Fun with Buildings!

Activity Sheet

Question 1

Remember, any force is a mixture of the acceleration of the object, and how heavy the object is!

Work out these with the help of a parent! Let's say for this sake that gravity's acceleration is 10m/s^2! I'll do an example first for number 1! You do 2-5!

1. How much force is on a 10 kg ball due to gravity?
   That's easy! $10 * 10 = 100\ Newtons$! Because it's the weight, multiplied by that acceleration I said (10 in our case).
2. How much force is on a 100 kg motorbike due to gravity? (I'll give you the answer to this one, but you have to figure out how I got it!):
   ____*____ = $1000\ Newtons$!
3. How much force is on a 40 Kg bag of sand?
   _____ = ____ Newtons
4. How much force us is on a car that weights 1000kg due to gravity?
   _____ = ____ _____
5. How much force is on a small ant that weighs 0.02kg due to gravity?
   _____ = ____ _____

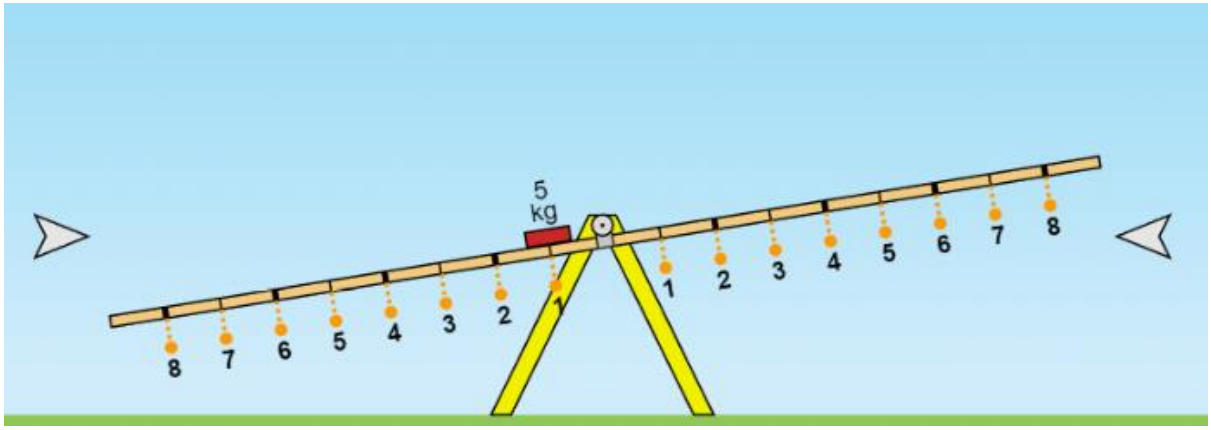
Question 2

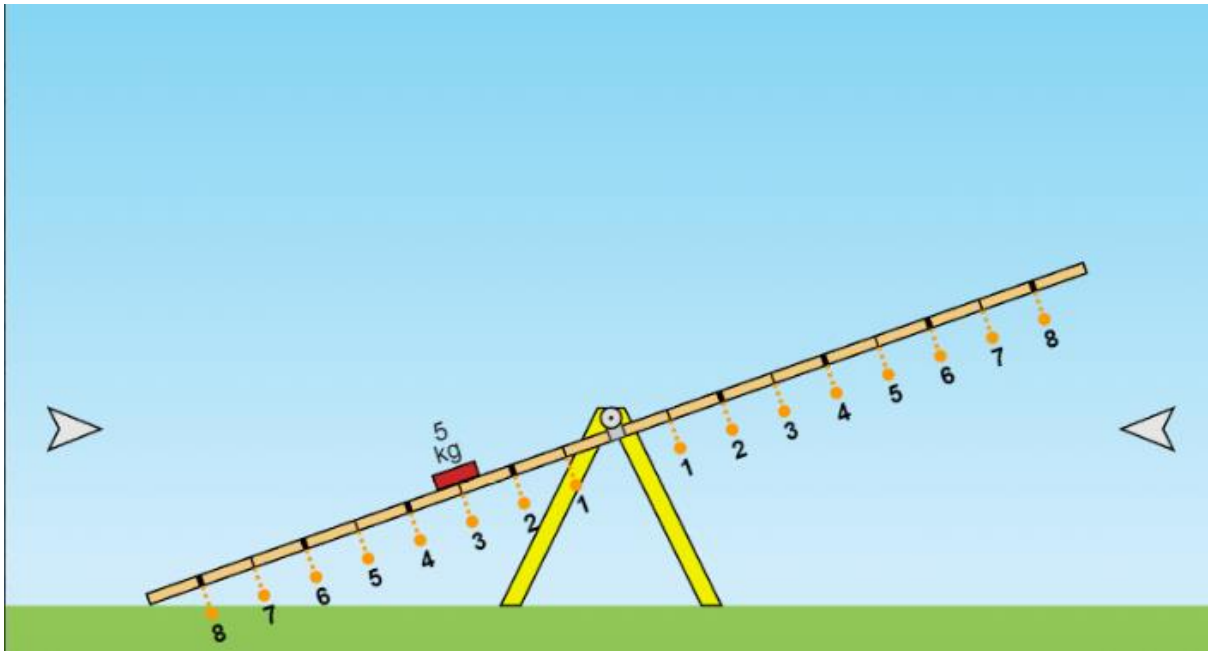
Balancing act!

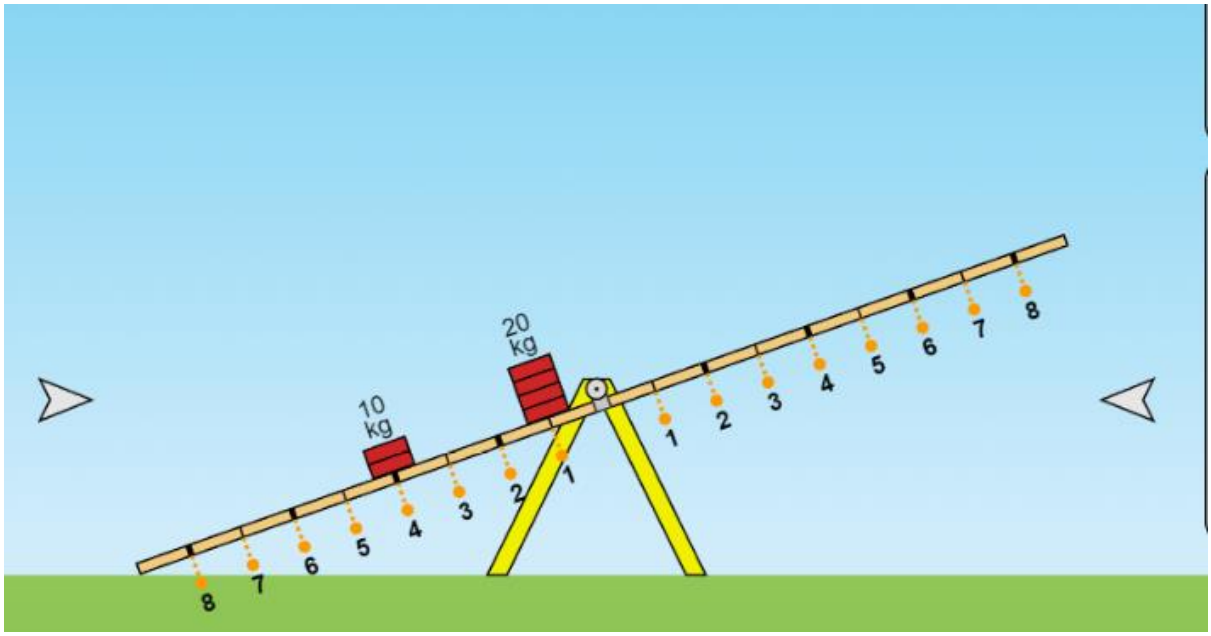
Help me balance these See-saws!

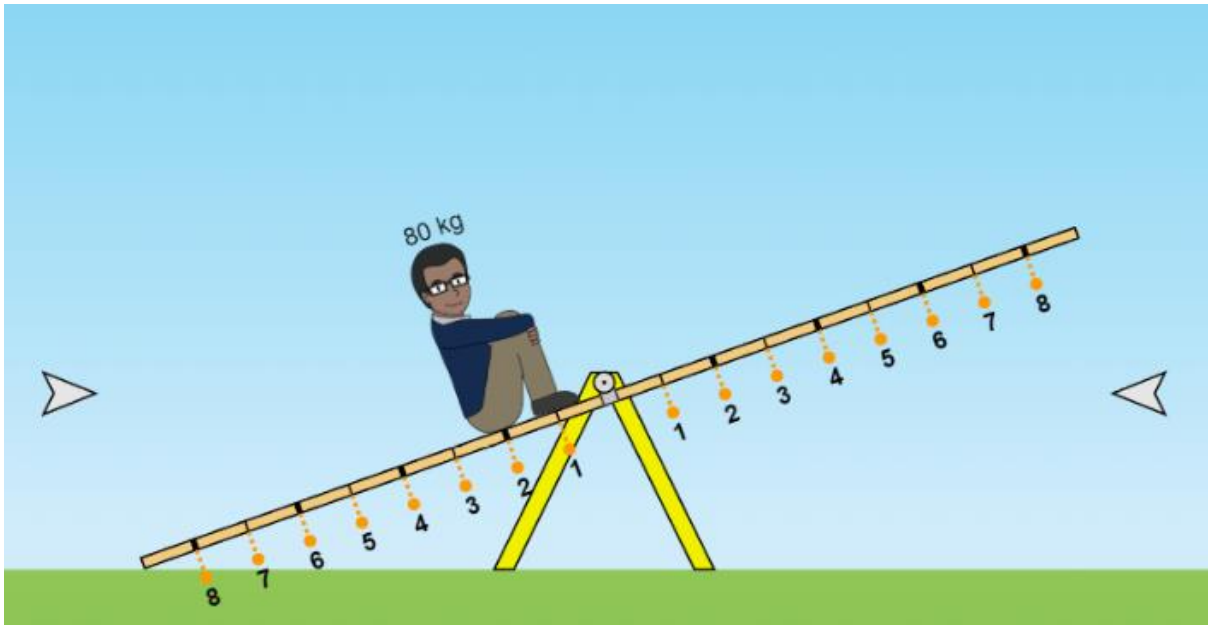
Use your knowledge from class to help me balance these see-saws! Draw in where you would put a weight, and how heavy in the images below! Get a parent to help if you need to!

Don't forget, the moment (what's causing the see-saw to tilt) is the Force (the weight here!) multiplied by the distance!

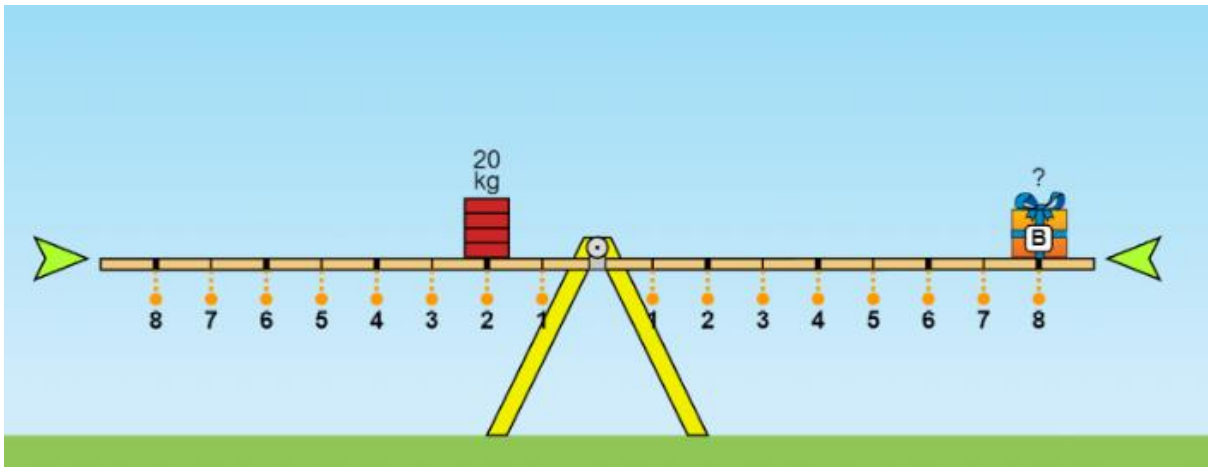



5
kg
1
2
3
4
5
6
7
8
1
2
3
4
5
6
7
8


10
kg
20
kg
1
2
3
4
5
6
7
8
1
2
3
4
5
6
7
8



And finally! Can you work out the weight of the box?



Box B = _____

Question 3

Your Own Building!

It’s time! You did it! Design your own building below, and name it! Don’t forget to specify what it’s for, and where you would put it in a city!

Here’s my building! It’s called _____!