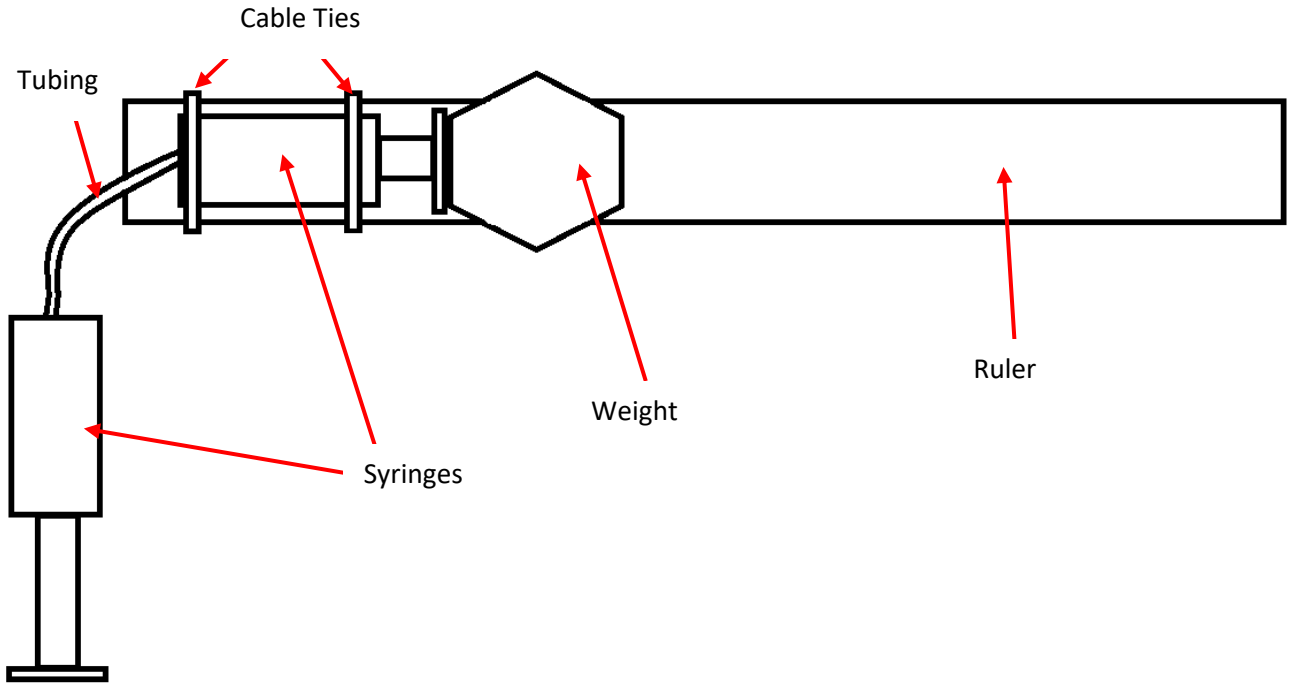
S04 – Hydraulics Vs Pneumatics Pupil Sheet

You will need:

- Ruler
- 200g, 500g, 1kg weights.
- 2 x syringes
- Plastic tubing
- 2 cable ties

Set up your experiment as shown:
Using the 2 cable ties attach the syringe to the top of the ruler so you can still read the scale. Make sure the syringe is held tightly in place so it cannot move. When the full syringe is pushed in, the second syringe will push the weight along the ruler. The start and stop positions of the weight should be recorded in the table on the back of this sheet.



Pneumatic – 200g			
	Start Position	Stop Position	Total Distance moved (Stop – Start)
Test 1			
Test 2			
Test 3			
Average Distance (Total 1, + total 2, + total 3) ÷ 3			

Pneumatic – 500g			
	Start Position	Stop Position	Total Distance moved (Stop – Start)
Test 1			
Test 2			
Test 3			
Average Distance (Total 1, + total 2, + total 3) ÷ 3			

Pneumatic – 1kg			
	Start Position	Stop Position	Total Distance moved (Stop – Start)
Test 1			
Test 2			
Test 3			
Average Distance (Total 1, + total 2, + total 3) ÷ 3			

Hydraulic – 200g			
	Start Position	Stop Position	Total Distance moved (Stop – Start)
Test 1			
Test 2			
Test 3			
Average Distance (Total 1, + total 2, + total 3) ÷ 3			

Hydraulic – 500g			
	Start Position	Stop Position	Total Distance moved (Stop – Start)
Test 1			
Test 2			
Test 3			
Average Distance (Total 1, + total 2, + total 3) ÷ 3			

Hydraulic – 1kg			
	Start Position	Stop Position	Total Distance moved (Stop – Start)
Test 1			
Test 2			
Test 3			
Average Distance (Total 1, + total 2, + total 3) ÷ 3			

1. What do you notice about the 3 average distances with the pneumatic system?

   As the weight increases

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2. What do you notice about the 3 average distances with the hydraulic system?

   As the weight increases

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