

Power

A powerful car can accelerate rapidly. The car's engine can convert the energy stored in its fuel into kinetic energy much more rapidly than the engine of a less powerful car is able to.

Power is sometimes defined as the rate of doing work.

You can calculate power using the relationship:

$$\text{power} = \frac{\text{energy transferred}}{\text{time taken}}$$

Many problems involve energy transfer by the movement of a force. In these cases, the energy transfer is equal to the work done, and the formula can be written as:

$$\text{power} = \frac{\text{work done}}{\text{time taken}}$$