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National 5 Assignment
Hookes Law: Guide Sheet B

**Investigating the extension of a spring while changing the load (force).**

**Apparatus:** spring, retort stand, bosshead, clamp, metre stick / rule, pointer, load masses, weight for the base of the retort stand.

**Instructions:**

**Pointer**

Weight to stabilise the retort stand

1. Fix a clamp with its point in the boss on the stand.
2. Hang a spring from it and secure it so that it does not come off when stretched.
3. Clamp the metre stick/rule vertically alongside the spring with the zero lined with the bottom of the spring
4. Record the metre stick/rule reading level with the bottom of the spring. The number of masses hanging from the spring is 0 and the extension of the spring is 0 cm.
5. Hang a mass hanger from the bottom of the spring.
6. Measure and record the extension of the spring and the mass added.
7. Add further masses to the end of the spring.
8. Measure and record the total extension of the spring from its unstretched length.
9. Do not stretch the spring beyond its elastic limit.

**Risk Assessment**

* Clamp or weigh down the clamp stand to the bench to prevent it from toppling.
* You must wear eye protection.
* Eyes may be at the same level as clamp
* Springs store energy and can come off their supports.