

Physical Quantities: Dimensions and Units

Quantities	Dimension(s)	MKS and CGS Units
mass		<u>MKS:</u> <u>CGS:</u>
distance, depth, length, height, width		<u>MKS:</u> <u>CGS:</u>
time		
temperature		
area		<u>MKS:</u> <u>CGS:</u>
volume		<u>MKS:</u> <u>CGS:</u>
density		<u>MKS:</u> <u>CGS:</u>
speed; velocity (motion) (rate of change of position)		<u>MKS:</u> <u>CGS:</u>
acceleration (rate of change of an object's velocity with respect to time)		<u>MKS:</u> <u>CGS:</u>
force ("push" or "pull" that can change an object's motion) (Note that <u>weight</u> is just a special case of a force, related to the force of gravity)		<u>MKS:</u> <u>CGS:</u>

<p align="center">Quantities (cont'd)</p>	<p align="center">Dimensions</p>	<p align="center">MKS and CGS Units</p>
<p>pressure (collective force exerted by random molecular collisions against each unit of area of an object's surroundings)</p>		<p><u>MKS:</u></p> <p><u>CGS:</u></p>
<p>work (force times distance over which the force is applied to an object as the object moves under the influence of the force); energy (the capacity to do work)</p>		<p><u>MKS:</u></p> <p><u>CGS:</u></p>
<p>power (energy transferred or gained or lost per unit time)</p>		<p><u>MKS:</u></p> <p><u>CGS:</u></p>
<p>energy flux (rate at which energy is transferred, absorbed, or lost per unit time per unit surface area)</p>		<p><u>MKS:</u></p> <p><u>CGS:</u></p>