

Incorporating Inquiry-based learning in assessments and evaluations

-- Jimmy Pai, Earl of March Secondary School, Ottawa.

Our grade 9 summative task was designed, in part, out of the desire to evaluate student thinking in a different way. We allowed the task to take place over two days.

Day 1:

The task begins by showing students the video on the right from Dan Meyer.



<http://threeacts.mrmeyer.com/toothpicks/act1/act1.mov>

Throughout the school year, students were exposed to these types of prompts, so it's not strange to them. The difference here, is that they are attempting to demonstrate their understanding of the overall expectations in the grade 9 curriculum.

Students are then provided with toothpicks to

help them design and think. In their group discussions, students develop their own questions and

planned their approaches together. In addition to manipulatives and their groups, they also have a sheet of instructions, suggestions, as well as a list of the grade 9 overall expectations. In the picture on the left, for example, you can see a group of students sharing their ideas and recording their plans on paper.



During this time, we circulated the room and participated in their discussions. We did not offer corrections. We did not steer their thinking. Instead, we asked questions about what they were thinking and how they were thinking about

their ideas.

The consolidation at the end of the period was a class-wide discussion on student approaches towards aligning their ideas with the curriculum expectations.

At the end of Day 1, everything is collected from the students.

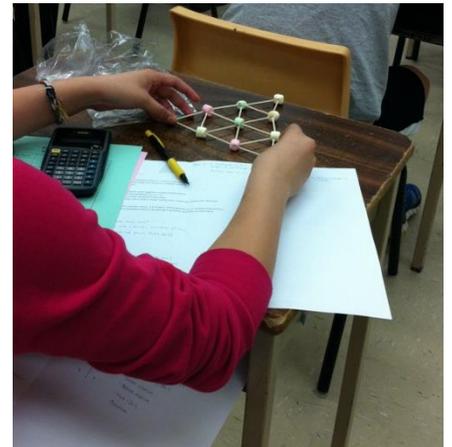
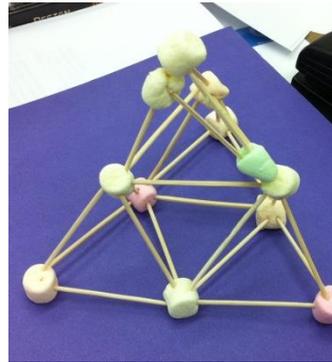
And then we move on to day 2...

Day 2:

Students now sit individually, as they are handed back everything from day 1. One thing is different this time around: they have to incorporate marshmallows.

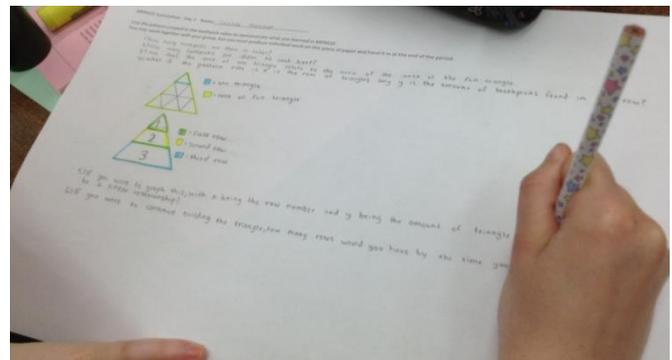
Some students followed their plan from the previous day and just added the marshmallows in between. Others saw opportunities to extend to three-dimensions.

Regardless, they understand that the second day is around their individual abilities to creating and solving problems based on their understanding of the grade 9 curriculum.



Student achievement is not considered as 1 numerical grade. Instead, we considered what students were able to demonstrate, and added it to their existing evidence record under whichever overall expectations they have decided to show.

If you think about it though, it is not much different from any other day in the classroom. Students are still exploring mathematics in their groups and discovering their own conclusions. The difference lies in the following:



1. Mathematical content and measurements are student created without any prompts from the teacher.
2. Teachers are not directing a content-based consolidation. Instead, the focus is on student approaches of developing and solving problems that relate to the curriculum.
3. Students have a goal: to demonstrate the learning of the curriculum.