Fun Math Project

An awesome math project I truly enjoyed were Math Journals. I gave a new question to my students every week and they would tackle it. It was not meant to be easy….if it was they were given an extension. Something they were merely brain teasers. They were not allowed to erase. When they were stuck, they had to say so. When they had a moment of inspiration, they had to say so with an “aha” or “bazinga” or something of their choosing. When they got it, they can say “yeah” or “hot diggity” or something appropriate. ☺ At 4 points throughout the year, they had to make an entry about how the journal has been going and how they feel about problem solving (beginning, end and twice in the middle). It is amazing how well the student did with this at the end. There was groaning to start, but they almost came to enjoy it as I tried to make the questions fun and relevant. I would like for my students to leave math at least feeling more confident in their abilities with math and more comfortable feeling uncomfortable.

Fun Science Project

Another great project I did was in Science 10 for the plate tectonic section. Student were in a group of 3 and were told that they were explorers and they had just reached a foreign shore with a mountain range. One was the volcanologist, one was an earthquake specialist, and one was a historian. Together they had to decide if they were going to settle there and present to the class why or why not. They had to pretend that we knew nothing whatsoever about the science behind anything. It was very open ended. I gave them a list of the outcomes for the course – i.e. Can you describe how mountains are formed? Can you describe the differences between the three types of earthquake waves? What is the importance of Wegener’s theory? So many student created a very elaborate coast line with a history based on our local history of eruptions and earthquakes and damage that was done. I was dubious at first as I left it very open ended, but in the end they students surprised me. This was my first inquiry-based group project and it was a success!

Exercise in sticking with it….

I am also going to tell you a story about a student that I had last year. She has something called Borderline Personality disorder as well as high anxiety. Her Mother is a highly anxious individual so this is how she has been raised. She has told me that she has attempted suicide twice by cutting herself. When I started as her teacher, she barely came to class, mostly doodled on paper when she was there and made zero progress. She often ignored me when I spoke or would sullenly answer me. She has severe difficulty reading, but she refused to use Kurzweil or any google chrome applications. She does not qualify for a reader either. In the book I read called “Learning to Love Math: Teaching Strategies That Change Student Attitudes And Get Results” by Judy Willis, the author mentions that the research shows that high school students are more affected by negative feedback….in a negative way. In other words, have a bad test or a bad experience and the creation of anxiety affects them more than a pat on the back after a job well done. With this student I spent some extra time with her reading to her. I allowed her unlimited time to write tests and I also gave her multiple retests. I also started every day asking her and all of my students something personal….what did you do last night, did you watch your fav show, etc. She started to show more and more resilience throughout the year when taking tests. For instance she used to not come to class for them at all or make up excuses as to why she couldn’t write them. At the end of the year she was almost excited to destroy them!! This was the first year since grade 6 where she has made any progress in school. I do have to say that I worked in an alternate program so I had more flexibility with my time and choices. I share this with you as I am not sure if it was the relationship we made, the formative approach to testing, both, or merely a fluke, but I want to put this out there as a reminder to myself and us all that students are never a lost cause!

Compilation of Math resources….in progress (from all of us in class!) I didn’t want to lose them!

1. Week of inspirational math: Here are sample lesson plans.  <https://www.youcubed.org/week-of-inspirational-math/>  
   The idea is to help students appreciate the benefits of working in groups to fully and deeply comprehend the connections and creativity of math, and also to develop a strong belief in their own abilities to succeed in a mathematical universe
2. Reflex Math: Can be found at <https://www.reflexmath.com/>  
   When parents ask what they can do at home, can go to math computation and fluency.   Kids can improve their math skills without diminishing their enjoyment of math.
3. How to build math culture in your classroom. <https://educatingnow.com/blog/142191/building-a-math-culture-in-your-classroom>
4. Using Math Manipulatives: <https://educatingnow.com/blog/141332/different-levels-students-in-your-class>
5. COLLABORATIVE MATH TEAMS <http://courses.educatingnow.com/blog/142198/my-math-class-has-changed-forever?_ga=1.157465530.121546799.1478563936>
6. BUILDING STUDENT ENGAGEMENT WITH GAMES <https://educatingnow.com/blog/142192/using-games-to-review-basic-facts-and-practice-math-talk-guidelines>
7. Using white boards: <http://www.learningsciences.com/whiteboard/>
8. Curricullum-based interventions: <http://www.interventioncentral.org/curriculum-based-measurement-reading-math-assesment-tests>
9. Math and Movement: <http://www.mathandmovement.com/whatis.html>
10. Daily estimation challenges: <http://www.estimation180.com/>
11. Math puzzles by grade: <https://nrich.maths.org/5714>
12. Geogebra: Google chrome app with sample videos: <http://paulhami.edublogs.org/2012/06/26/geogebra-versatile-maths-software-for-all-platforms-now-including-google-chrome/>
13. Number talks: <https://sites.google.com/site/gcsinstruction/number-talks> and <https://sites.google.com/site/get2mathk5/home/number-talks>
14. Power of Ten: <http://poweroften.ca/>
15. Kaboom! Game: <https://www.pinterest.com/pin/445926800585966685/>
16. Buzz Math: <https://www.buzzmath.com/>
17. Finding Ways blog with resources: <http://fawnnguyen.com/>
18. Mathletics program: <http://ca.mathletics.com/>
19. Resource for problem solving and integers: <http://mathcatcher.irmacs.sfu.ca/story/small-number-counts-100>
20. Carole Fullerton: Building foundational math skills: <https://mindfull.wordpress.com>
21. Picture Books and Numeracy: <http://proudtobeprimary.com/childrens-books-teaching-math/>
22. First Steps in Math: <http://www.pearsoncanadaschool.com/index.cfm?locator=PS2eLt>