Key words for Fluid Flow

Create definition cards for these words, either use the Quizlet app or make your own cards. Do not feel restricted to these words if you would like to add other words and units.

- Fluid
- Density
- Upthrust
- Archimedes's Principle
- Floatation
- Displaced
- Streamlined/Laminar Flow
- Turbulent Flow
- Viscosity
- Viscometer
- Stokes' Law
- Terminal Velocity
- Coefficient of Viscosity
- Thixotropy

Learning objectives:
49. be able to use the equation density $\rho = m / V$
50. understand how to use the relationship upthrust = weight of fluid displaced
51. a. be able to use the equation for viscous drag (Stokes's Law), $F = 6\pi\eta rv$.
b. understand that this equation applies only to small spherical objects moving at low speeds with laminar flow (or in the absence of turbulent flow) and that viscosity is temperature dependent.

Key words for Elasticity

Create definition cards for these words, either use the Quizlet app or make your own cards. Do not feel restricted to these words if you would like to add other words and units.

Elastic Deformation
- Plastic Deformation
- Properties
- Stiffness
- Stiff
- Brittle
- Strength
- Malleability
- Ductility
- Toughness

- Hooke's Law
- Spring Constant
- Limit of Proportionality
- Elastic Limit
- Yield Point
- Tensile Forces
- Compressive Forces
- Elastic Strain Energy
- Stress
- Strain
- Young modulus
- Ultimate Tensile Stress
- Energy Density
- Hysteresis

Learning objectives:
53. be able to use the Hooke's law equation, $\Delta F = k\Delta x$, where k is the stiffness of the object
54. understand how to use the relationships
● (tensile/compressive) stress = force/cross-sectional area
● (tensile/compressive) strain= change in length/original length
● Young modulus = stress/strain
55. a. be able to draw and interpret force-extension and force-compression graphs
b. understand the terms limit of proportionality, elastic limit, yield point, elastic deformation and plastic deformation and be able to apply them to these graphs
56. be able to draw and interpret tensile/compressive stress-strain graphs, and understand the term breaking stress
58. be able to calculate the elastic strain energy Eel in a deformed material sample, using the equation $\Delta E_{el} = \frac{1}{2}F\Delta x$, and from the area under the force/extension graph.
The estimation of area and hence energy change for both linear and non-linear force/extension graphs is expected.