

Mechanical Energy Flash Cards

Chapter 12

Cut apart, fold over, tape together and quiz each other.

<p>Formula for work by a non conservative force.</p> <p>1</p>	<p>$W = Fd\cos(\theta)$</p> <p>“theta” is an angle</p>	<p>The variable “W” stands for</p> <p>2</p>	<p>WORK</p>
<p>“Work” is measured in...</p> <p>3</p>	<p>Joules (J)</p>	<p>Force is measured in...</p> <p>4</p>	<p>Newtons (N)</p>
<p>How is the displacement oriented to the force in the formula $W=Fd$</p> <p>5</p>	<p>It is pointing in the same direction as the force</p>	<p>In the formula $W=Fd\cos(\theta)$, where is theta measured?</p> <p>6</p>	<p>Theta is the angle between the displacement’s direction and the force direction</p>
<p>What does “K.E.” stand for?</p> <p>7</p>	<p>Kinetic Energy</p>	<p>What are the units of kinetic energy?</p> <p>8</p>	<p>Joules (J)</p>

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<p>What are the units of power?</p> <p>9</p>	<p>Watt (W)</p>	<p>What is the formula for power involving force?</p> <p>10</p>	<p>Power = (Average force)(average velocity)</p>
<p>What is the formula for power involving WORK?</p> <p>11</p>	<p>$P=W/t$</p>	<p>What is the formula for power involving the change in total energy?</p> <p>12</p>	<p>$P=W/t$</p> <p>...again because W = the change in total energy.</p>
<p>What kind of force is gravity?</p> <p>Conservative or non-conservative?</p> <p>13</p>	<p>Conservative</p> <p>When you do work against gravity , you get all the energy back.</p>	<p>What kind of force is a spring?</p> <p>Conservative or non-conservative?</p> <p>14</p>	<p>Conservative</p> <p>When you do work against a spring , you get all the energy back.</p>
<p>What kind of force is air resistance?</p> <p>Conservative or non-conservative?</p> <p>15</p>	<p>Non-conservative</p> <p>When you do work against friction you do not get it back.</p>	<p>Define total energy</p> <p>16</p>	<p>E.T. = KE + PE_g + PE_s</p>

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<p>What is the formula for potential energy stored in gravity?</p> <p>17</p>	<p>$PE_g = mgh$</p> <p>$m = \text{mass (kg)}$ $g = 9.80 \text{ m/s}^2$ $h = \text{height above the lowest point (m)}$</p>	<p>What is the formula for potential energy stored in a spring?</p> <p>18</p>	<p>$PE_s = (1/2) k x^2$</p> <p>$k = \text{the spring constant (N/m)}$ $x = \text{the displacement (m)}$</p>
<p>What is the formula for kinetic energy?</p> <p>19</p>	<p>$K.E. = (1/2) mv^2$</p> <p>$m = \text{mass (kg)}$ $v = \text{velocity (m/s)}$</p>	<p>Which make a bigger change in KE, doubling the mass or doubling the velocity?</p> <p>20</p>	<p>Doubling the velocity because "v" is squared in the KE formula.</p>
<p>On a roller coaster potential energy stored in gravity is traded for ...what kind of energy?</p> <p>21</p>	<p>Kinetic Energy</p>	<p>Which energy as know as energy of motion?</p> <p>22</p>	<p>Kinetic Energy</p>
<p>Which energy is known as energy of height?</p> <p>23</p>	<p>potential energy of gravity</p> <p>$PE_g = (mgh)$</p>		