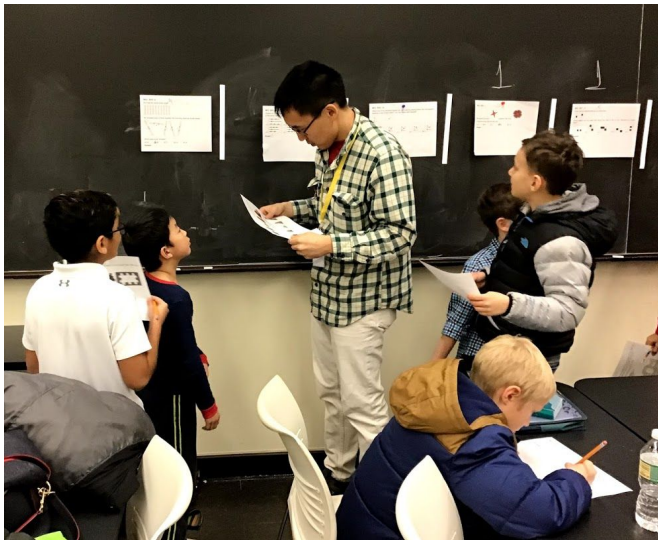
Math Club 2. Lesson # 11 **December 16, 2018**

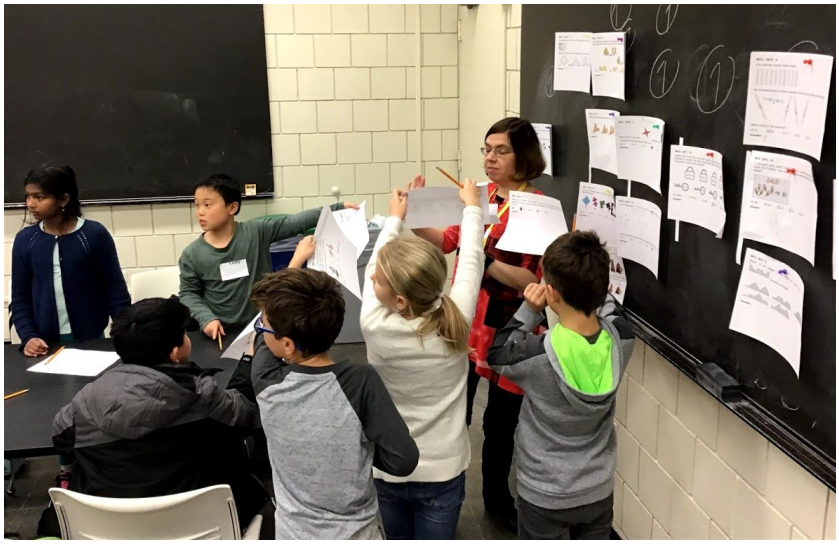
Winter Math Battle.

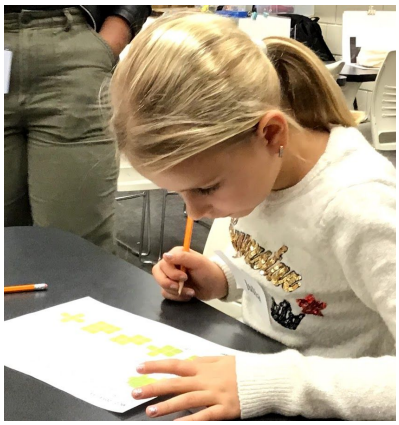
Last Sunday was the last Math Club before holidays and we had a Math Battle. It is not easy to find the right format for the Math Battle adapted for 6-9 yo students, but we believe that we did.

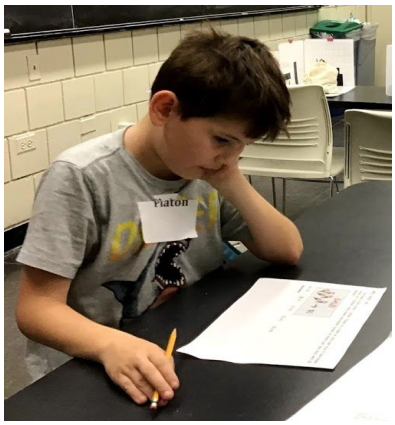
We divided our 20 students in two teams - Team Circle (with Anar) and Team Triangle (with Elena) and in 50 minutes, we had 6 differents rounds of competitions, with different tasks each - 6-10 minutes for each round.

The **Round 1 was simple Math Problems solving.** Each team had an identical set of 20 problems. They started with one problem per student and when a student solved the problem - he/she presented the solution to us and if it was correct - the team get one point. If the solution was incorrect - we gave the student second chance to solve it. Students who finished their problems can take more from the bank - up to the moment when time is over or until the other team finishes all problems. And yes, you can help your teammate: it is better for the team if students work together!

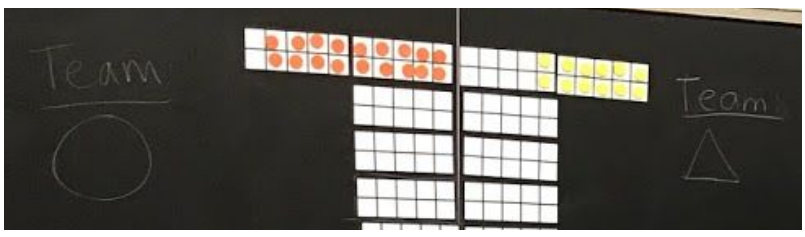






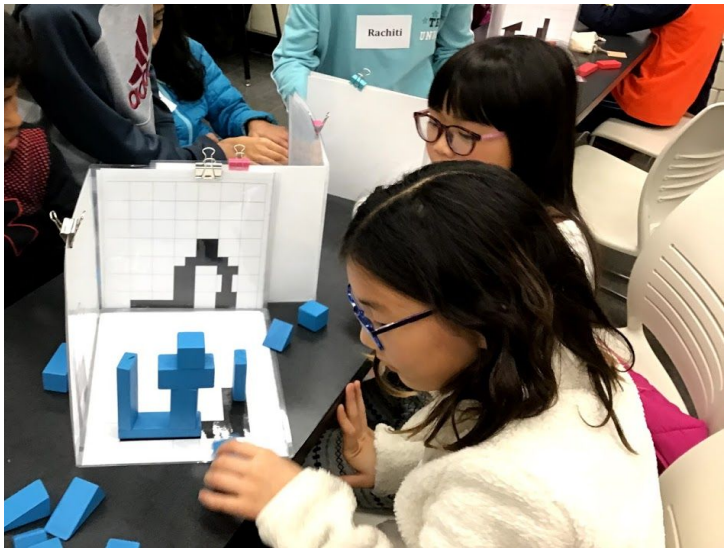


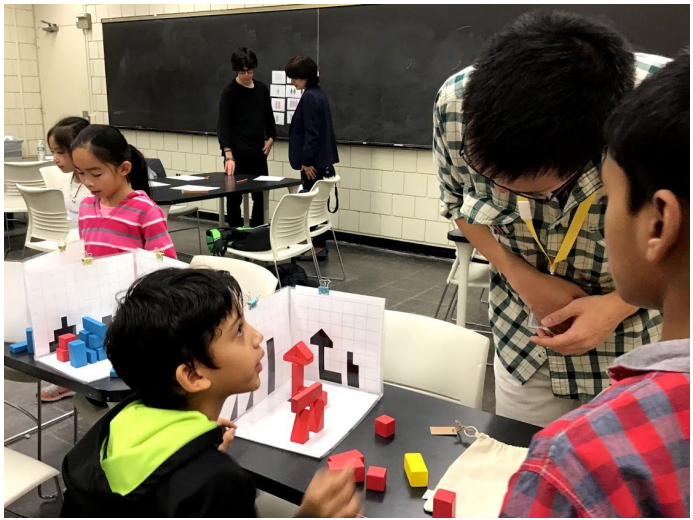
It was the most intense and interactive problem solving we have seen in the Club before :). You can find problems that we have used here.



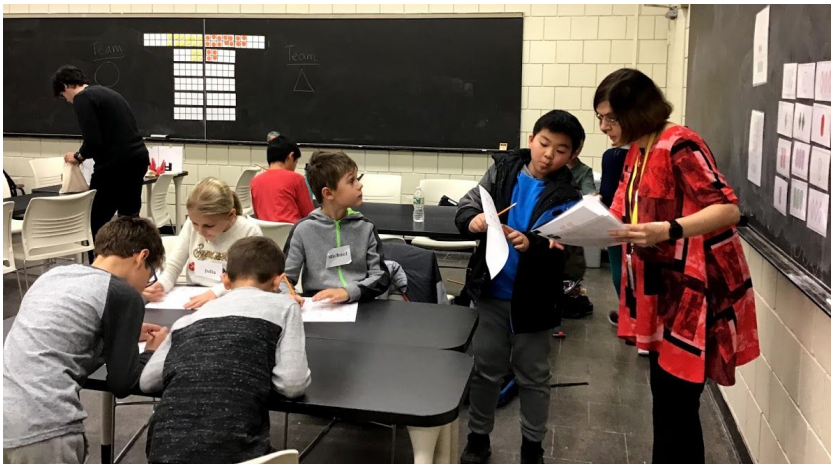
After announcing the score we moved to the next round.

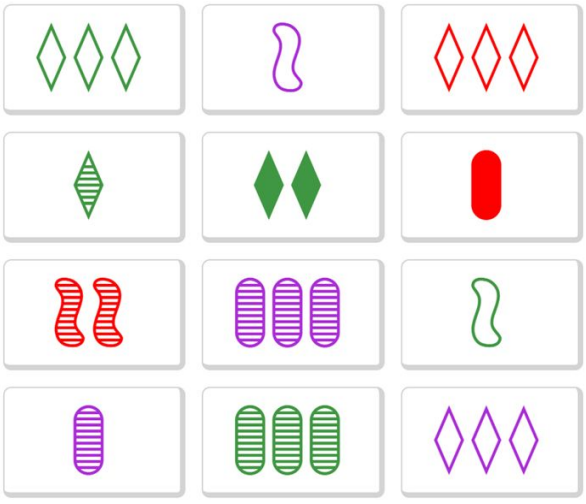
Round 2 was 2D Projections of 3D objects. We had a small white room with 3 of its wall showing 3 projections of some unknown collection of objects in black. Our task was to figure out which set of objects made out of our regular shapes, in which exact arrangement, produced the projections. Make sure all 3 projections match up with the objects you build inside the room!
Each team has to build 5 such rooms and only if there are no mistakes, the team will score 2 points for the room, for a maximum possible of 10 points.



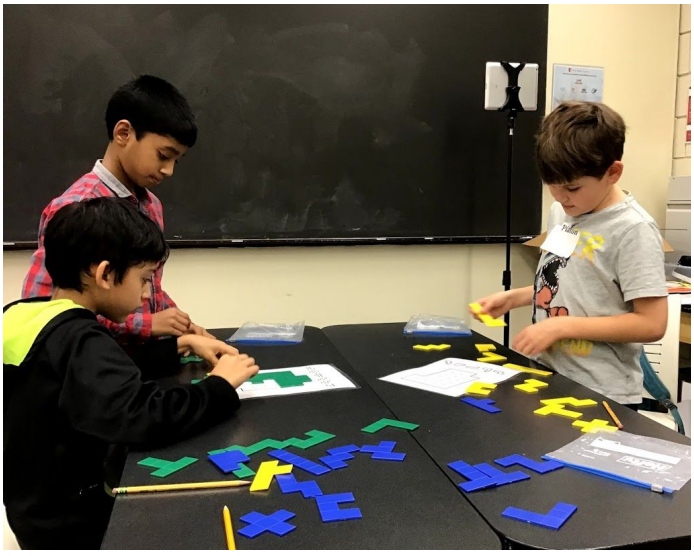


Round 3 was the game of SET. SET is 3 cards that have some properties the same for all cards and the rest of properties different for all cards. There are 6 SETs among these 12 cards. We need to find all of them. And as soon as one of the teams finds all SETs the round is over!

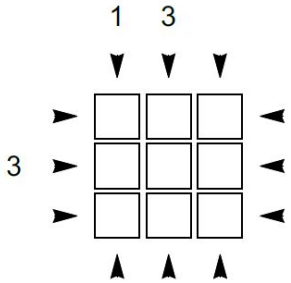


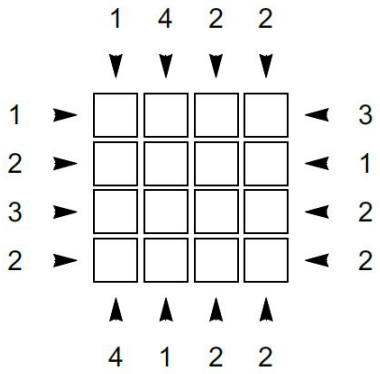


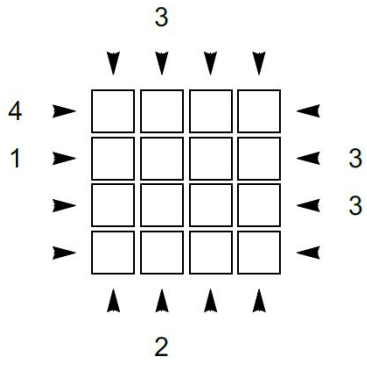
The next Round 4 is Pentomino puzzle. Pentominoes are shapes made out of 5 squares connected at the sides (not corners). There are 12 different pentominoes possible. In each of the pentomino puzzles, we will need to fill out the given area with 3-7 pentominoes so that they together match the outer contour given in the picture.

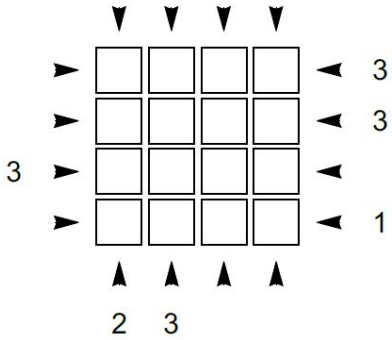


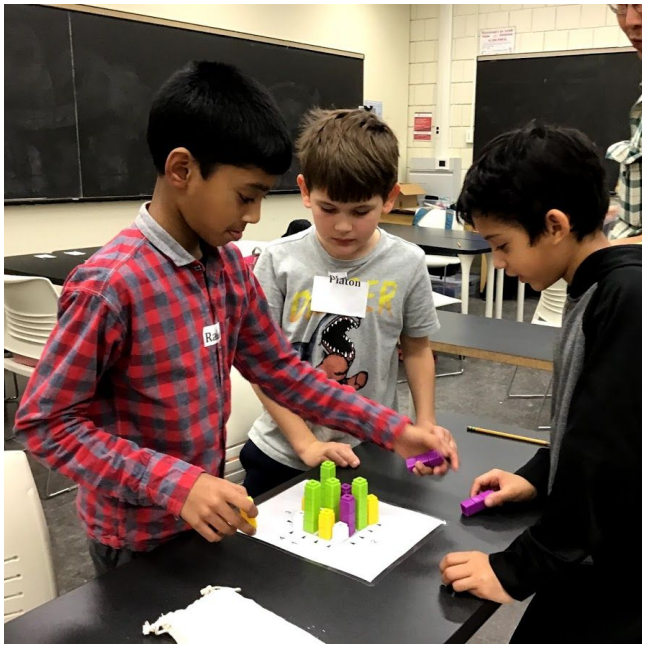
Round 5 was Skyscrapers. You have a grid of squares, each of which will house a skyscraper of a particular size. Around the grid are clues telling you how many skyscrapers you can see from that position. The skyscraper puzzle is solved by placing buildings in a grid so that the number of visible buildings, as viewed from the direction of each clue, is equal to the value of the clue. Another rule to keep in mind: each row and each column should contain one of each type of skyscraper.
Each team has 5 problems to solve - 2 points each, for a maximum possible of 10!

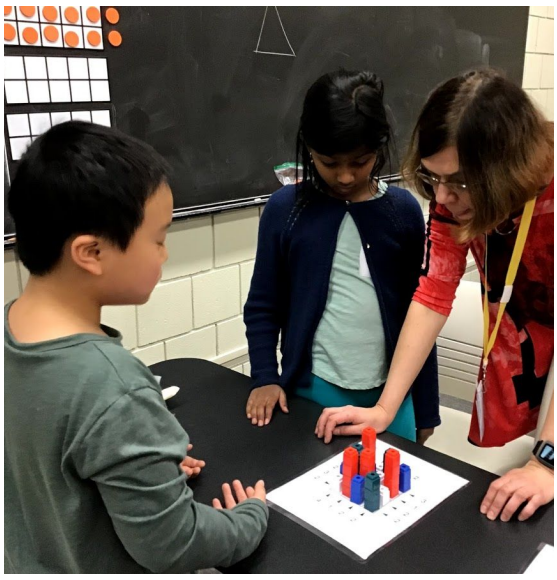












The last Round 6 was Blokus game. Team versus team game for Blokus duo (2 players) was a good ending of the Battle.

And finally, we counted points, named the winning team, gave out medals and presents and went on a break for 3 weeks for the holidays. Happy holidays and see you on January 6!