

		
<h2>Mars, here we come ...</h2>		
NAME: Leentje Clement	NAME: Lore Claerhout	
NAME: Xenia Cordonnier	NAME: Bente Dossche, Sara Deschepper	
SCHOOL / CLASS: De Bron, 3WETb	MARKS: /...	
<h3>EXPERIMENT: magnet on a balance</h3>		

RESEARCH QUESTION

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

HYPOTHESIS (indicate the correct answer)

- The weight 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.

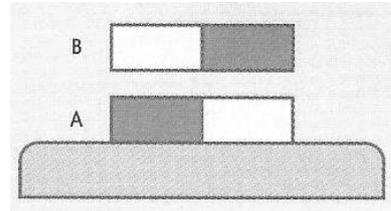
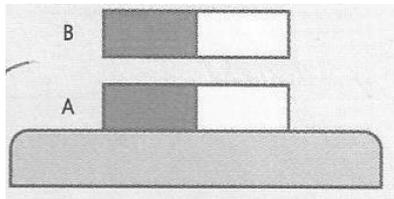
OPERATION OF THE EXPERIMENT

- 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

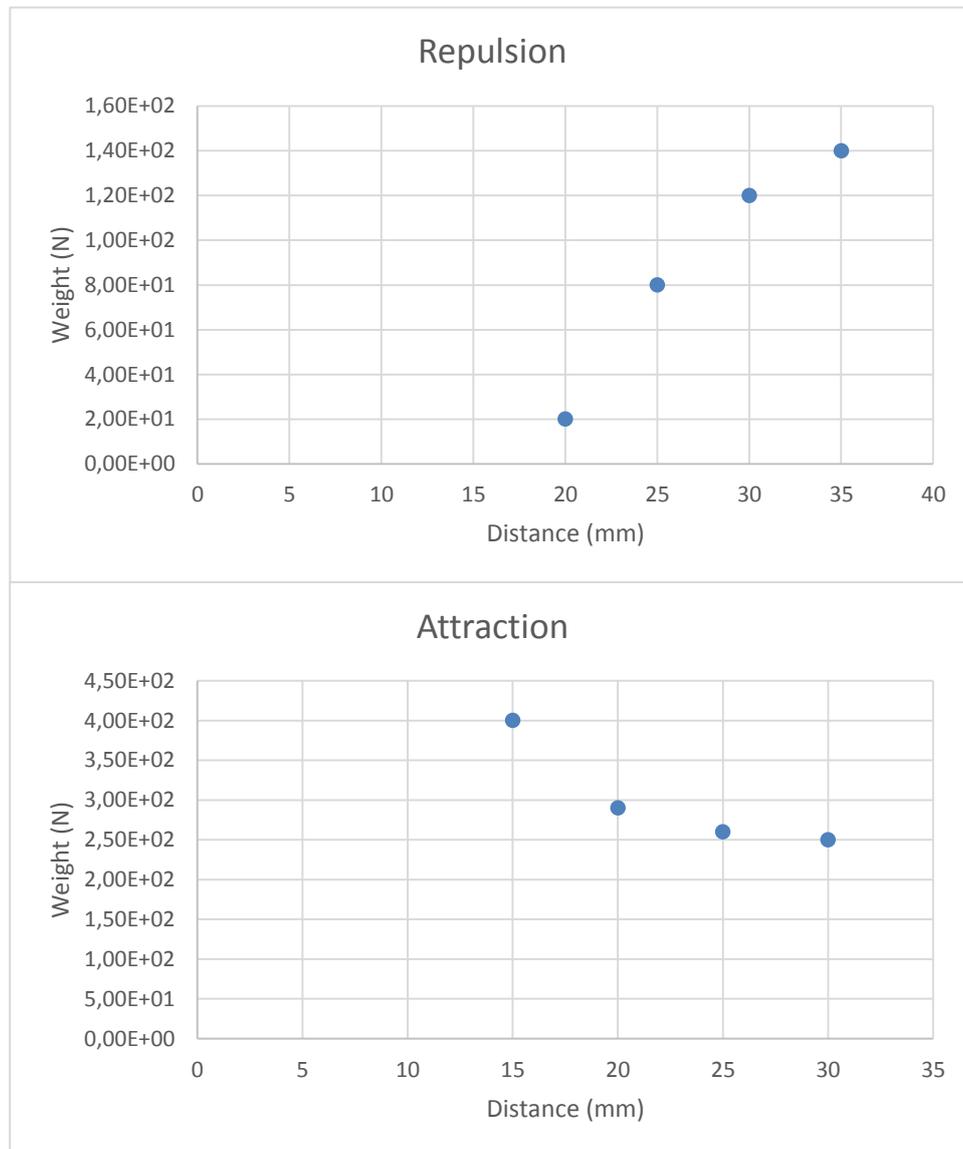
SITUATION 1: there is *attraction* / *repulsion* by the magnets

Distance between magnets (mm)	“mass” (g)	weight (N)
15	41	0,041x10
20	30	0,030x10
25	27	0,027x10
30	25	0,025x10

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

Distance between magnets (mm)	“mass” (g)	weight (N)
20	5	0,05x10
25	8	0,08x10
30	12	0,012x10
35	14	0,014x10

- ❖ 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 *become less big*
- If the magnets repulse each other, the weight of the magnet below will *rise*

REFLECTION

- How do you explain the conclusions?

Attraction: The weight becomes less big because there's magnetic force who attracts the magnet

Repulsion: The weight becomes bigger because the magnetic force rebounds the magnet.

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

No, they are opposites.

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

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