

Model	Modelling assumptions
Particle	<ul style="list-style-type: none"> • Mass concentrated at a single point • Rotational forces and air resistance can be ignored
Rod	<ul style="list-style-type: none"> • Mass concentrated along a line • No thickness • Does not bend
Light object	<ul style="list-style-type: none"> • Object treated as having zero mass
Inextensible string	<ul style="list-style-type: none"> • Acceleration is the same for objects connected by a taut inextensible string
Smooth	<ul style="list-style-type: none"> • No friction between the surface and an object
Rough	<ul style="list-style-type: none"> • There will be a frictional force
Smooth and light pulley	<ul style="list-style-type: none"> • The pulley has no mass and tension is the same on both sides
Air resistance	<ul style="list-style-type: none"> • Usually modelled as negligible
Gravity	<ul style="list-style-type: none"> • All objects are attracted towards the earth • g is constant and is taken as 9.8 ms^{-2} unless otherwise stated