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Unit 3E: Magnets and Springs

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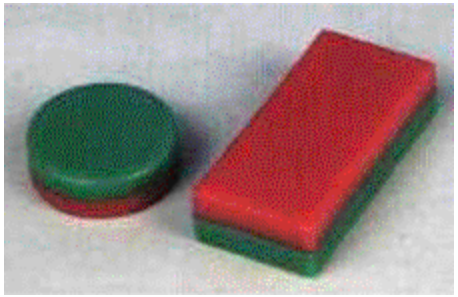
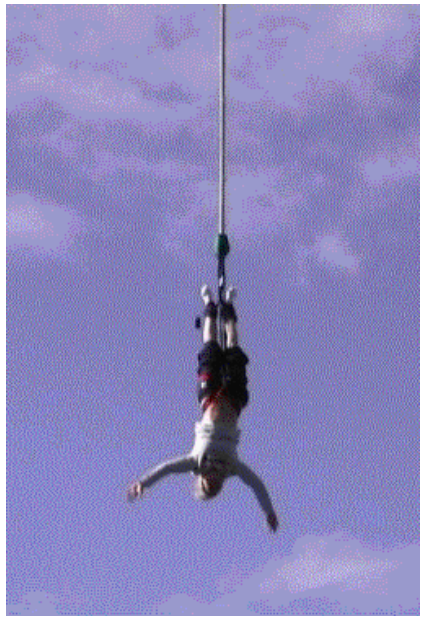
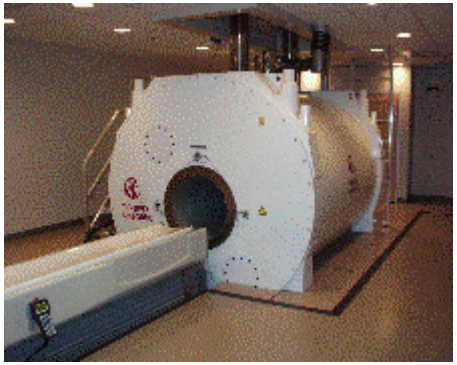
Magnets and Springs







Useful Words

Magnetic	A material that will be attracted to a magnet
Non Magnetic	A material that will not be attracted to a magnet
Attraction / Attract	A FORCE pulling two objects together
Repulsion / Repel	A FORCE pushing two objects apart
Bar Magnet	A straight bar-shaped magnet
Horseshoe Magnet	A horseshoe shaped magnet, the two ends are the poles
Ring Magnet	A doughnut shaped magnet, the two faces are the poles
Iron	A metal which is magnetic
Aluminium	A metal which is non-magnetic
Poles	The two ends of a magnet

Opposite poles **attract** each other

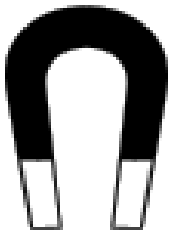
Like poles **repel** each other

Which objects are magnetic?

	Magnetic	Non Magnetic
Tennis ball 		✓
Screw 	✓	
Shoe 		✓
Marker Pen 		✓
Keys 	✓	
Scissors 	✓	
Sweets 		✓

What are magnets used for?

- Scrap yards (Cranes)
- Compasses
- Hospitals (MRI Scan)
- Locking Doors
- Speakers
- Fridge Magnets





1. How can we find out which magnet is the strongest?

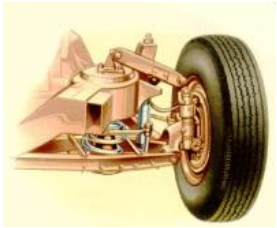
2. What equipment will we need?

3. How will we know which magnet is strongest?

4. How will we record our results?

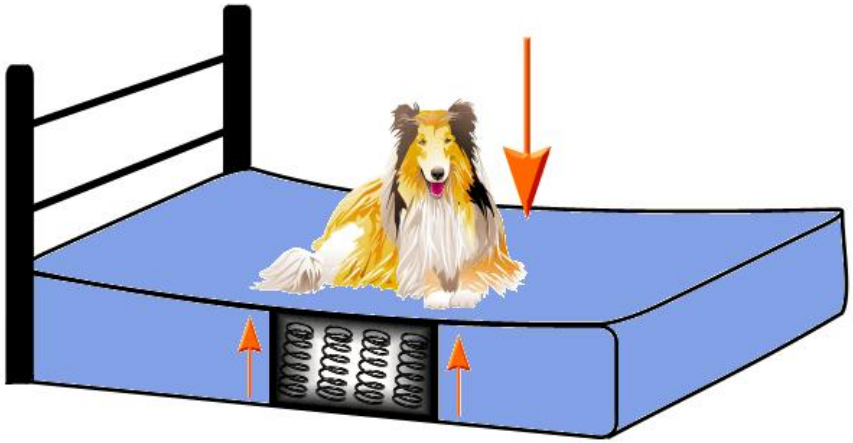
Results Table

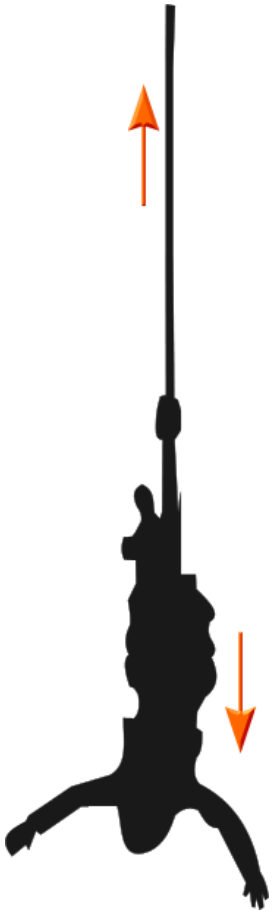
Magnet	Number of paperclips picked up
Magnet A	
Magnet B	
Magnet C	
Magnet D	

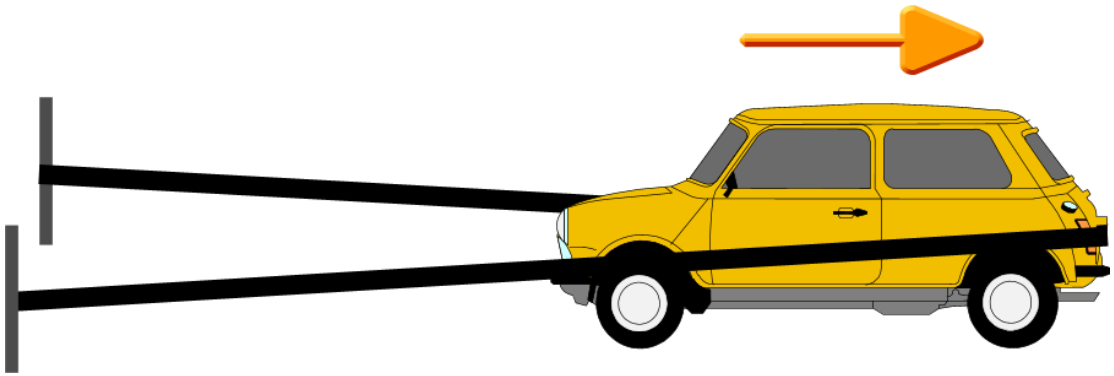


What are springs used for?

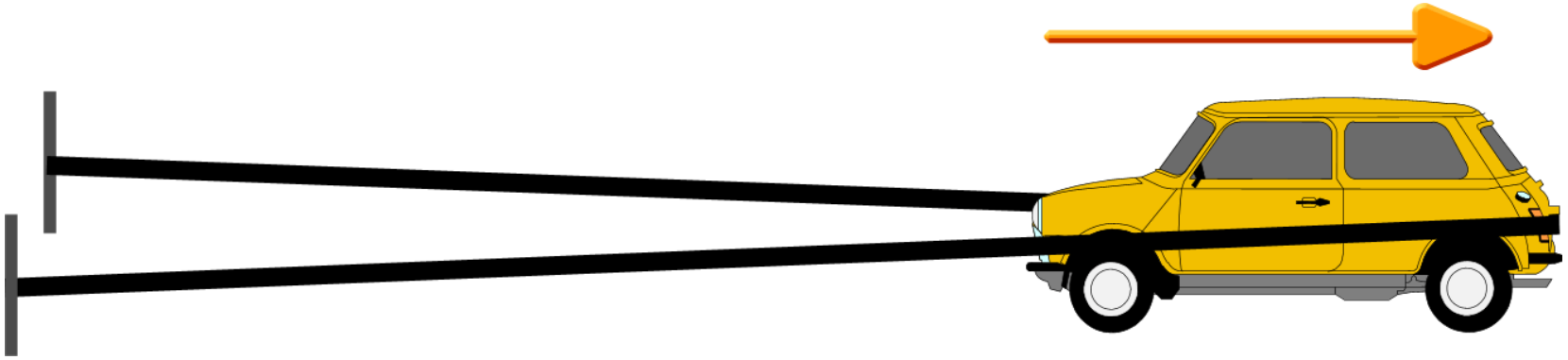
- Car/bike suspension
- Trampolines
- Clockwork
- Closing Doors
- Staplers
- Playground Rides







What do you think will happen if the catapult is pulled back further?



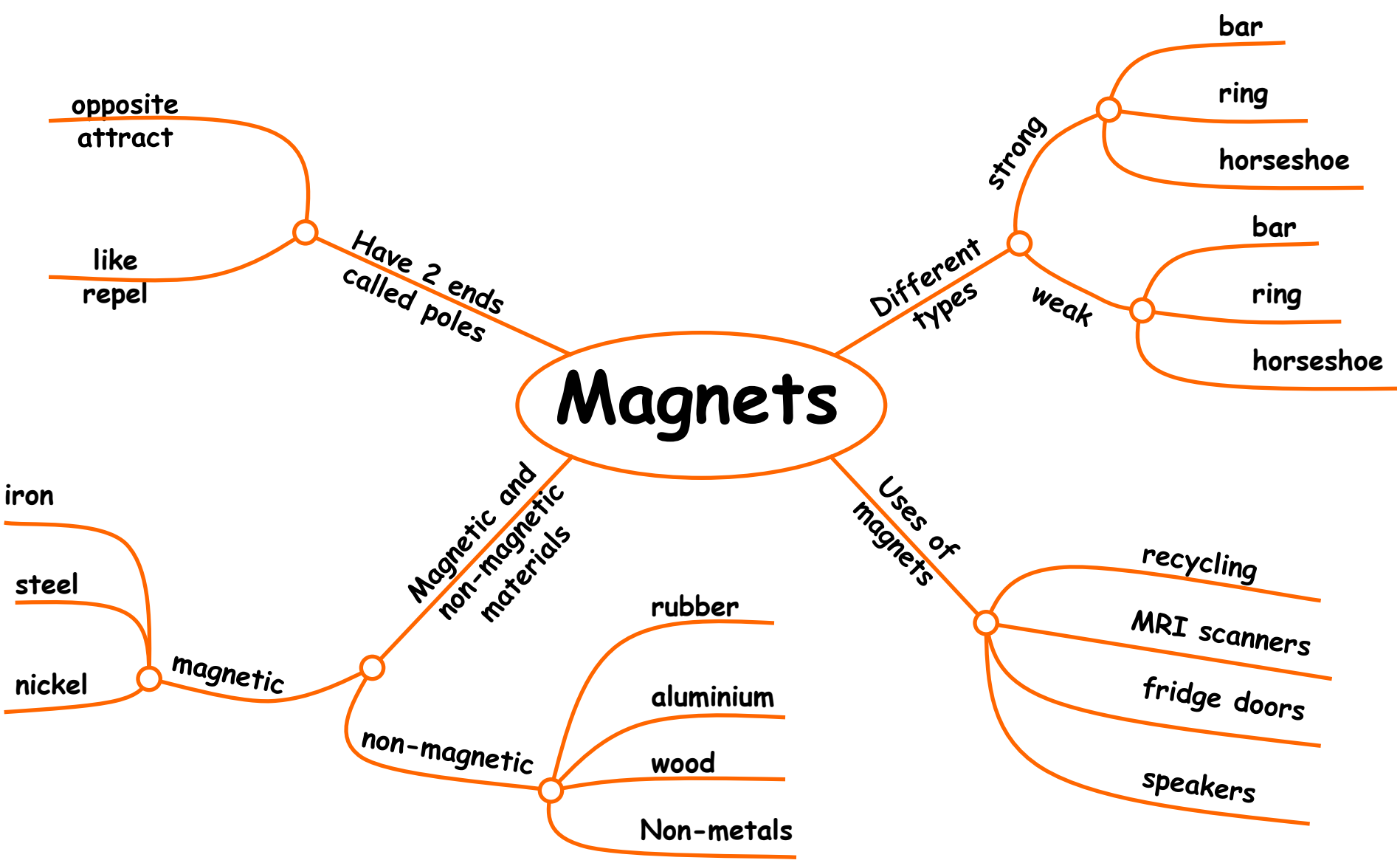
Test what happens when the catapult is pulled back by different amounts.

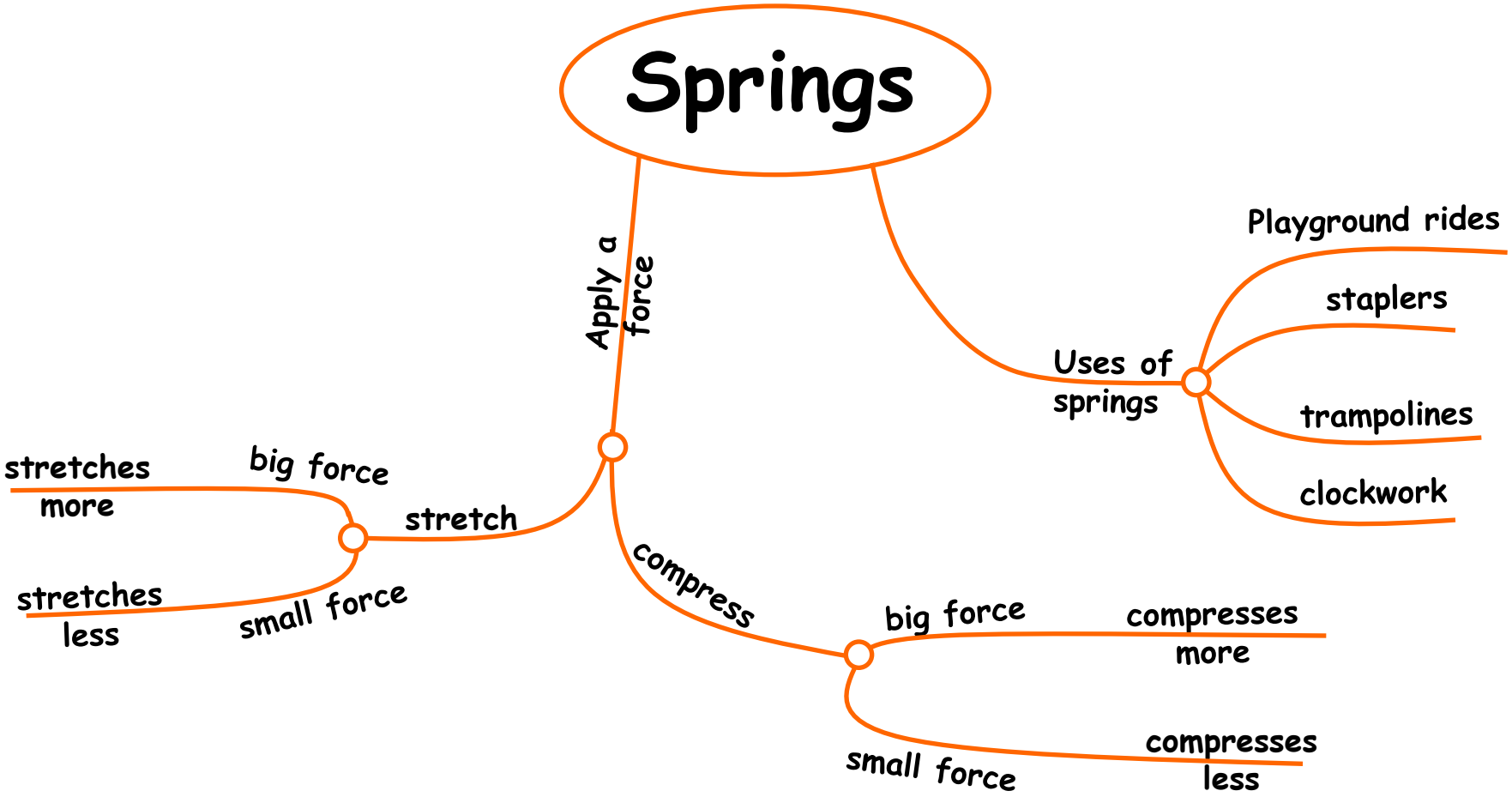
Distance catapult pulled back	Distance car travelled
2 cm	
4 cm	
6 cm	
8 cm	
10 cm	

The car travelled furthest when we pulled it back _____ cm

This tells us that when the car is pulled back further, the force from the elastic bands is _____

Can you explain why the results showed this?




Springs
Apply a force
stretch
big force
stretches more
small force
stretches less
compress
big force
compresses more
small force
compresses less
Uses of springs
Playground rides
staplers
trampolines
clockwork