**9P1 Work**

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| Physics: Work | Pressure | I can measure the area of contact between two objects; |   |
| I can measure the weight of an object; |   |
| I can calculate the pressure exerted by a force using the relationship pressure = force/area |   |
| be able to state that the air pressure decreases the higher we climb up a mountain; |   |
| be able to state that the water pressure increases the deeper we dive into the sea; |   |
| be able to calculate the pressure throughout a hydraulic machine using P=F/A; |   |
| be able to calculate the load force in a hydraulic machine from the effort force and the areas of pistons |   |
| be able to calculate the distance a loaded piston moves in a hydraulic machine from the area of both pistons and the effort force. |   |
| Work, energy transfer & springs | Is able to describe work as the application of force along a distance |   |
| Is able to describe work done as a process of transferring energy |   |
| Is able to calculate the work done in simple actions using work = force x distance |   |
| Is able give examples of the energy transfers encountered in previous lessons |   |
| Is able to plot a graph of force applied v spring extension |   |
| Is able to calculate the spring constant from the gradient of the graph |   |
| Pivots, levers & moments | I can identify pivot, load and effort in a range of simple machines; |   |
| I can state that spanners are force multipliers; |   |
| I can state that muscles are distance multipliers; |   |
| be able to calculate turning force (moment); |   |
| be able to calculate the resultant turning force; |   |
| be able to recognise that in a balanced beam the resultant turning force is zero |   |
| I can identify pivot, load and effort in a range of simple machines; |   |
| Magnets & electromagnets | I can describe a magnet and magnetic forces |   |
| I can describe the magnetic field around a magnet |   |
| I can describe the magnetic field round different objects |   |
| I can describe the magnetic field around a wire and a coil |   |
| I can build an electromagnet and describe its parts |   |
| I can test the strength on an electromagnet |   |
| I can compare methods of measuring the strength of an electromagnet |   |
| I can say that one effect of an electric current is to produce a magnetic field |   |