**Measurement**

**Murder Problem:**

A forensic scientist wants to calculate the height of a murder victim from the length of the victim’s femur (thigh bone). Estimate the height of a male murder victim with a femur length of 49 cm, and a female with a femur length of 44 cm.

Guiding Question:

* Can you generalize your findings algebraically so that you could determine the height of any person if you knew the length of their femur?
* What does graphing the data show you?

**Hiking/Biking Problem:**

Sally Belinda has a brand new tricycle. She has measured around each wheel with a piece of string and a ruler, and discovered that each of the two back wheels has a circumference of 50 cm, while the circumference of the larger front wheel is 125 cm.

Note: The circumference is the length of the perimeter (i.e., the distance around the edge) of a circle.

* If she rides her tricycle for one short block (110 m), which wheel(s) make(s) a whole number of complete rotations (revolutions)?
* Would your bicycle wheel make more or fewer rotations than Sally's front wheel? Measure the circumference of one wheel carefully to confirm your answer.
* As a tricycle travels along, which wheel(s) always make(s) fewer rotations, the larger front wheel or the smaller back wheels? Explain your reasoning.

**Loonies and Toonies:**

If you had a stack of $1 and $2 coins as tall as Mt Kosciusko, what would it be worth?

Could you fit all the coins in the classroom?