

How Students Make Sense of the Number Line

Kathleen Cramer
University of Minnesota, Minneapolis, MN

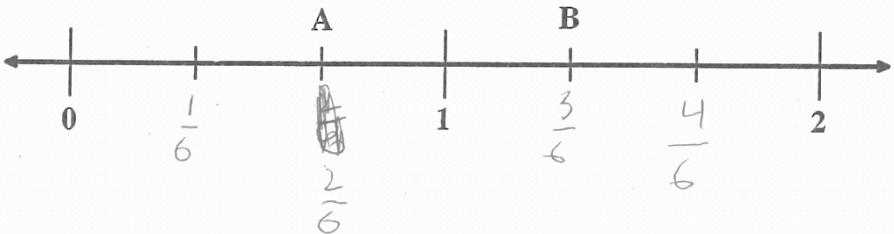
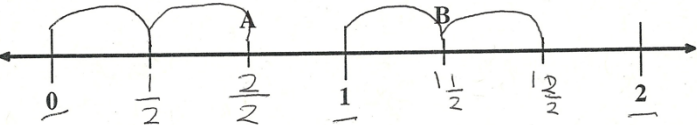
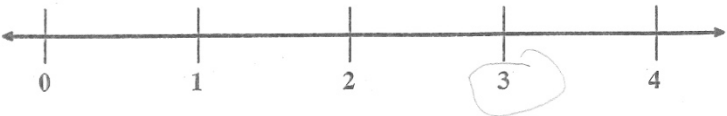
Terry Wyberg
University of Minnesota, Minneapolis, MN

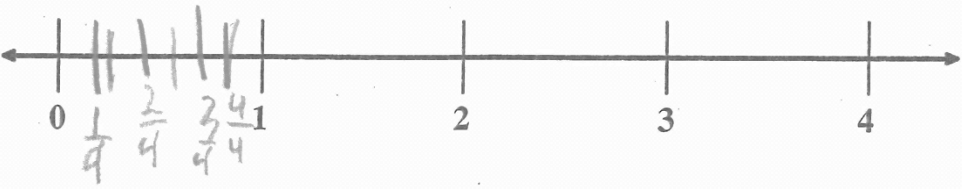
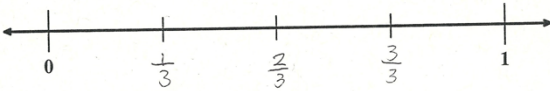
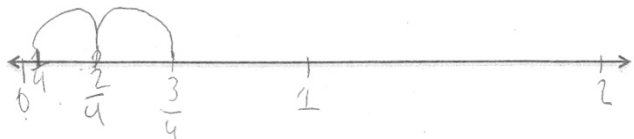
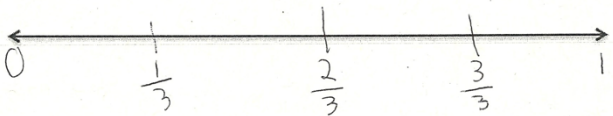
Debra Monson
University of St. Thomas, Minneapolis, MN

NCTM Annual Meeting
Washington, DC
April 26, 2018

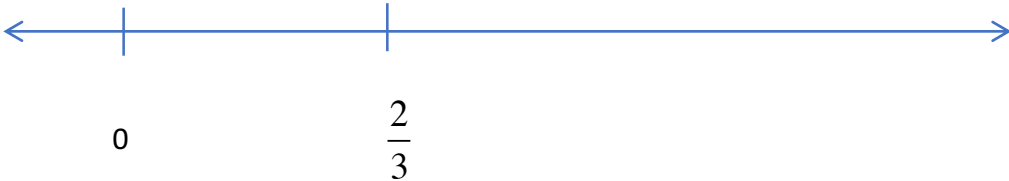
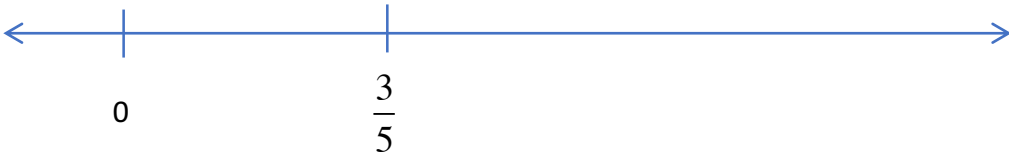
<http://www.cehd.umn.edu/ci/rationalnumberproject/>
<http://www.cehd.umn.edu/ci/rationalnumberproject/rnp1-09.html>
<http://www.cehd.umn.edu/ci/rationalnumberproject/rnp2.html>
<http://www.cehd.umn.edu/ci/rationalnumberproject/rnp1-13-grade3.html>

Making Sense of Students' Misunderstandings

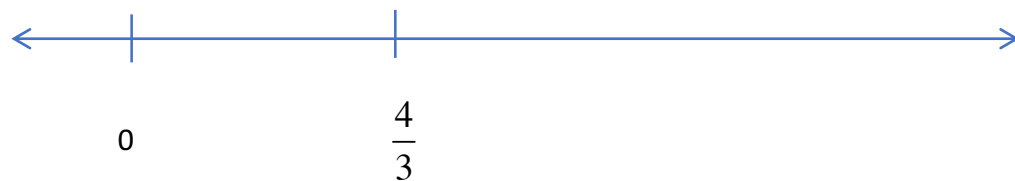
Grade 3 student work	Misunderstandings related to Key Fraction Ideas
<p>What numbers name points A and B?</p> 	
<p>What numbers name points A and B?</p> 	
<p>Where is the number $\frac{3}{4}$ on this number line?</p> 	

Grade 3 student work	Misunderstandings related to Key Fraction Ideas
<p>Where is the number $\frac{3}{4}$ on this number line?</p> 	
<p>Label the tick marks</p> 	
<p>Locate $\frac{3}{4}$ on the number line</p> 	
<p>Show $\frac{1}{3}$, $\frac{2}{3}$ and $\frac{3}{3}$ on the number line</p> 	

Reconstructing the Unit Tasks

Reconstruct the unit task	Solution strategy - Key Fraction Ideas applied to the tasks
<p>(1) Where is 2 on this number line?</p> 	
<p>(2) Show where $1 \frac{1}{5}$ is on the number line.</p> 	

(3) Where is 1 on this number line?



(4) Where are 1 and 0 on this number line?

