# Work, Energy, and Power

AP Physics C: Mechanics · Vocabulary in context

| Word | Example |
|---|---|
| **Kinetic energy** /kɪ'netɪk 'enədʒi/ | A faster car has more **kinetic energy**. |
| **scalar** /'skeɪlə/ | Mass is a **scalar** because it has no direction. |
| **joules** /dʒu:lz/ | A 3 W lamp uses 360 **joules** in two minutes.<br>3 W 360 |
| **reference frame** /'refrəns freɪm/ | A train is a **reference frame** for the people inside it. |
| **Work** /wɜ:k/ | **Work** is force times distance. |
| **integral** /'ɪntɪgrəl/ | Use an **integral** to find the charge in a pulse. |
| **work–energy theorem** /wɜ:k 'enədʒi 'θɪərəm/ | The **work–energy theorem** says work changes kinetic energy. |
| **friction** /'frɪkʃn/ | **Friction** between the tyres and the road stops the car sliding. |
| **normal force** /'nɔ:ml fɔ:s/ | The **normal force** acts perpendicular to the contact surface. |
| **Potential energy** /pə'tenʃl 'enədʒi/ | **Potential energy** is stored energy. |
| **conservative forces** /kən'sɜ:vətɪv 'fɔ:sɪz/ | Gravity and spring forces are **conservative forces**. |
| **escape speed** | The Earth's **escape speed** is 11 km/s.<br>11 km/s |
| **derivative** /dɪ'rɪvətɪv/ | Use the **derivative** to find the curve's slope at this point. |



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| Word | Example |
|---|---|
| **stable equilibrium** /'steɪbl ˌi:kwɪ'lɪbrɪəm/ | A ball at the bottom of a bowl is in **stable equilibrium**. |
| **unstable equilibrium** /ʌn'steɪbl ˌi:kwɪ'lɪbrɪəm/ | A pencil standing on its tip is in **unstable equilibrium**. |
| **Mechanical energy** /mɪ'kænɪkl 'enədʒi/ | Without friction, a swing keeps the same **mechanical energy**. |
| **nonconservative forces** /ˌnɒnkən'sɜ:vətɪv 'fɔ:sɪz/ | Friction and air drag are **nonconservative forces**. |
| **thermal energy** /'θɜ:ml 'enədʒi/ | Rubbing your hands turns work into **thermal energy**. |
| **turning points** /'tɜ:nɪŋ pɔɪnts/ | A mass on a spring stops for a moment at its **turning points**. |
| **Power** /'paʊə/ | **Power** is energy per second. |
| **watts** /wɒts/ | The lamp uses three **watts** of power. |