Mathematics in Washington State

Curriculum Director's Meeting

April 18th, 2017

Objective: Building support for engaging students in meaningful mathematics.

http://www.openmiddle.com/

ADDING DECIMALS TO MAKE THEM AS CLOSE TO ONE AS POSSIBLE

Directions: Use the numbers 1 through 9, exactly one time each, to fill in the boxes and make three decimals whose sum is as close to 1 as possible.

$$\begin{array}{r} 0.\square\square\square \\ 0.\square\square\square \\ +\,0.\square\square\square \\ \hline \end{array}$$

Supports for Engaging Students in Meaningful Mathematics

What are your expectations when you walk into a mathematics classroom?

- What are students doing?

- What are teachers doing?

Consider this Video

Mathematics

Mistakes should be expected, respected and inspected

- Reflect for a few moments on this quote and consider how this related to your math experience in school.

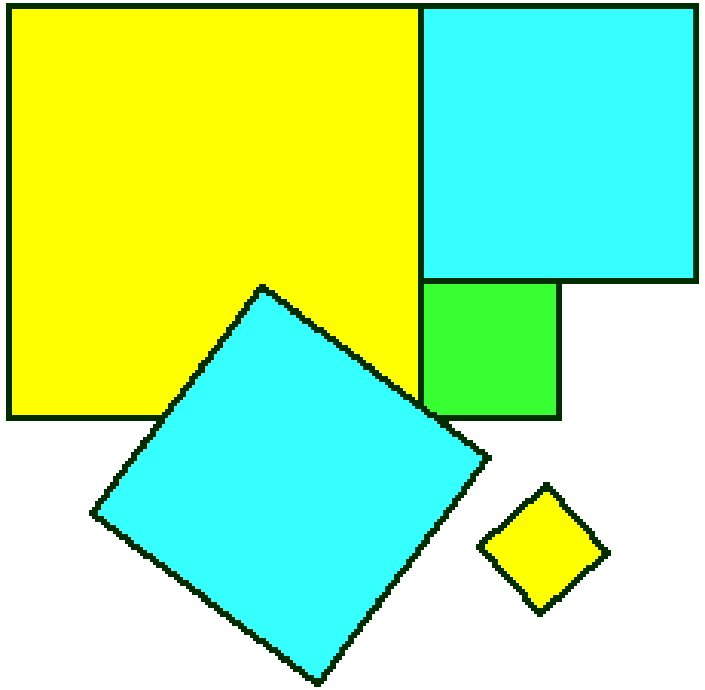
- What aspect of this quote resonates with you?

Fitted Squares

You will have some time to work on this problem individually.

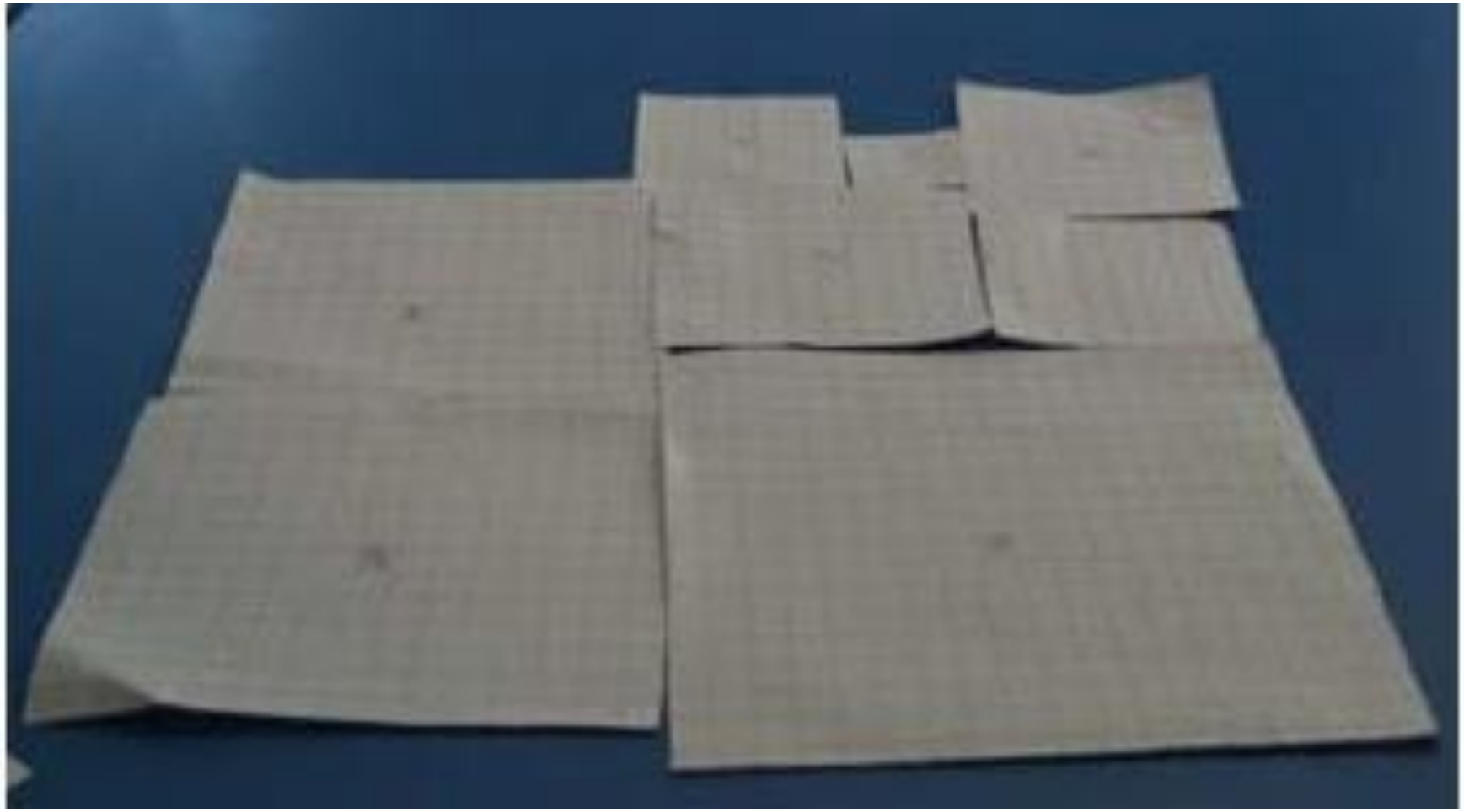
Nine squares with side lengths 1,4,7,8,9,10,14,15, and 18 cm can be fitted together with no gaps and no overlaps, to form a rectangle.

What are the dimensions of the rectangle?

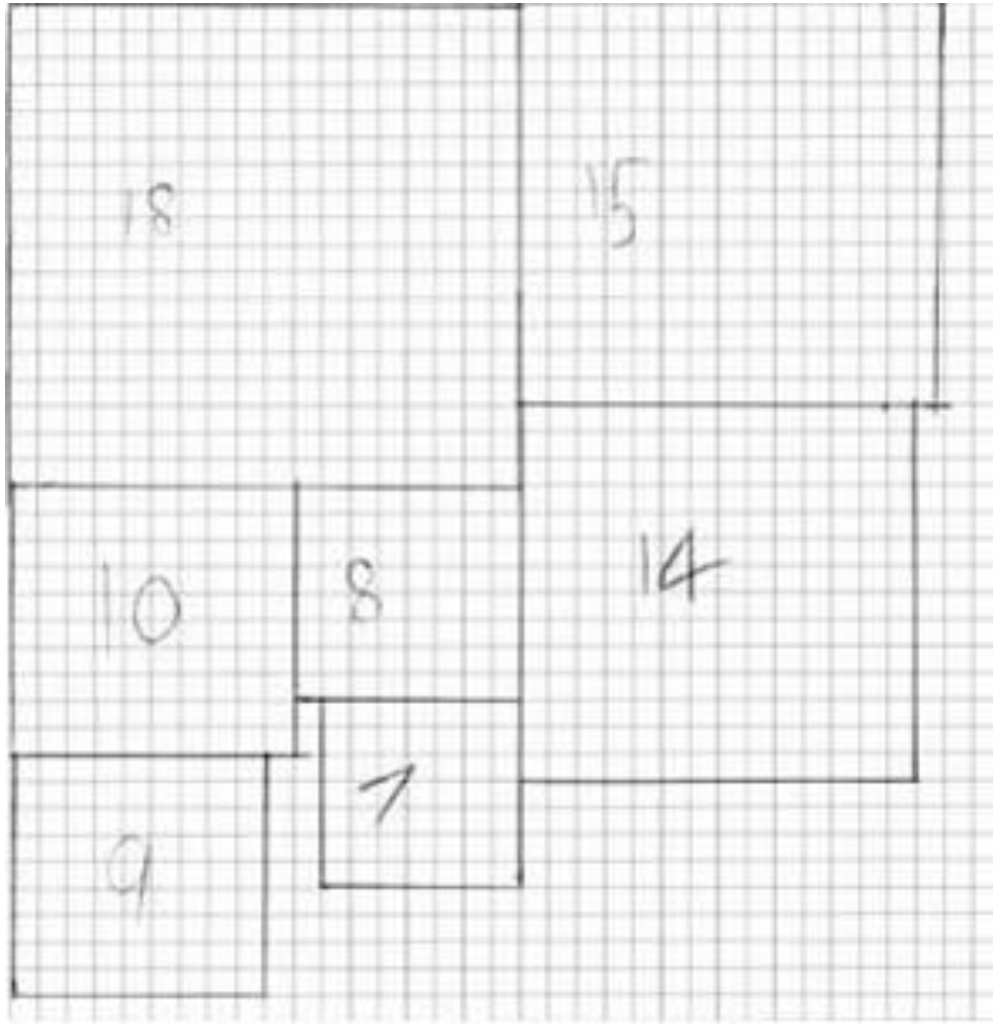


https://nrich.maths.org/1854

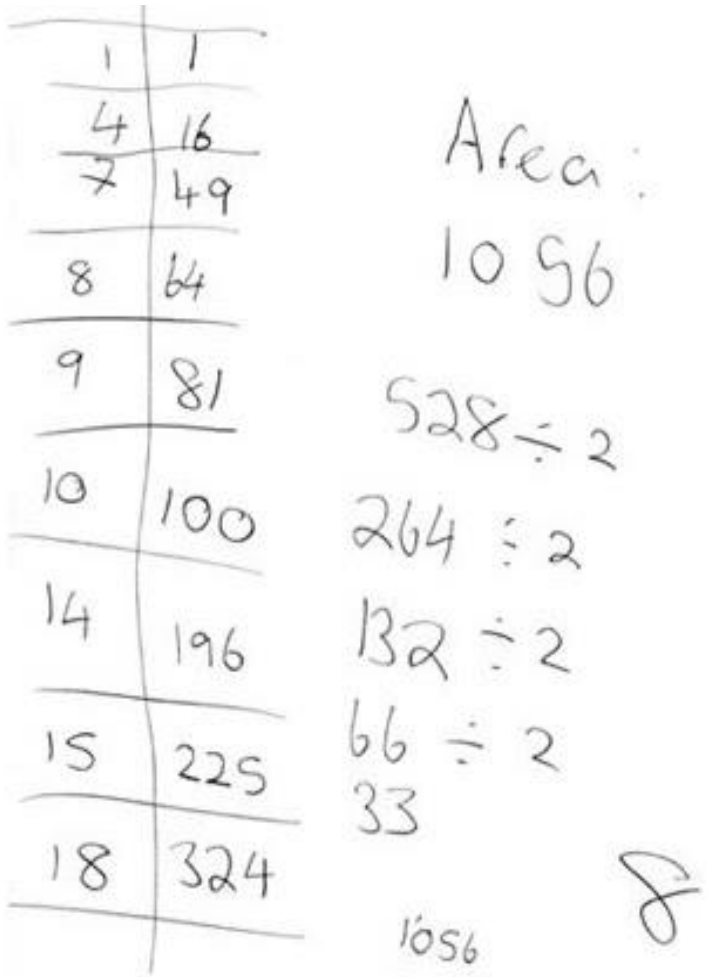
One Approach



Another Student's Approach



Yet Another Approach



Debrief

1. **What strategies did you/your pair incorporate?**

2. **What mathematics, either in content or practice did you access?**

3. **How could you use this in your role?**

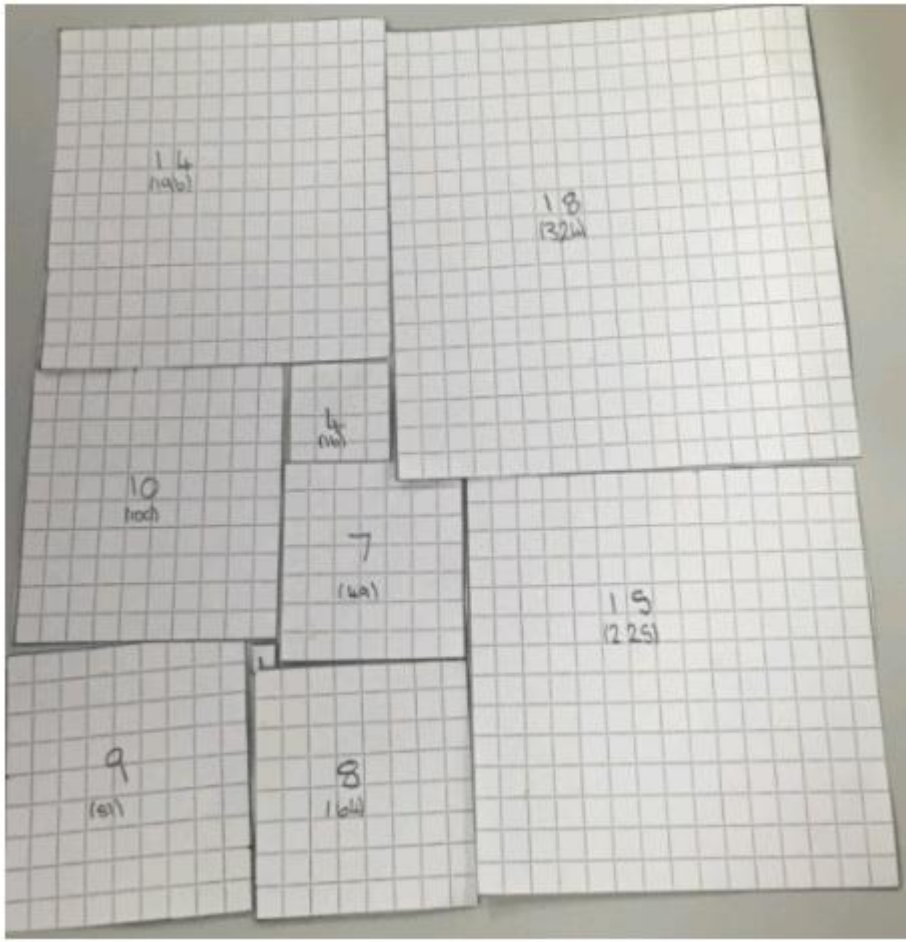
4. **Were there times you had to persevere? What strategies did you employ when/if this occurred?**

A possibility for an extensions…

http://nrich.maths.org/35/index

http://mathworld.wolfram.com/MrsPerkinssQuilt.html

A Solution



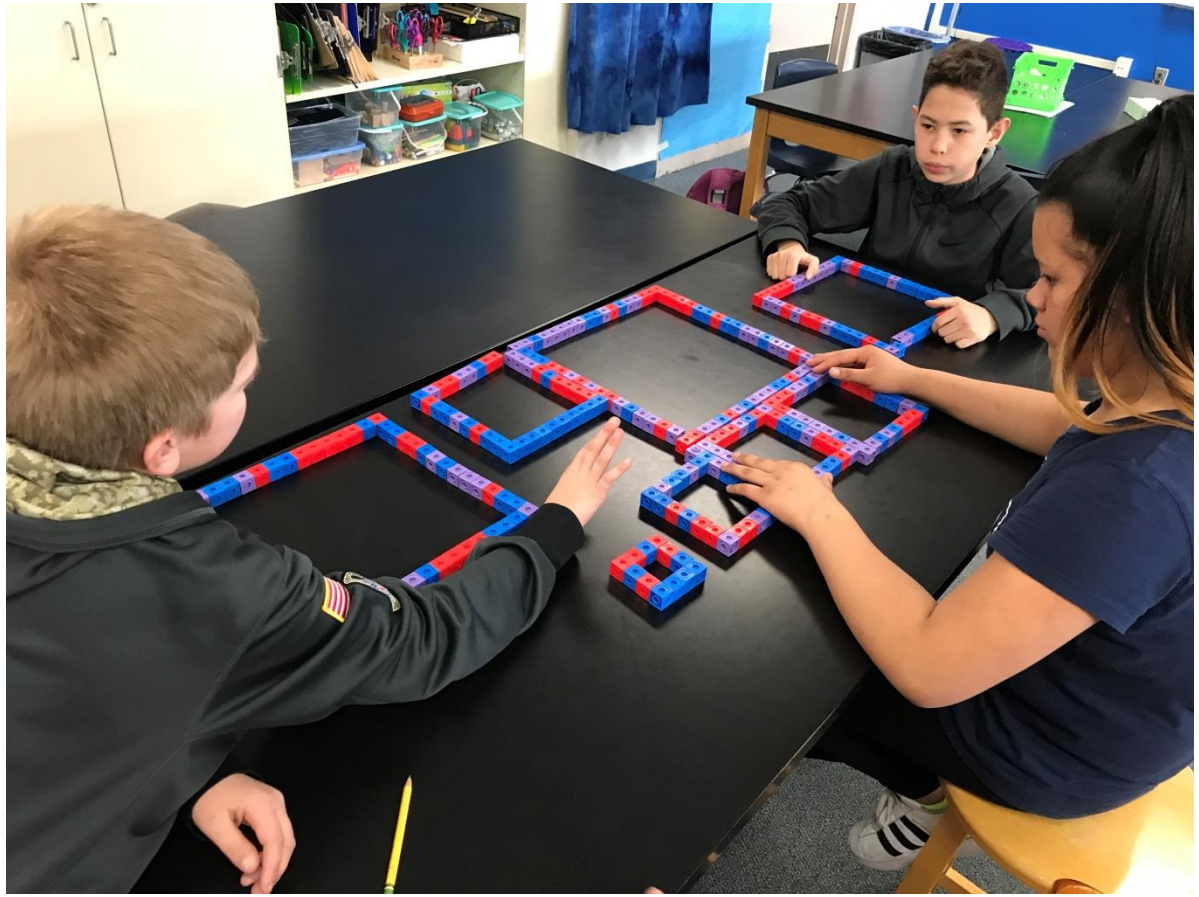
Molly and Elizabeth from The Academy of Cuxton Schools sent in their thoughts:

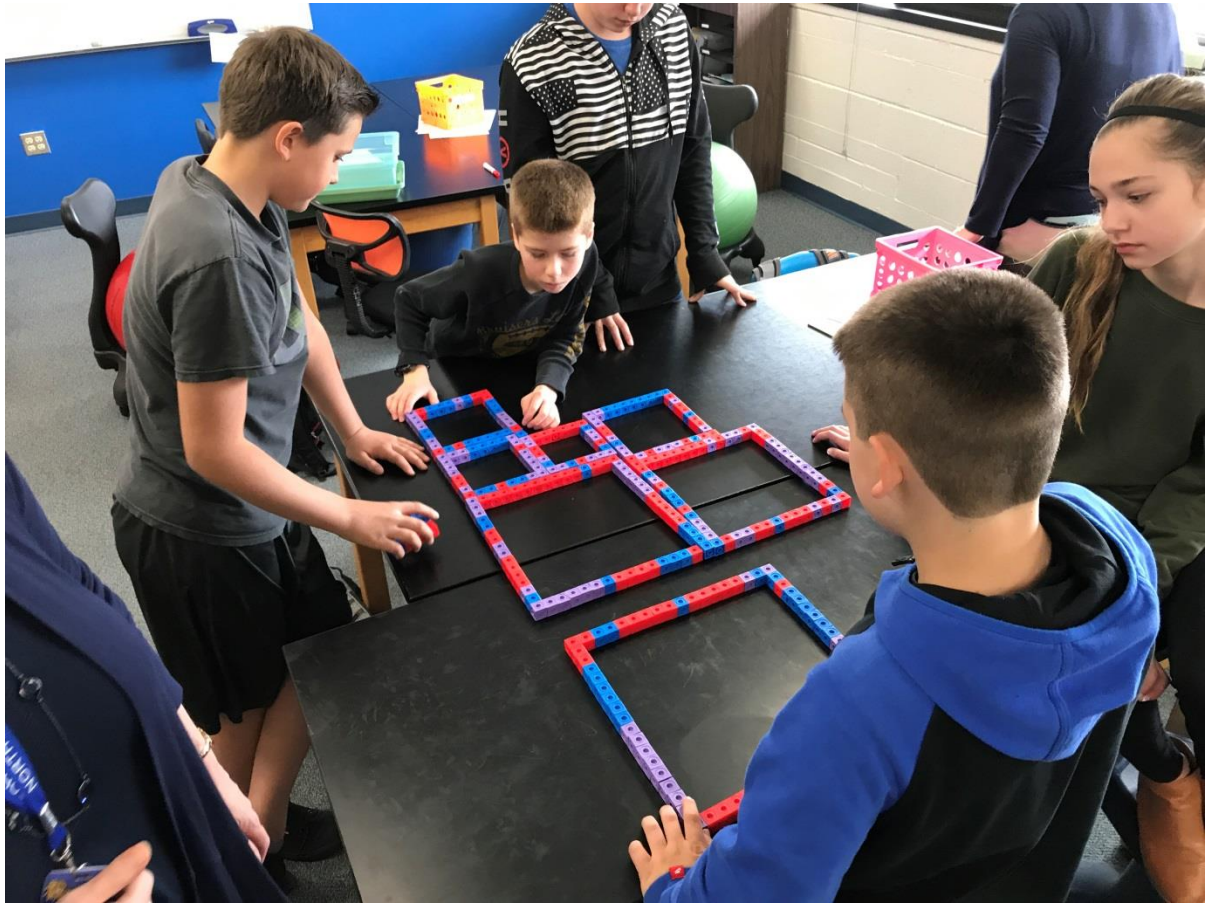
We are proud to have solved this problem. We are exhilarated that we completed this task; it made us feel that any goal can be accomplished.

We completed this investigation by cutting out the squares and physically moving them into place. It took a lot of trial and improvement but we did it in the end.

We found one solution but if we kept trying, we believe we may find more. How many have you found?

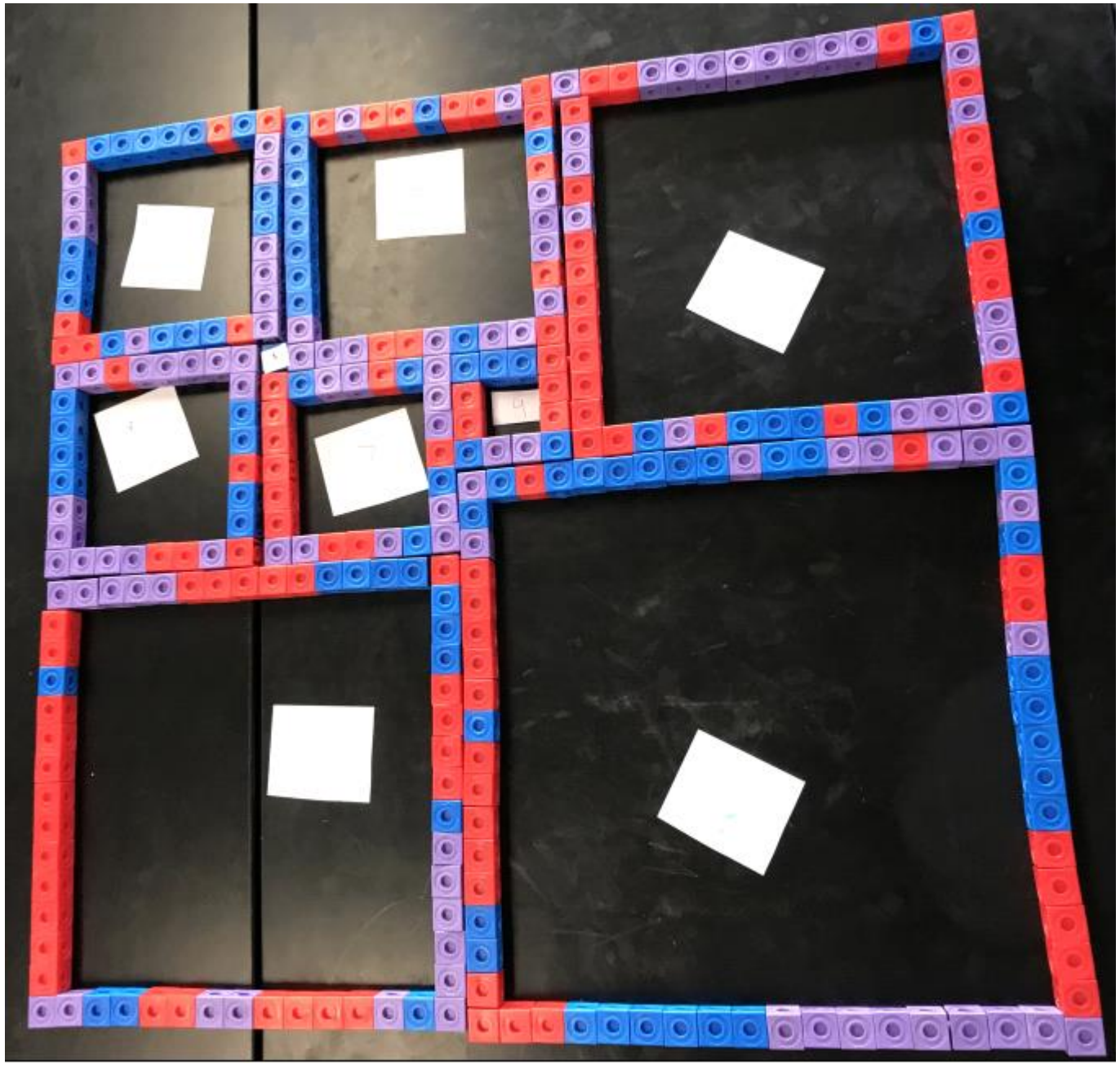
Students in 6th Grade Support Class





A Solution in Real Time…

We did the 9 squares activity from nrich
So fun!
Great connections made for the kids. It took us more than one period but they finally got to a solution. I only had 1 group out of kids pick graph paper. Most used these cubes.



The Mathematics Content and Practice

Multiplication & division. Investigations.

Factors and multiples.

Addition & subtraction. Squares.

Rectangles. Area.

Trial and improvement.

Working systematically. Divisibility.

Resources

Youcubed	**www.youcubed.org**
NCTM	www.nctm.org
NCTM Illuminations	https://illuminations.nctm.org
Balanced Assessments	http://balancedassessment.concort.org
Math Forum	www.mathforum.org
Shell Center	http://map.mathshell.org/materials/index.php
Dan Meyers resources	http://geogebra.org/cms/
Geogebra	http://geogebra.org/cms
Video Mosaic project	http://videomosaic.org
NRich	http://nrich.maths.org
Estimation 180	http://www.estimation180.com
Visual Patterns: grades K-12	http://www.visualpatternsorg/
Number Strings	http://numberstrings.com
Mathalicious, grades 6-12; real world lessons for middle and high school	http://www.mathalicious

Early Numeracy Facilitator's Training

Operations and Algebraic Thinking:

- PSESD – April 20th and 21st
- NWESD – April 22nd

Geometry:

- Evergreen School District – April 25th
- NWESD – May 20th

Counting and Cardinality:

- ESD 105 – May 16th
- NWESD - June 10th

Illustrative Mathematics OER Curriculum Grades 6-8

We are a nonprofit developing the highest quality full-course curricula available to districts, provided for free as Open Educational Resources (OER) to promote instructional equity. We partner with the country's foremost materials experts to develop superb core programs and deliver essential implementation support, from professional development to printing. Our mission is to provide students and educators with equal access to rigorous, standards-aligned core materials.

LINK to FAQ's

Professional Develop from Illustrative Mathematics

5 Practices for Orchestrating Productive Mathematic Discussions

June 1st in Spokane area
June 2nd in Seattle area

Three Days during the month of July for Facilitators Training

This PD opportunity will focus on 5 Practices for Orchestrating Productive Mathematics Discussion which is the foundation of the Open Up Resources curriculum that is being developed by Illustrative Mathematics.

Bridge To College Mathematics

LINK

In 2016-2017, over 300 teachers in 149 high schools across Washington State taught the course, with roughly 6000 students using the course to prepare for college success.

Applications for the 2017-18 school year are now being accepted through iGrants Form Package 719 (Fiscal Period 16–17).

Application Information

NWESD has 2 Communities of Practice and expect to continue supporting these two COP's during the 2017-2018 school year.

MSP through Math Educational Collaborative

LINK

Number Talks will be used to bring about fundamental shifts for both students and teachers.

In the Seattle Area

ESDs 114, 121, 189

July 11-12: Concurrent Number Talk Institutes
July 13-14: Number Talk Leadership Session