

From Balancing Students to Balancing Equations:

Helping Children Visualize Mathematics

November 8, 2013

Kyle Patterson & Marcia Rowe

Centerfield Elementary

Crestwood, KY

Contact Information:

Kyle.Patterson@oldham.kyschools.us

Marcia.Rowe@oldham.kyschools.us

Finding My Equal Game (or I'm equal to....) allows children to role-play the concept of equal to/the same as

Materials: Write numbers 1-9 on construction paper with more of numbers 2-4. Example: 16 cards = 2 of number one, 4 of number two, 3 of number three, 3 of number four, 2 of number five, 1 six, 1 seven

**Younger children can use objects on cards and more of the lower numbers.

Directions: Pass out cards randomly with blank side up--one card for each child. At start, children work to make teams of 3 or more that they can explain make an EQUAL. When complete, they shout "EQUAL!" and sit at the rug.

Students unable to make an equal come to the front of the room and work together and with the class to see where their numbers could be used to make an equal.

Groups share in front of the class to explain how they made an equal.

Extension: Look for other ways to create an "equal to" statement with your group. Write an explanation in your math journal on how you know your statement is equal, using pictures, numbers and words to justify your reasoning.

Interactive Balance Sites:

NCTM Illuminations Pan Balance—Shapes (Fixed Values)

<http://illuminations.nctm.org/ActivityDetail.aspx?ID=131>

NCTM Illuminations Pan Balance—Shapes

<http://illuminations.nctm.org/ActivityDetail.aspx?ID=33>

<http://teams.lacoe.edu/documentation/classrooms/linda/algebra/activities/balance/balance.html>

Monkey Math Balance App for iPad

Crickweb Number Balance K-1

<http://www.crickweb.co.uk/ks1numeracy.html#simplescales2>

Equal, Equal (*to the tune of Twinkle, Twinkle, Little Star*)

Equal, Equal
Make it match
Sides must balance
That's a fact!

2 plus 2 and 1 plus 3
They both equal 4
You see...

Equal, Equal
Make it match
Sides must balance
That's a fact!

Right like left,
And left like right.
Point to each other
With all their might
So...

Equal, Equal
Make it match
Sides must balance
That's a fact!

Resources Used

20 Instant Math Learning Centers Kids Will Love! (Geiser & Pettit, 2002)

Balance Benders Beginning (Femiano, 2010)

Elementary and Middle School Mathematics Teaching Developmentally (Van de Walle, 2007)

Elementary and Middle School Mathematics Teaching Developmentally (Van de Walle, Karp, Bay-Williams, 2010)

Exploring Mathematics through Literature (NCTM, 2004)

The More, Less, and Equal Game (Butkus, 2010)

Navigating through Algebra in Prekindergarten-Grade 2 (NCTM, 2001)

Students' understanding of the equal sign not equal, prof says (Texas A&M University, Psychological Reports February 2010)

Three-level approach to scaffolding can be applied to teaching math (Anghileri, ERN March 2007 Volume 20 Number 3)

Try A Tile (Cook, 1979)

Children's Literature

The 512 Ants on Sullivan Street by C. Losi

Anno's Magic Seeds by M. Anno

Bats on Parade by K. Applet

The Doorbell Rang by P. Hutchins

Equal Shmequal by V. Kroll

How Many Bears? by C. Edens

One Grain of Rice: A Mathematical Folktale by Demi

Sea Squares by J. Hulme

Two of Everything by L. Hong