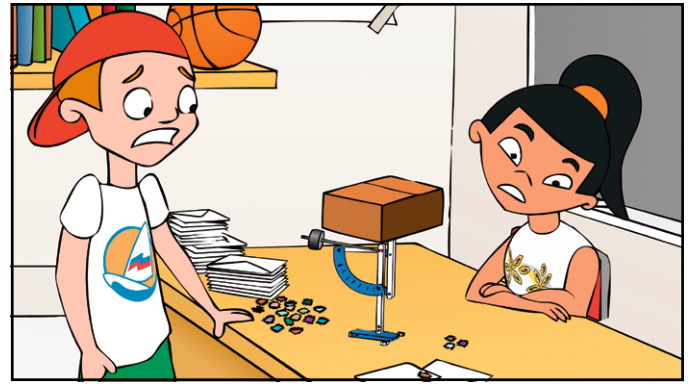


Letter Balance

Name(s): _____

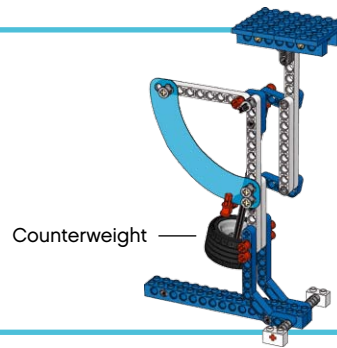
How can Jill work out a fair system that differentiates between the weight of the different letters her classmates are bringing to her? Let's find out!



Build the Letter Balance

(all of book 6A and book 6B to page 11, step 20).

- The arm should swing freely. If not, loosen axle bushings and make sure other parts are pressed firmly together
- Slide the counterweight along its axle to reset the pointer

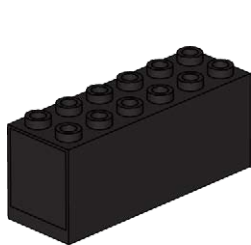
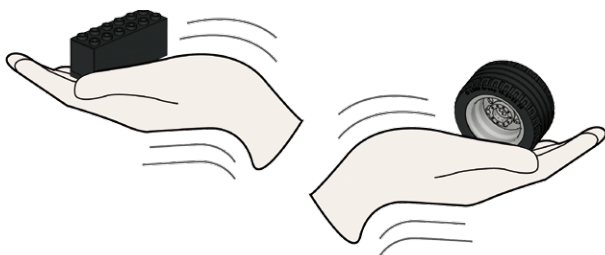


Hand versus Machine: Which is best?

- Line up 5 objects from lightest to heaviest
- Write them down in the table
- Estimate their weights first
- Then weigh them all

Idea:

When you are estimating, try holding one of these known weights in your other hand!



53 g



16 g

	My objects	My estimate	My measurement
1		g	g
2		g	g
3		g	g
4		g	g
5		g	g

Tip:

Usually we are better at estimating heavier weights. The machine is nearly always more accurate than us.

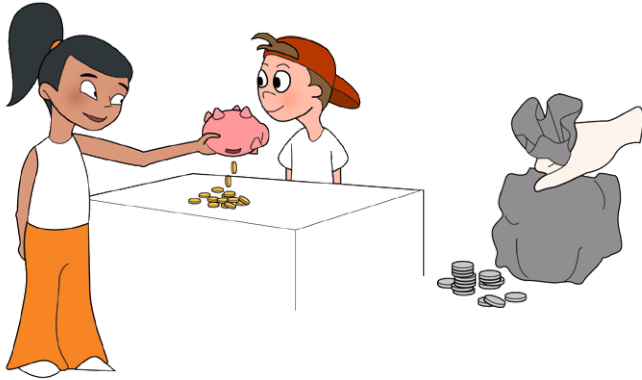
Tip:

Slide the counterweight high up the axle. You may need to move the pointer, too. This will make lighter objects such as letters move the arm to a greater extent across the scale, but you will need to calibrate a new blank scale in cents or 'stamps'.

Money Bags

Build book 6B to page 16, step 12 with a blank scale.

- Weigh 5, 10 and 20 of the same sort of coins
- Mark your scale in 'money'
- Guess and then weigh with the scale how much money is in a secret 'money bag'
- Count out the coins – how close were you?



My guess	My measure	My count

My Awesome Weighing Machine

Draw and label your design for a weighing machine.
Explain how the best 3 bits work.