VRIJE ASO.SCHOOL		

See you in space

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SCHOOL / CLASS:	MARKS: /…

EXPERIMENT: magnet on a balance

RESEARCH QUESTION

- Can you influence the weight of a magnet with another magnet?
  Who has the strongest magnet, De Bron or CSI?

HYPOTHESIS (indicate the correct answer)

- The weigth of a magnet *does change* / *doesn't change*.if you come near with an other magnet.
- The change in weight is *dependent* / *independent* from the way you hold the other magnet.

MATERIAL

- Kitchen balance Two magnets Ruler.

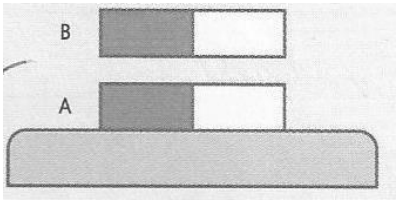
OPERATION OF THE EXPERIMENT

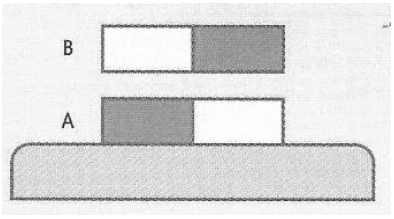
- Put one magnet on the kitchen balance to weigh.
- Approach with another magnet and look how the weight changes.
  Repeat this while holding the magnet in the other direction.

THE RESULTS:

- doing the experiment
  - Read the mass of the magnet and calculate the weight.
  - Come near with the other magnet until you see an other "mass" on the balance. From then on, come closer cm by cm.

- Note the “mass” by cm and calculate the weight. Make sure you measure to the millimeter!
- Change the magnetic poles and repeat.





❖ Complete the tables

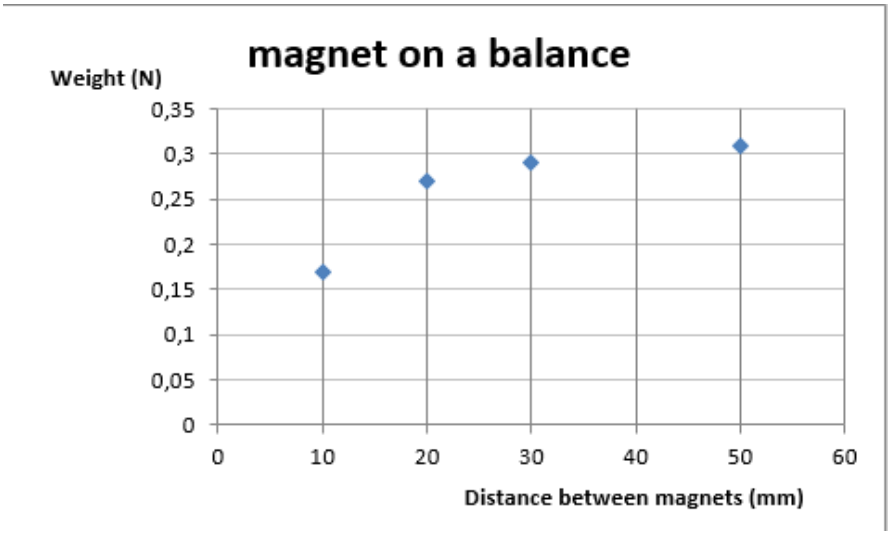
SITUATION 1: there is *attraction / repulsion* by the magnets

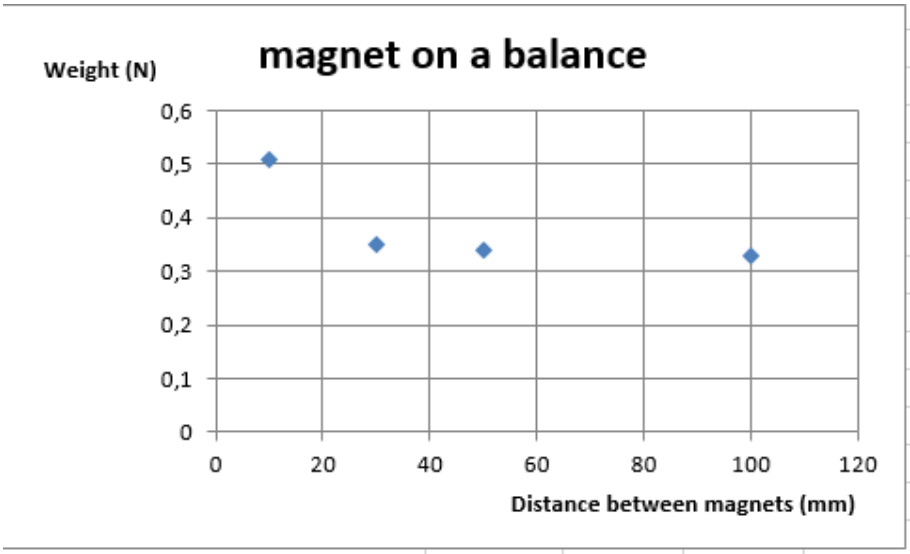
Distance between magnets (mm)	“mass” (g)	weight (N)
100 mm	34 g	0,33 N
50 mm	35 g	0,34 N
30 mm	36 g	0,35 N
10 mm	52 g	0,51 N

SITUATION 2: there is *attraction / repulsion* by the magnets

Distance between magnets (mm)	“mass” (g)	weight (N)
50 mm	32 g	0,31 N
30 mm	30 g	0,29 N
20 mm	28 g	0,27 N
10 mm	17 g	0,17 N

- Make graphs (excel) of the weight (F_g) in function of the distance between the magnets. Make two different graphs, one for each situation. Copy the graph in this document.





CONCLUSIONS

- If the magnets attract each other, the weight of the magnet below will

  lower……

- If the magnets repulse each other, the weight of the magnet below will

  higher……

REFLECTION

- How do you explain the conclusions?

  The magnet has a North and a South pole. Two different poles are attractive and the same are repulsive.

- Is the change in weight the same either by attraction or repulsion?

  No it isn't the same it's the opposite.

- Compare your results with the results in the other school. Which school has

  the strongest magnets?

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