Problem of the Week

The problems that follow focus on measurement. Measurement has many connections to real-world applications. The tasks are meant to be open-ended so that discussion can support understanding.

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

Primary	The teacher purchased some boards for students to use to make frames for classroom visuals. The boards totaled 295 inches in length. You are asked to make different sized frames for various displays. Design three frames and calculate the perimeter of each.

Extension:

- The largest frame has a perimeter this is 10 inches greater than the smallest frame. The third frame is closer in size to the smallest frame than the largest frame.
- There was between 20 inches and 28 inches of unused boards. What is the perimeter of each frame?

Elementary	The principal asked our class to make three welcome banners for the school. The only guidelines given to students were: • The area of each banner had to be greater than 650 square inches. • Each of the banners had to be different sizes. What is the area and perimeter of each banner?

Extension:

- Design the welcome banners and calculate the perimeter and area of each.
- There was a total of 2042 square inches of material to use for the banners. How much of the material is left?

Intermediate	Student council must construct two containers to store year-end supplies. The guidelines for the construction are as follows:

	• There is only 542.8 inches of board length that could be used to make the two containers. • Each container had to be a rectangular prism. • The two containers had to be different sizes. • One container was much larger than the other. What is the surface area and volume of each container?
Extension: • What would the volume of the two containers be if you removed 12.5 inches from each container?	