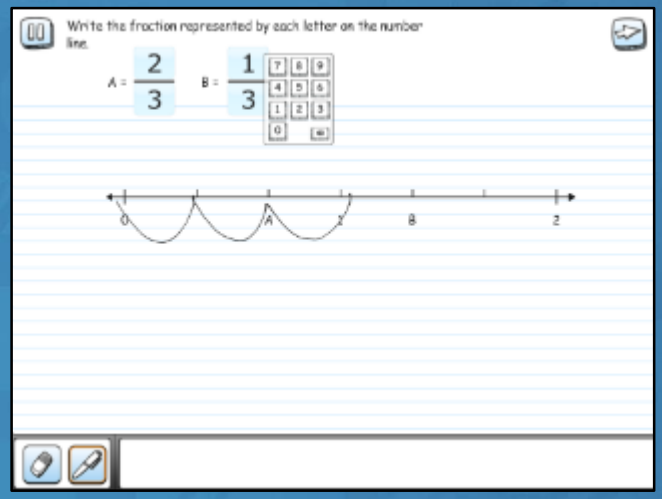

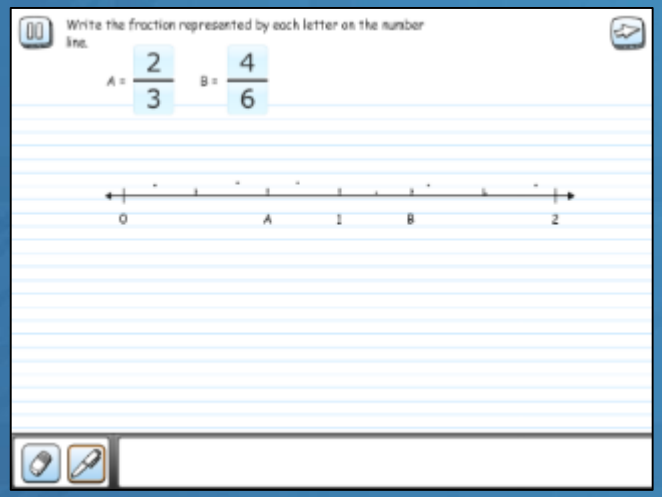

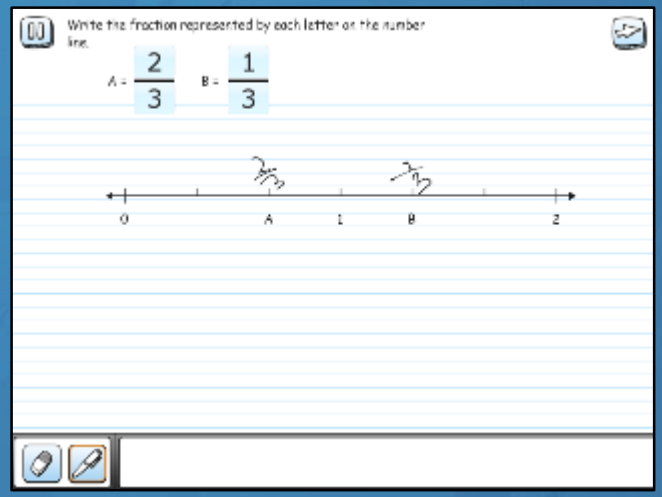

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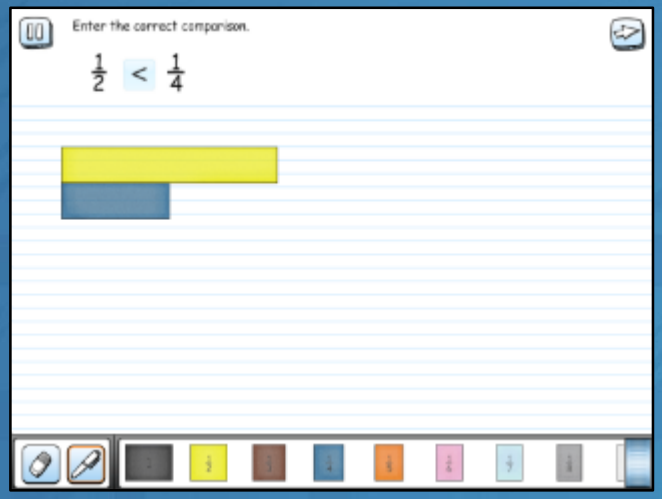

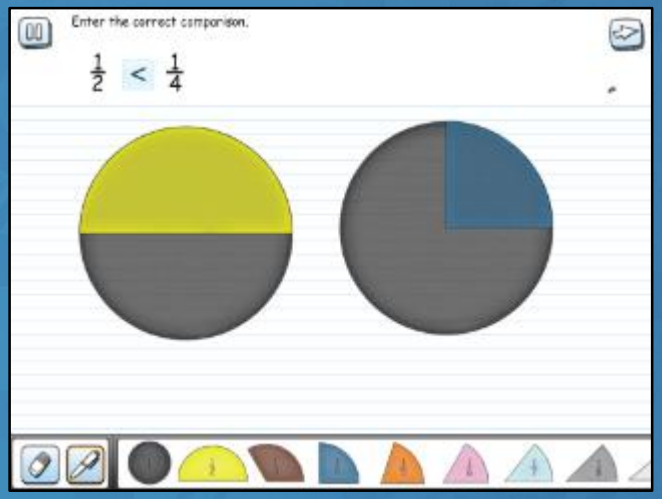

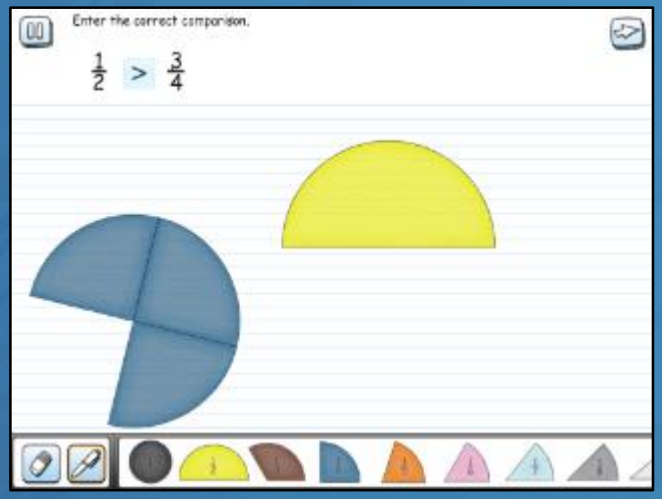

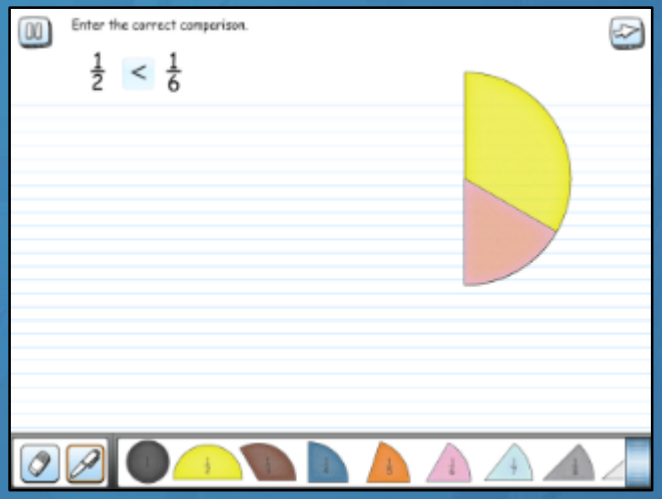

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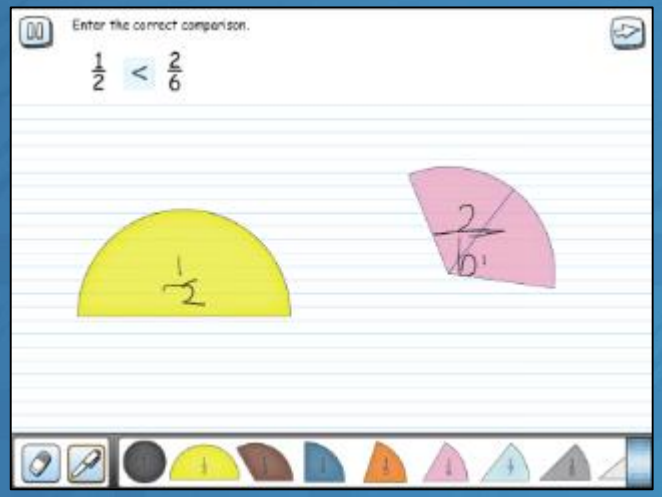
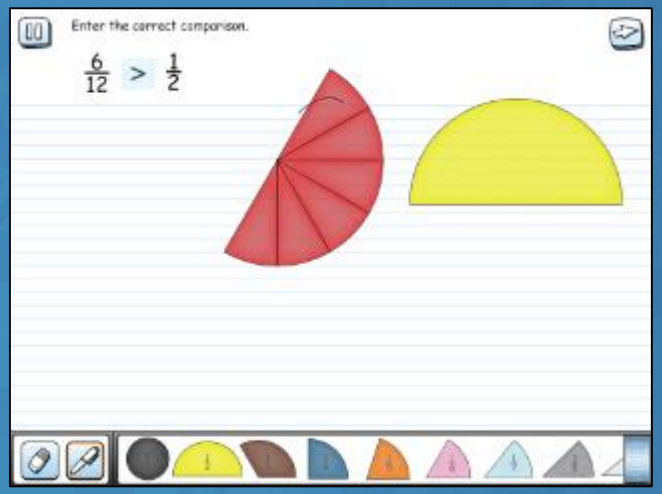
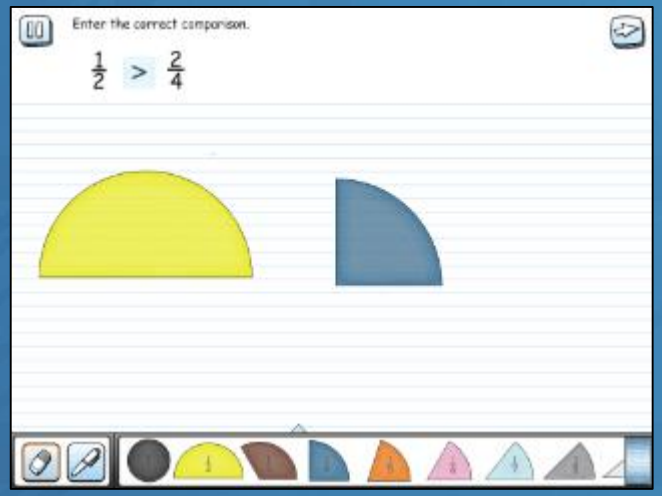
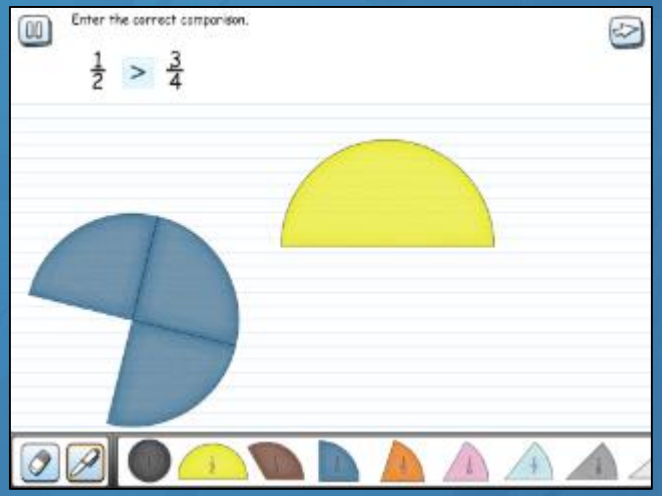








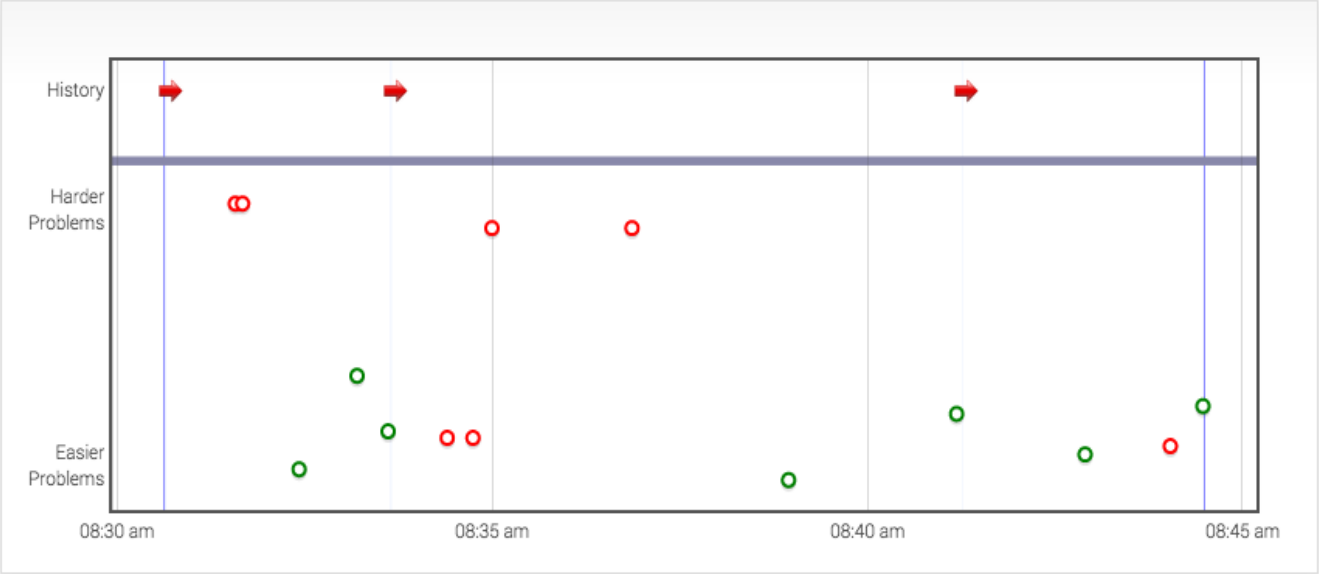
Lesson: Ordering Multiple Fractions

Date: Apr 8, 2015 (around 8:30am)

Time Spent: 14 minutes

Lesson Description: Students order 3 or 4 fractions using a variety of strategies (common numerator/denominator, benchmark, and number sense of one-aways).

Earned 1 star
Mastery: Logan is struggling with this topic.



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Earned 1 star

Mastery: Logan is struggling with this topic.

Incorrect Answer: (after 46 seconds)

Arrange these fractions in order from least to greatest.

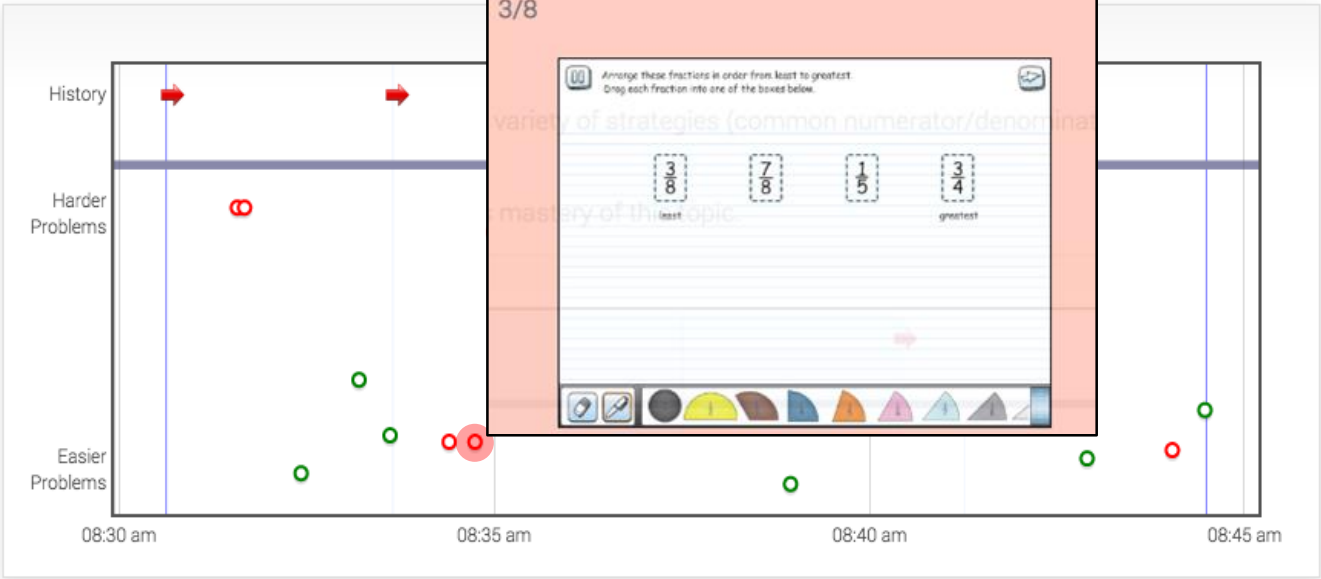
Drag each fraction into one of the boxes below.

3/4

1/5

7/8

3/8



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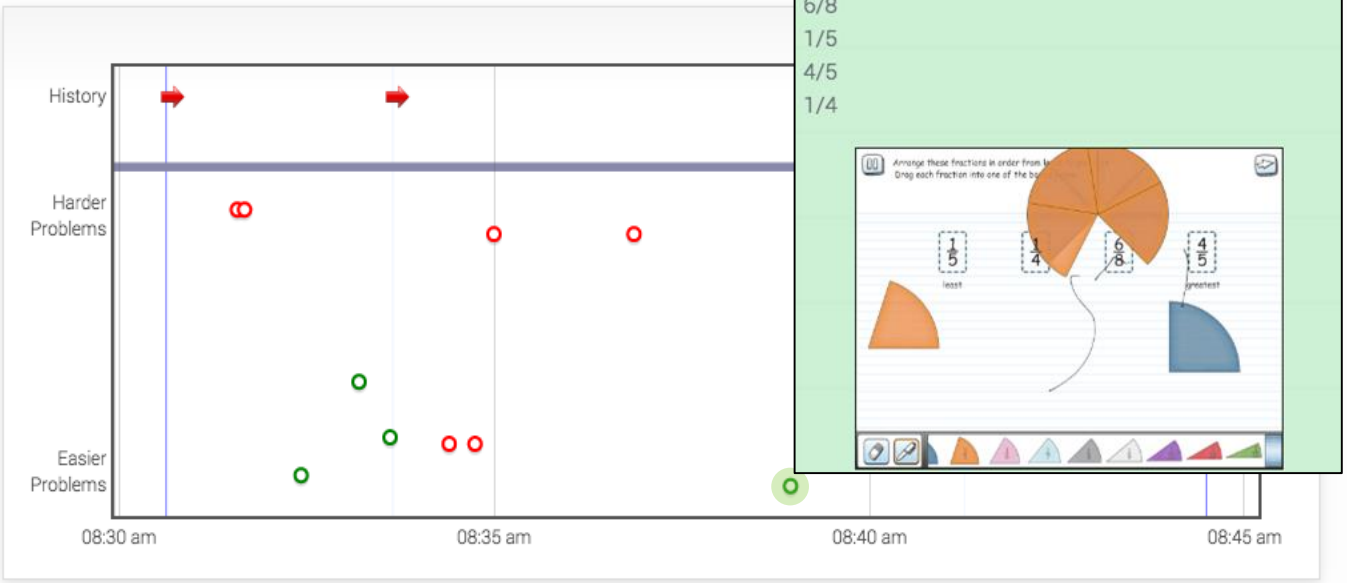

Correct Answer: (after 126 seconds)

Arrange these fractions in order from least to greatest.

Drag each fraction into one of the boxes below.

6/8

1/5

4/5

1/4

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Time Spent: 14 minutes

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Earned 1 star

Mastery: Logan is struggling with this topic.

Correct Answer: (after 99 seconds)

Arrange these fractions in order from least to greatest.

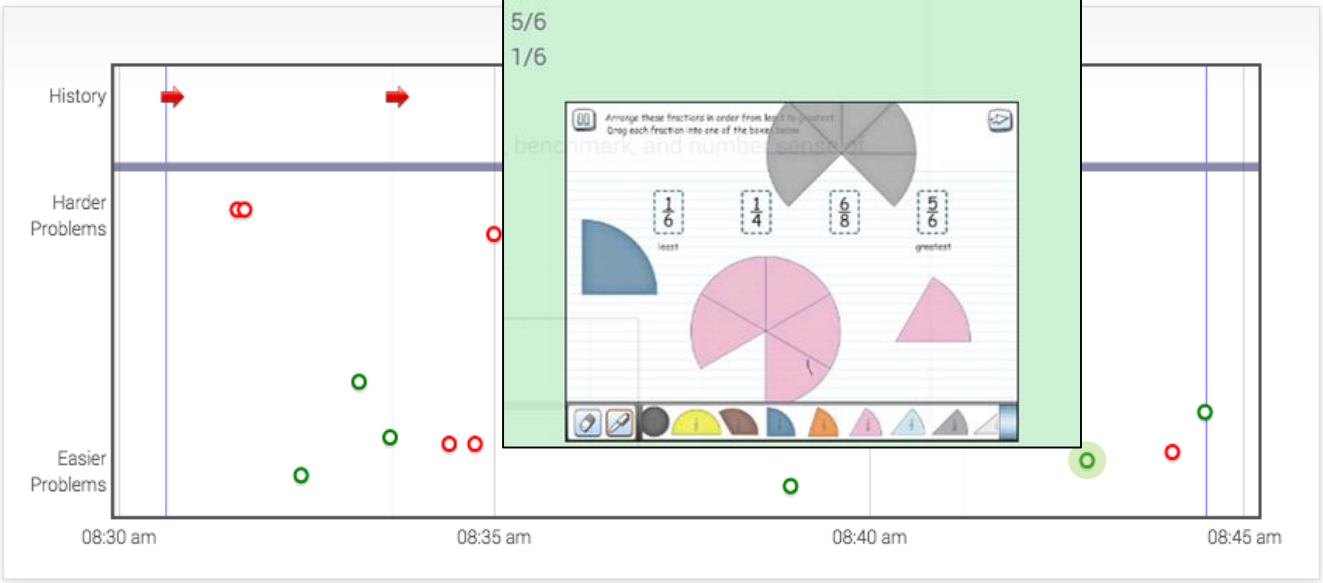
Drag each fraction into one of the boxes below.

1/4

6/8

5/6

1/6



Woot Math Efficacy Study

Krista Marks, CEO
Woot Math

The review of research undertaken for this paper indicates a vast gap in sound, empirical research to determine and quantify the potential benefits from the adoption of adaptive technology in education.

– Technology and Education: A Primer, Izumi et al, August 2013

Adaptivity – The Reality

Two Versions of Woot Math, Head-to-Head

Woot Math
Without Adaptive Learning

VS.

Woot Math
With Adaptive Learning

Level playing field: same content, progression, etc.

Anatomy of an RCT

Students enter study

Randomize

Version A
Control Group

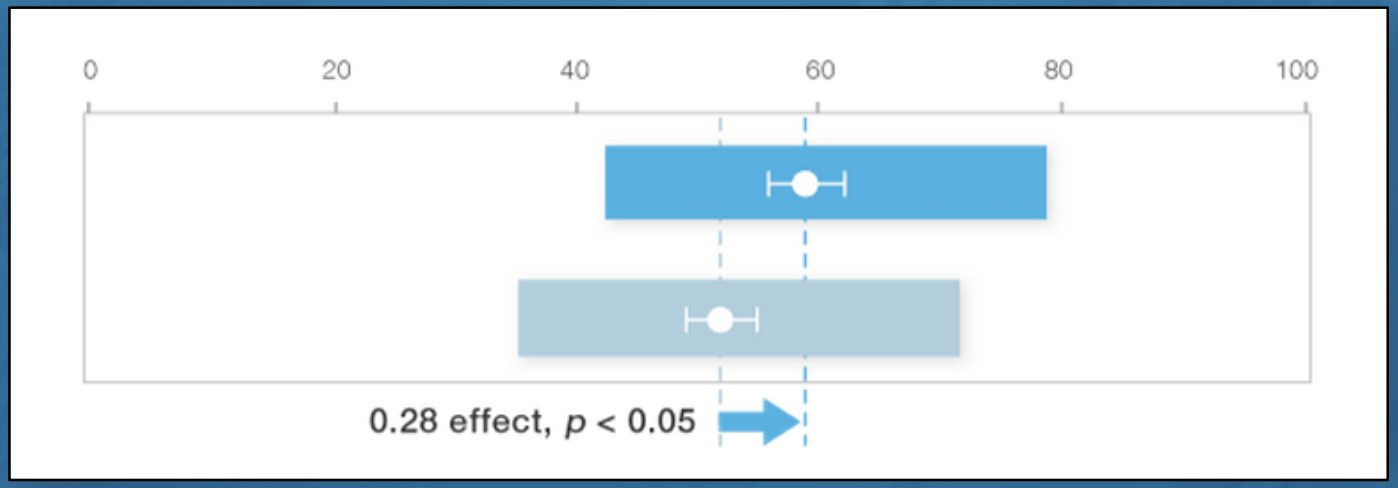
Version B
Experimental Group

Measure and Compare Outcomes

Woot Math Efficacy Study

- Multi-site randomized controlled trial, Spring 2014
- 350 students grades 3-6

Finding: Woot Math's adaptive components contribute significant effects in learning and retention.



Effect of Woot Math With Adaptive Learning vs. Without

wootmath.com/research

Efficacy Study

Student Survey

How helpful did you find Woot Math?	**95%** ***Helpful***	**67%** ***Very Helpful***
Did you learn new things about fractions?	**90%** ***Yes***	**50%** ***Yes, a lot***
Do you feel more confident about math after using Woot Math?	**90%** ***Yes***	**52%** ***Yes, much more***
Would you say the problems were:	**79%** ***The right difficulty***	
Would you recommend Woot Math to another student?	**95%** ***Yes***	**65%** ***Yes, for sure***

wootmath.com/research

Efficacy Study

Teacher Survey

How instructive did you find Woot Math to be for your students?	**100%** ***Instructive***	**70%** ***Very Instructive***
Do you think it may have improved their attitudes or self-confidence about math?	**94%** ***Yes***	
Do you think it increased their confidence for working and learning independently?	**94%** ***Yes***	
For what portion of your students was it helpful?	**94%** ***More than 70%***	
For your students, would you say the material was:	**81%** ***Just right***	

wootmath.com/research

Efficacy Study – Teacher Interviews

> That Woot Math adapts to each student's needs was flabbergasting to me… Fractions are really hard for students to grasp and for teachers to teach. I think **Woot Math is not only transformative for the students; it is also transformative for the teachers**.
>
> - A 5th Grade Teacher

> We have other online programs - 4 or 5 of them. And **my students always choose Woot Math**. They were sad when they finished Woot Math, and I made them do another program.
>
> - An 8th Grade Teacher

> All of my kids but two got all of the fraction questions correct on the year end assessment. **I've never seen that before in all of my years teaching**, and I think it was because of Woot Math. That certainly made me feel that Woot Math was worth using!
>
> - A 4th Grade Teacher

wootmath.com/research

Woot Math Interactive Demo

Teacher Access Code: **TH954C**


woot math
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www.wootmath.com
Photo by Jerry Shapins