Problem of the Week

I continued to focus on measurement for this week's Problem of the Week. Measurement is often addressed in one specific block of the school year, however it is important students have opportunities throughout the school year to explore measurement within a problem solving context. These tasks were designed to determine how much your students can recall and apply previous learning.

I have attempted to create tasks that may be novel to students so that they are applying their problem solving strategies to arrive at the solution. As always, I will provide opportunities for primary, elementary and secondary.

Be mindful that during these prompts, it is important the teacher listens to student conversations and asks questions that illicit student thinking.

Primary	Raj and Tamran decided to build shapes that had the same perimeter. The only restriction placed on the task was that each of them had to have a shape with an even number of sides. Raj said the perimeter of his shape was 28 cm. Tamran said the perimeter of her shape was 4 cm less. What could the lengths be for each side of Raj's shape? What could the lengths be for each side of Tamran's shape?
An extension could be to provide the number of sides for each person's shape **OR** *to assign the same number of sides for each person's shape.*	

Elementary	Raj and Tamran were told that the area of a rectangle was greater than 100 cm^2. They were then asked to find the perimeter of a rectangle that would meet this restriction. Raj said that he made a rectangle that had a perimeter less than half of 100 cm^2. Tamran said that the perimeter of her rectangle was between the perimeter Raj found for his rectangle and 100 cm. What could the length and width be for each of Raj's and Tamran's rectangles?
An extension could be to provide an exact measurement for the area of the rectangle. For example, the prompt could have stated that the area of the rectangle was 80 cm^2.	

Intermediate	Raj and Tamran were tasked with designing a rectangular prism to represent an aquarium. Each of their rectangular prisms had different dimensions. Raj's rectangular prism had a volume between 150 cm^3 and 200 cm^3. Tamran said that her rectangular prism had a volume 50 cm^3 less than Raj's rectangular prism. What are possible dimensions of Raj's and Tamran's rectangular prisms?
An extension could be to provide a range in the volumes instead of exactly 50 cm^3 less. For example, the prompt could have stated that the volume of Tamran's rectangular prism was 20 cm^3 – 40 cm^3 less than the volume of Raj's rectangular prism.	