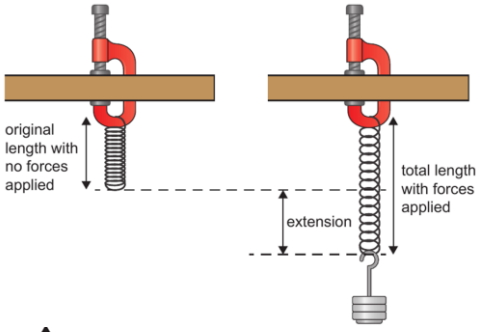
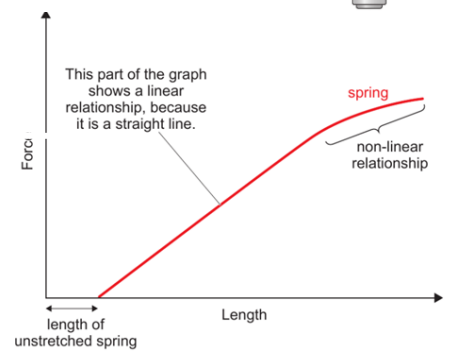
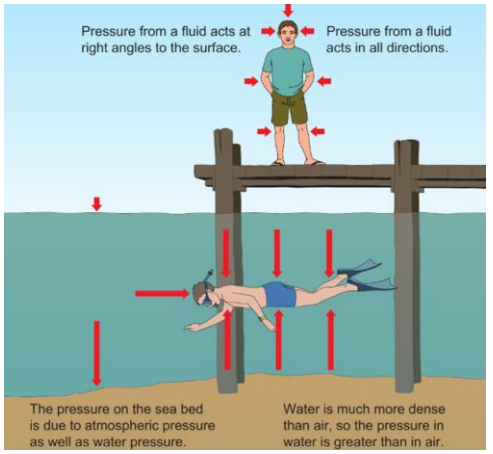
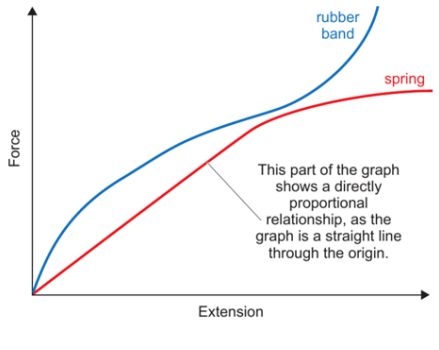
1	**Forces can deform or change the shape of an object.**
2	**Elastic** objects return to their original shape when the forces acting on them are removed.
3	**Inelastic** objects keep their new shape after the forces acting on them are removed .
4	**Extension** is the change in length of an object when a force is applied (positive if length increases)
5	**Compression** is the change in length of an object when the force applied makes it shorter
6	**Hooke's Law** : When an **elastic** object (e.g. a spring), is stretched, the **extension** is **directly proportional** to the **force** applied to it. i.e. doubling the force will double the extension as **F=k x** F=Force, k= spring constant, x=extension
7	**Spring constant** is the force needed to produce an extension e.g. stiffness of a spring. For large spring constants a large force is needed for small extensions.
8	When energy is transferred to a spring this called **work done**. **Energy transferred in stretching** (J) = 0.5 x **spring constant** (N/m) x **extension²** $(m)^2$
9	**Pressure** is the amount of **force** per unit of **surface area**, measured in Pascals (Pa). **1 Pa =1Nm²**
10	**Fluids** (liquids and gases) can exert pressure. At sea level **atmospheric pressure** is about **100,000 Pa .**
11	**Pressure** of a **fluid** depends on the **depth** of the fluid above and the **density** of the fluid. Atmospheric pressure is due to the depth of the whole atmosphere above you.
12	Pressure exerting by a fluid depends on the height of the Column, density of the liquid and the gravitational field strength.









16	**Objects in a liquid experience a force called upthrust. The force is due to the difference in pressure above and below an object.**
17	The size of upthrust is calculated by determining the weight of water displaced. An objects floats because it weighs less than the water displaced.

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