**Teacher Learning Co-Op 2015   
“Arts-Based Approaches to Mathematics Instruction in the Junior Classroom”  
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*Excerpt from Handout at York University April 2015- Workshop to Pre-Service Teachers*

By allowing students to physically experience math, we are providing them with a kinaesthetic opportunity to make sense of concepts which are often abstract.

* **Geometry & Spatial Sense: Transformational Geometry and Symmetry**
* Create tableaus showing a symmetrical shape and an asymmetrical shape
* Create success criteria for geometry concept together and have students use movement to show their knowledge
* Have groups show their tableau and other students walk around and use the “Prove It” strategy to explain how the tableau displays the given concept
* Feedback: Two stars and a Wish….have groups refine and show again.
* This activity can be used as a diagnostic to give you a quick glimpse of your students’ understanding of symmetry
* Transformational Geometry- translations, rotations and reflections using various movements
* **Number Sense & Numeration: Fractions and Ratios:** Students use movements to demonstrate their knowledge of fractions and/or ratios. In small groups, students have to demonstrate a fraction or a ratio using movements. The rest of the class observes the movement(s) and guesses the fraction/ratio. Remind students to “Prove It” and justify why they suggested the fraction/ratio

**Example:** Divide students into groups of 6. Using movements they need to represent the following fractions and ratios: ½, 4:2

½🡪 3 students are swaying arms while 3 students are standing still

4:2🡪4 students are jumping in the air while throwing arms up, 2 students are melting to the ground