

All sections marked with a ⚡ are considered essential concepts and must be completed to receive full credit on WS.

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| <p>1. Kinetic Energy C ⚡</p> <p>2. Potential Energy D</p> <p>3. Energy B</p> <p>4. Height E</p> <p>5. Joules A</p> | <p>A. The units for energy. ⚡</p> <p>B. The ability to create forces or motion.</p> <p>C. Energy because of an object's motion.</p> <p>D. Energy because of an object's position above the ground due to gravity.</p> <p>E. Vertical distance above the ground.</p> | <p>1. Thermal C</p> <p>2. Nuclear A</p> <p>3. Radiant D</p> <p>4. Mechanical E</p> <p>5. Chemical F</p> <p>6. Electrical B</p> | <p>A. Energy of the atom being split or fused. ⚡</p> <p>B. Energy of moving electrons.</p> <p>C. Heat energy. Also caused by friction.</p> <p>D. Light energy—electromagnetic radiation.</p> <p>E. Energy (kinetic or potential) stored in object and can do work.</p> <p>F. Energy of molecular bonds.</p> |
| <p>How can you <i>prove</i> that something has energy?</p> <p><i>It can move something</i></p> | | <p>Circle the one with more Potential Energy</p> <p>A 25 kg mass or a <u>30 kg</u> mass at the top of a hill? ⚡</p> <p>A car at the <u>top</u> of the hill or the bottom of a hill?</p> <p>A plane on the ground or a plane in the <u>air</u>? ⚡</p> <p>A <u>full plane</u> or an empty plane (both are flying)?</p> | |
| <p>Potential (E_p) or Kinetic (E_k) Energy</p> <p><u>KE</u> A car is traveling 45 mph. ⚡</p> <p><u>PE</u> A rock is on a ledge 5 meters high.</p> <p><u>PE</u> A car is resting at the top of a hill.</p> <p><u>KE</u> A ball is thrown into the air and is still moving.</p> <p><u>KE</u> A ball rolling on the ground. ⚡</p> | | <p>Circle the one with more Kinetic Energy</p> <p>A 25 kg mass or a <u>30 kg</u> mass going 5 m/s. ⚡</p> <p>Two 10 kg masses, one going <u>75 m/s</u>, one going 45 m/s. ⚡</p> <p>A car at rest or a car <u>rolling</u> down a hill.</p> <p>A <u>heavy</u> bike or a light bike.</p> | |
| <p>What kind of energy does the pendulum have in each of its positions?</p> <p>A) <u>PE</u></p> <p>B) <u>KE</u></p> <p>C) <u>PE</u></p> | | <p>A 4 kg rock is rolling 10 m/s. Find its kinetic energy. ⚡</p> <p>$KE = \frac{1}{2}mv^2$</p> <p>$\frac{1}{2}(4\text{kg})(10\text{m/s})^2 = \text{200 J}$ (4kg) \rightarrow $10\text{m/s} = v$</p> <p>Calculate the potential energy of a 10 kg rock at the top of a 6 m tall table. ⚡</p> <p>$PE = mgh$</p> <p>$10\text{kg} \cdot 10\text{m/s}^2 \cdot 6\text{m} = 600\text{ J}$</p> <p>A 8 kg cat is running 4 m/s. Find the cat's kinetic energy. ⚡</p> <p>$KE = \frac{1}{2}mv^2$</p> <p>$\frac{1}{2}(8\text{kg})(4\text{m/s})^2 = \text{64 J}$</p> | |
| <p>What kind of Energy?</p> <p>Thermal; Nuclear; Radiant; Mechanical; Chemical; Electrical</p> | | <p>Find the potential energy of a 2 kg ball 15 m in the air. ⚡</p> <p>$PE = mgh$</p> <p>$2\text{kg} \cdot 10\text{m/s}^2 \cdot 15\text{m} = 300\text{ J}$</p> | |
| <p><u>M</u> A ball on top of a hill. <u>T</u>, <u>R</u> Given off by the sun.</p> <p><u>C</u> Gasoline. <u>M</u> A car going 50 mph. ⚡</p> <p><u>E</u> Used to run a clock. <u>I</u> Heat from a fire.</p> <p><u>I</u> A hot stove. <u>R</u> Light from a match.</p> <p><u>N</u> Uranium in reactors. <u>C</u> Stored in plants.</p> <p><u>C</u> Stored in food. <u>R</u> Powers photosynthesis.</p> | <p>A rolling ball going 3 m/s has 18 joules of kinetic energy. Find its mass. ⚡</p> <p>$KE = \frac{1}{2}mv^2$</p> <p>$18\text{J} = \frac{1}{2}m(3\text{m/s})^2$</p> <p>$18\text{J} = \frac{1}{2}m \cdot 9$</p> <p>$18\text{J} = 4.5m$</p> <p>$m = \text{4 kg}$</p> | | |
| <p>Give all the types of energy in a camp fire.</p> <p><i>Radiant</i> <i>chemical</i> <i>Thermal</i></p> | <p>A box is 4 m in the air and has 120 J of potential energy. What is the box's mass. ⚡</p> <p>$PE = mgh$</p> <p>$120\text{J} = m \cdot 10\text{m/s}^2 \cdot 4\text{m}$</p> <p>$120 = m \cdot 40$</p> <p>$m = \text{3 kg}$</p> | | |
| <p>Give all the types of energy in a light bulb.</p> <p><i>Radiant</i> <i>Electrical</i> <i>Thermal</i></p> | <p>A 4 kg bird has 8 joules of kinetic energy. How fast is it flying? ⚡</p> <p>$KE = \frac{1}{2}mv^2$</p> <p>$8\text{J} = \frac{1}{2}(4\text{kg}) \cdot v^2$</p> <p>$8\text{J} = 2 \cdot v^2$</p> <p>$4 = v^2$</p> <p>$v = \text{2 m/s}$</p> | | |
| <p>Give all the types of energy when a bullet is fired.</p> <p><i>chemical</i> <i>Thermal</i> <i>radiant</i> <i>Mechanical</i></p> | <p>A 4 kg bird has 8 joules of kinetic energy. How fast is it flying? ⚡</p> <p>$KE = \frac{1}{2}mv^2$</p> <p>$8\text{J} = \frac{1}{2}(4\text{kg}) \cdot v^2$</p> <p>$8\text{J} = 2 \cdot v^2$</p> <p>$4 = v^2$</p> <p>$v = \text{2 m/s}$</p> | | |