Math Club December Newsletter

Thank you for helping your mathematicians arrive at 8:00 on Wednesdays for some extra math fun. Have a wonderful break and see you in January!

-Erin Duchinsky, Edie Stanton, Charlie Howard and CJ Rosas

Consecutive Sums

We did a quick investigation where we tried to reach "target numbers" by only using addends that are consecutive. For example: you can get a sum of 9 by adding 4+5 or adding 2+3+4. We went all the way up to 40, discovering interesting patterns and strategies:

- Odd numbers are easier because you can take half of one less than the target number and add it to the next consecutive number. So to find a consecutive sum for 23, you can do 23 –1 = 22 and 22÷2 = 11 so one solution is 11 + 12 = 23

- One can use an existing consecutive sum to come up with others, so if I know 2+ 3 + 4 is 9, I can add a 1 to get a sum of 10 or a 5 to get a sum of 14

We also discovered that it is impossible to find consecutive sums for powers of 2 and had a little peek into the world of exponents.

Origami

We started by exploring modular origami or unit origami, in which we create one unit that can be combined to create larger geometric figures like cubes, stellated octohedra and stellated isosahedra. The classic one is called a "Sonobe Unit" after its creator, but there are variations. Origami IS math because we explore things like geometry, symmetry, and fractions. We also discussed the "5 Ps of Origami" (practice, perseverance, precision, patience and…paper!) which also fit well with our mathematical practices and habits of all good mathematicians. Doing origami right before break is an annual Math Club tradition so we hope this new skill will bring hours of entertainment during the break. Special thanks to Mr. Gregal who shared his origami expertise with us!

Up Next: Pentominoes

In January, we will be easing back into school by exploring pentominoes, geometric shapes formed by five adjoining squares placed edge to edge.