* Time - Scalar quantities often refer to time; the measurement of years, months, weeks, days, hours, minutes, seconds, and even milliseconds.
* Volume - Scalar quantity can refer to the volume of the medium, as in how much of the medium is present. Everything from tons to ounces to grams, milliliters and micrograms are all scalar quantities, as long as they are applied to the medium being measured and not the movement of the medium.
* Increase/Decrease in Temperature - The measurement of the medium’s temperature is a scalar quantity; the measurement of the increase or decrease in the medium’s temperature is a vector quantity.
* Velocity - The measurement of the rate at which an object changes position is a vector quantity.

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| |  | | --- | | **PROPERTIES OF VECTOR ADDITION** | | | |
|  | **COMMUTATIVE LAW OF VECTOR ADDITION** | http://www.citycollegiate.com/web_award_citycollegiate.gif |
| Consider two vectors http://www.citycollegiate.com/vector_A.gifand http://www.citycollegiate.com/vector_B.gif . Let these two vectors represent two adjacent sides of a parallelogram. We construct a parallelogram | |
| **OACB** as shown in the diagram. The diagonal **OC** represents the resultant vector http://www.citycollegiate.com/vector_R.gif | |
|  | http://www.citycollegiate.com/vector_COMMU_ADD.gif | |
|  |  |  |
|  | From above figure it is clear that: | |
|  | This fact is referred to as the commutative law of vectr addition . | |
|  | **ASSOCIATIVE LAW OF VECTOR ADDITION** |  |
| The law states that the sum of vectors remains same irrespective of their order or grouping in which they are arranged. Consider three vectors http://www.citycollegiate.com/vector_A.gif, http://www.citycollegiate.com/vector_B.gif and http://www.citycollegiate.com/vector_C.gif | |
| Applying "head to tail rule" to obtain the resultant of (http://www.citycollegiate.com/vector_A.gif+ http://www.citycollegiate.com/vector_B.gif) and (http://www.citycollegiate.com/vector_B.gif+ http://www.citycollegiate.com/vector_C.gif) | |
| Then finally again find the resultant of these three vectors : | |
| http://www.citycollegiate.com/vector_ASSO_ADD.gif | |
| This fact is known as the **ASSOCIATIVE LAW OF VECTOR ADDITION**. | |
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