Introducing Terms

		M	=	mass in grams or kilograms
		D	=	distance along path of motion (scalar quantity) metres
		D	=	displacement from point of application of force to point of rest response to force - in metres
		T	=	time in seconds
		F	=	force in kilograms / metre^2 (1 newton)
M x D	=	W	=	work in newton metres (1 joule)
		E	=	energy in joules (capacity to do work)
		P	=	power in joules / second (watts)
		G	=	gravitational acceleration, 9.8 metres / second ^{2}
		F	=	1/2 MV ^{2} V = velocity in metres / second

{see diagram #1 in original text, page 2
identity of form (mass - geometry)
identity of substance (elastic properties) - incomplete}

The mass per unit volume will determine the force of acceleration required to overcome the inertia.
The geometry of the form will determine the moment arm of each element of inertia.

{see diagram #2 in original text, page 2}
accelerating force (kg/m^2 (newtons)) ---> form - incomplete}

Introducing Terms

Substance has property of stress / strain

force / unit displacement ^{2}

Strain is defined as displacement per unit displacement

Stress is defined as force per unit area of cross section

perpendicular to the vector of displacement.

The elastic behaviour is thus defined as the stress / strain properties.

Each substance has a finite velocity of propagation of strain.

{see diagram # 3 in original text, page 3

arm of support / support / mass (kg),

force (kg/m^2 - newtons),

form (geometry in metres),

substance (elastic properties),

for any given force (stress)

the resultant strain (displacement) - incomplete}

{see diagram # 4 in original text, page 3

shows diagram and calculations for kinetic energy

M x D x 9.8 newtons = Force (of impact) - in newton kg/m^2

(potential energy) (acceleration vector)

F = 1/2 MV^2 (kinetic energy) - incomplete}