

Variable: **Period (T)** and **Frequency (f)** S.I. Unit: **s** and **Hz (1/s)**

Vector? **No**

What do Period and Frequency mean?

The **Period T** is the number of seconds it takes for something to complete 1 entire cycle/revolution.

The **Frequency f** is the number of cycles/revolutions completed by an object in 1 second.

$$T = \frac{\text{seconds}}{\text{cycle}}$$

$$f = \frac{\text{cycles}}{\text{second}}$$

$$v = 2\pi R/T$$

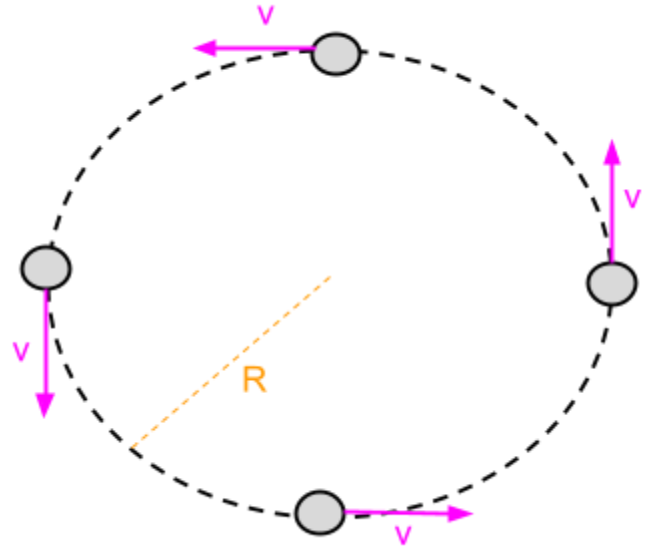
$$v = 2\pi Rf$$

v = speed of the object moving in the circle

T = period of the object

f = frequency of the object

R = radius of the circle traveled



Are there any conditions that must be met in order for those formulas to be true?

The formula $v = \frac{2\pi R}{T}$ and $v = 2\pi Rf$ are only true for objects moving at constant speed in a circle

Warning: "RPM" stands for revolutions per minute. You can convert from RPM to m/s since 1 revolution is equal to a distance of $2\pi R$, and 1 minute is equal to 60 seconds. Use conversion factors.