

SUVA SANGAM COLLEGE

YEAR 11

PHYSICS

WORKSHEET 5

STRAND 1 MECHANICS

NO.	<p>CONCEPT IN BRIEF: FORCES</p> <p>LAWS OF MOTION</p> <p>1. Newton’s First Law of Motion “An object at rest will remain at rest unless acted on by an unbalanced force. An object in motion continues in motion with the same speed and in the same direction unless acted upon by an unbalanced force”.</p> <p>2. Newton’s Second Law of Motion “Acceleration is produced when a force acts on a mass. The greater the mass, the greater the amount of force needed to accelerate the object.”</p> <p>3. Newton’s Third Law of Motion Newton states that “For every action, there is an equal and opposite reaction.”</p>														
1	<p>A 20 grams sparrow flying toward a bird feeder mistakes the pane of glass in a window for an opening and slams into it with a force of 2.0 N. What is the bird’s acceleration?</p>														
	<p>CONCEPT IN BRIEF: FORCES</p> <p>MASS AND WEIGHT</p> <p>Difference between Mass and Weight</p> <table border="1" style="width: 100%;"><thead><tr><th style="text-align: center;">Mass</th><th style="text-align: center;">Weight</th></tr></thead><tbody><tr><td>It is the quantity of matter in a body.</td><td>It is the force with which a body is attracted towards the centre of the earth.</td></tr><tr><td>It is a scalar quantity.</td><td>It is a vector quantity.</td></tr><tr><td>The mass of an object is constant on Earth and even in space.</td><td>The weight of an object can vary from place to place and becomes zero at the centre of the earth. It is also zero in places that are far away from earth.</td></tr><tr><td>$m = F/a$ is the mass of a moving body.</td><td>$W = mg$, is the weight of a body.</td></tr><tr><td>An ordinary weighing balance can help you weigh mass.</td><td>Spring balance helps measure the weight of an object.</td></tr><tr><td>The unit of mass in the SI system is Kilogram (kg).</td><td>The unit of weight is Newton (N)</td></tr></tbody></table>	Mass	Weight	It is the quantity of matter in a body.	It is the force with which a body is attracted towards the centre of the earth.	It is a scalar quantity.	It is a vector quantity.	The mass of an object is constant on Earth and even in space.	The weight of an object can vary from place to place and becomes zero at the centre of the earth. It is also zero in places that are far away from earth.	$m = F/a$ is the mass of a moving body.	$W = mg$, is the weight of a body.	An ordinary weighing balance can help you weigh mass.	Spring balance helps measure the weight of an object.	The unit of mass in the SI system is Kilogram (kg).	The unit of weight is Newton (N)
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2.	<p>(i) A solid ball is taken from earth to the moon. On the moon the ball will have a different:</p> <p>A. weight B. density C. mass D. volume</p> <p>(II) A 1.0 kg mass will have a weight of about</p> <p>A. 1 N B. 10 N C. 100 N D. 1000 N</p>
	<p>CONCEPT IN BRIEF: FORCES</p> <p>TYPES OF FORCES</p> <ol style="list-style-type: none">1. Gravitational Force2. Magnetic Force3. Nuclear Force4. Friction
3	<p>Explain in brief what Gravitational and Friction force are?</p>