Simply Amazing:

***Video clip:***

<https://www.youtube.com/watch?v=CGqp_cli9Ow>

Is it Simple Harmonic Motion?

***Video clip:***

<https://www.youtube.com/watch?v=gZ_KnZHCn4M>

Follow the SHM Checklist!

It is SHM if…….

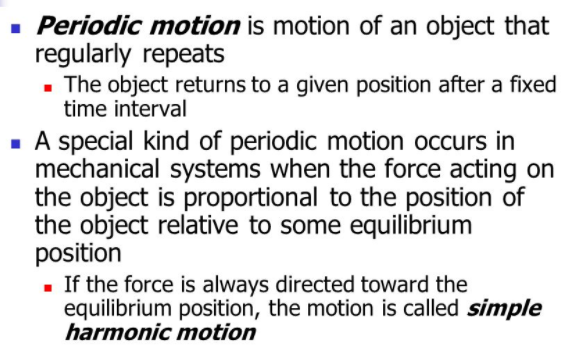
* Angle does not affect the period
* Sinusoidal motion
* F and x are directly proportional and oppositely directed
* ***Video clips: Foucault Pendulum***

***1.*** <https://www.youtube.com/watch?v=se84vG6bzoA>

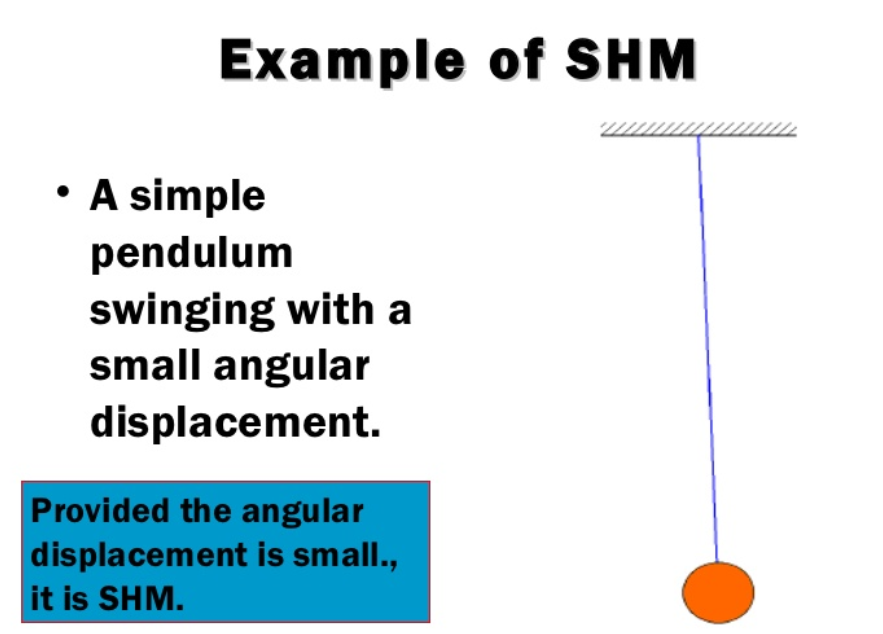
***2.*** <https://www.youtube.com/watch?v=aMxLVDuf4VY>

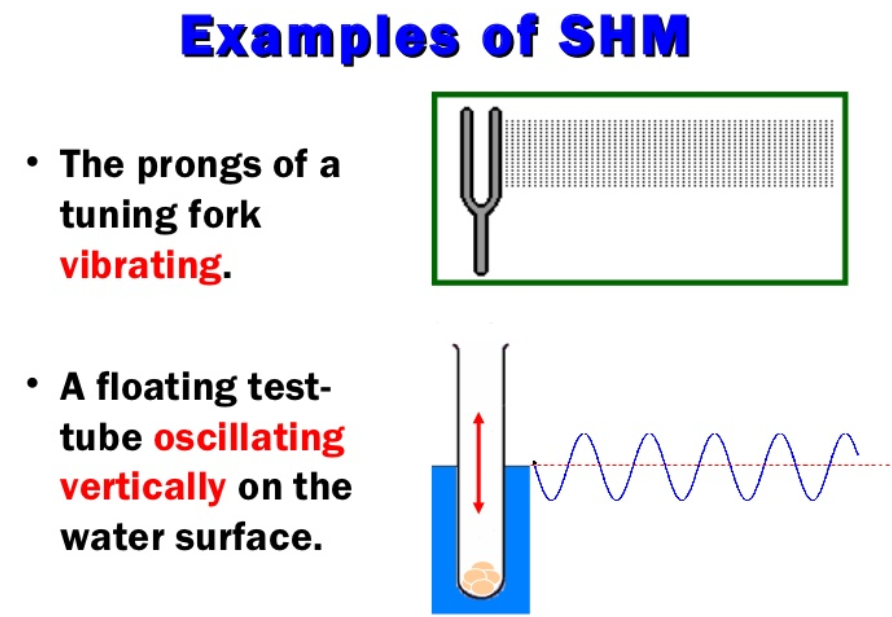
<https://www.youtube.com/watch?v=iqpV1236_Q0>

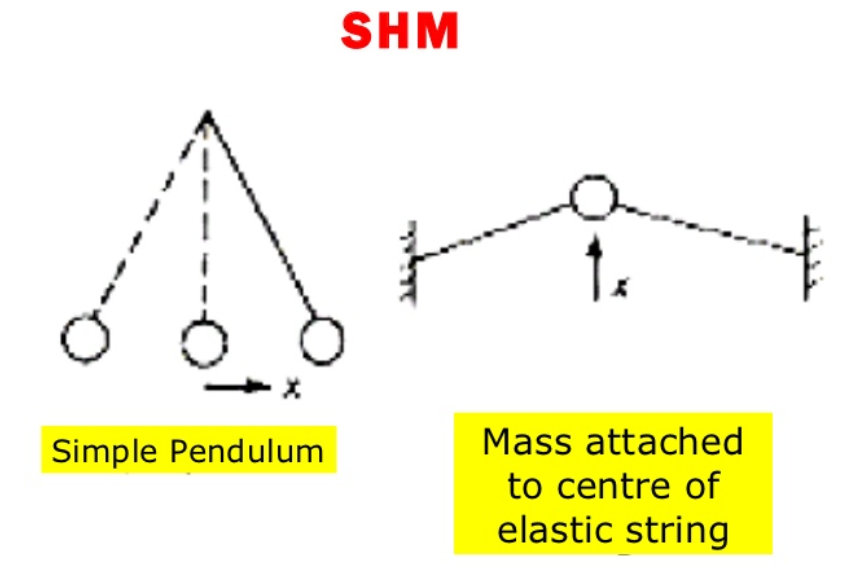
Simple harmonic motion or periodic motion?

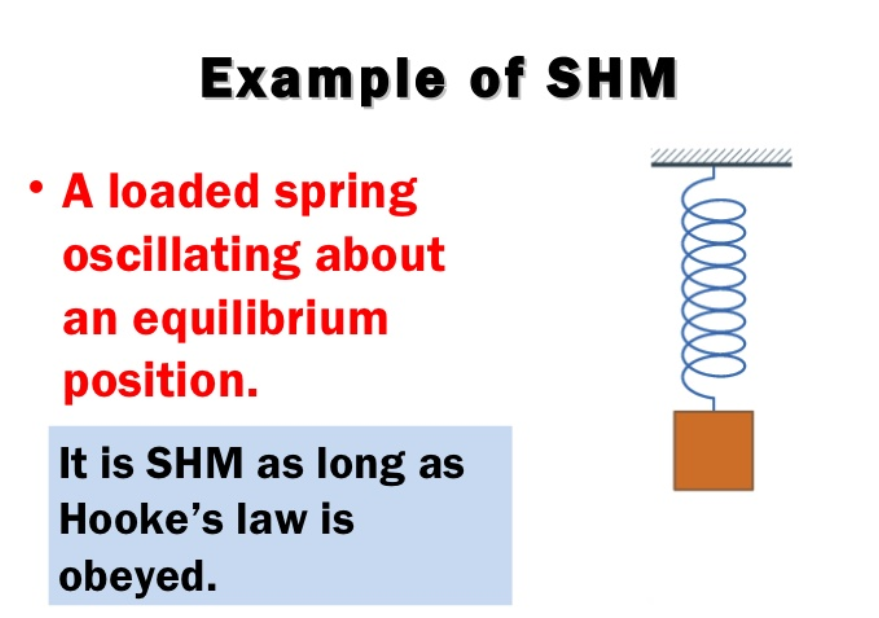


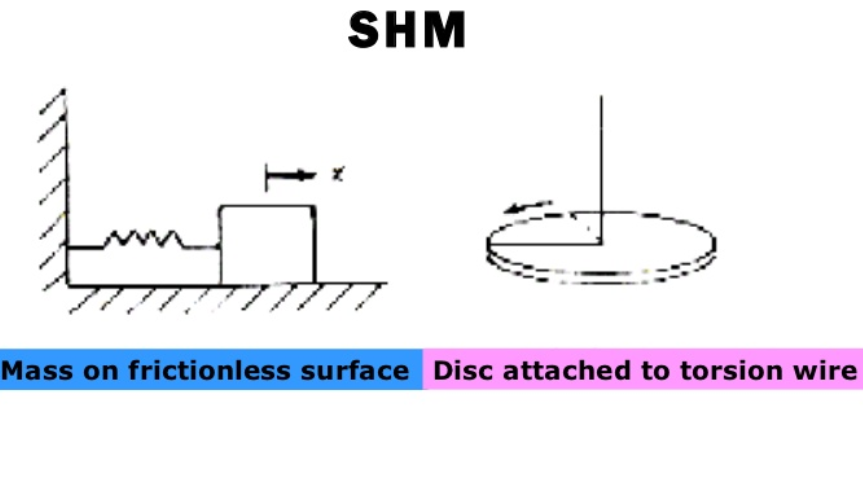
***Video clip*: TAKE NOTES AND SUBMIT VIA SCHOOLOGY**

<https://www.youtube.com/watch?v=tudxily5Qu0>

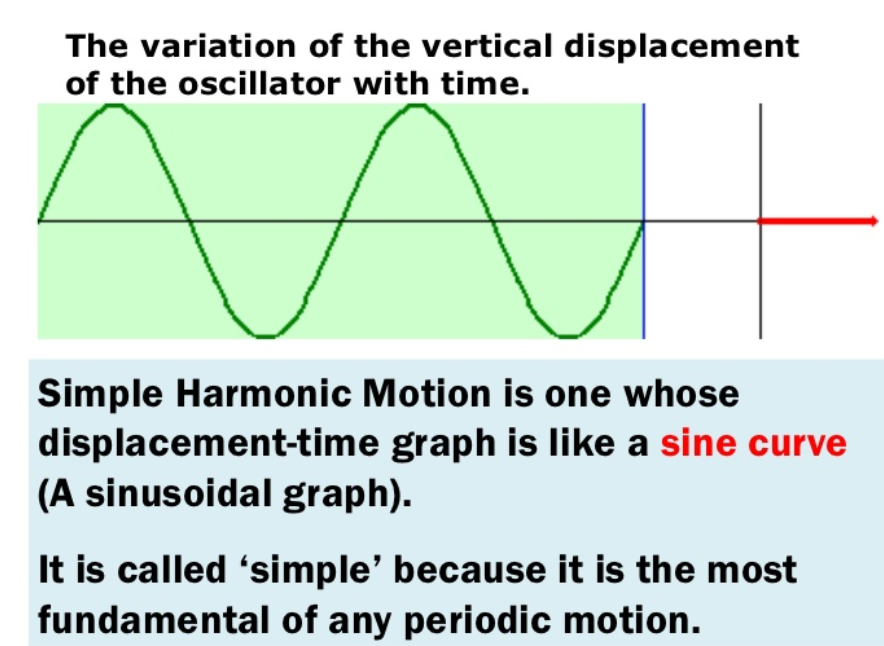


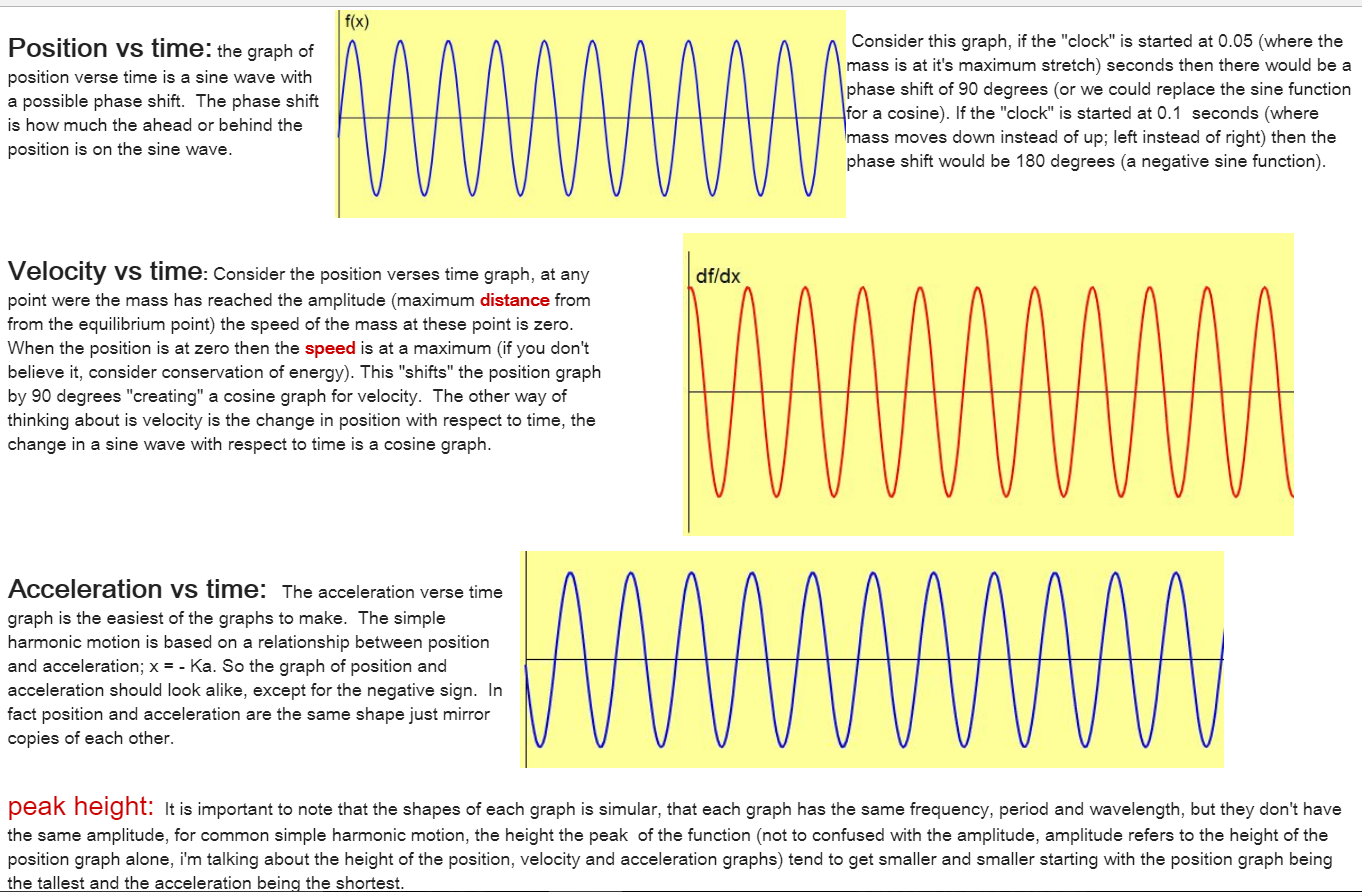


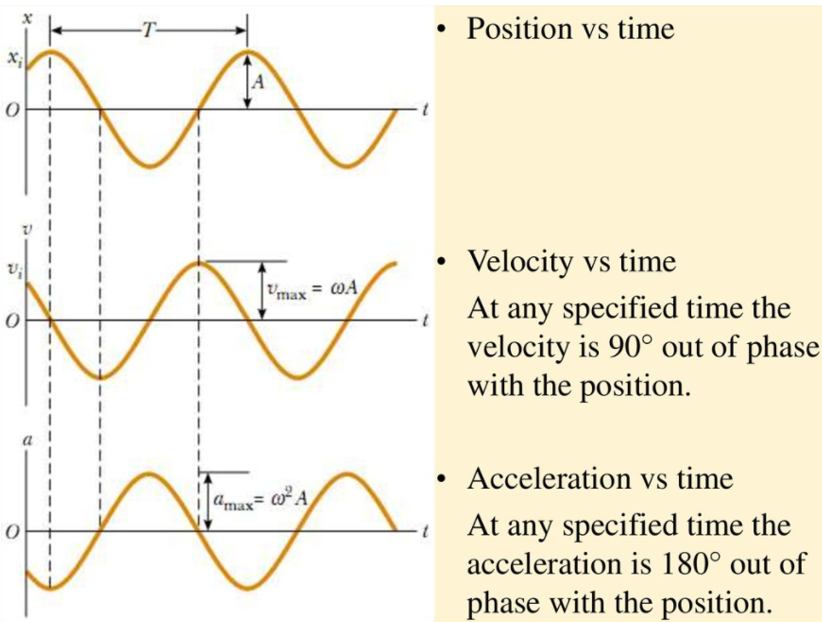




**How can you recognize Simple Harmonic Motion from a Displacement vs Time graph?**

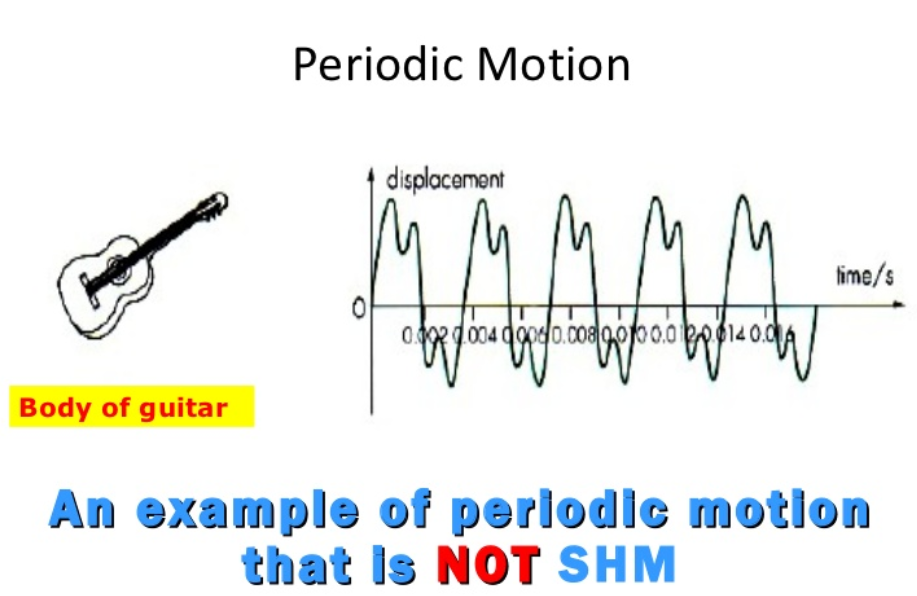
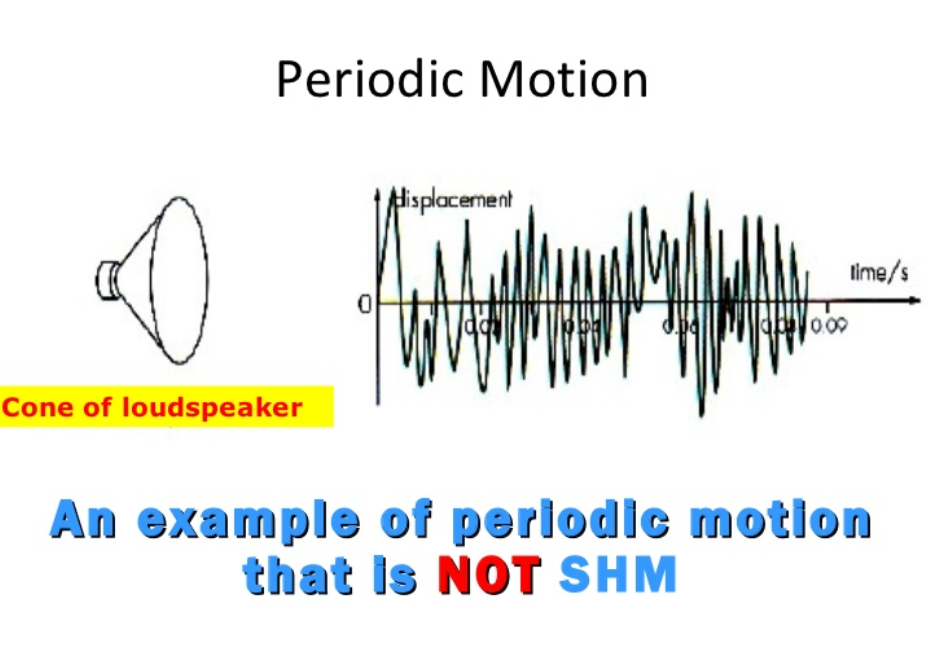


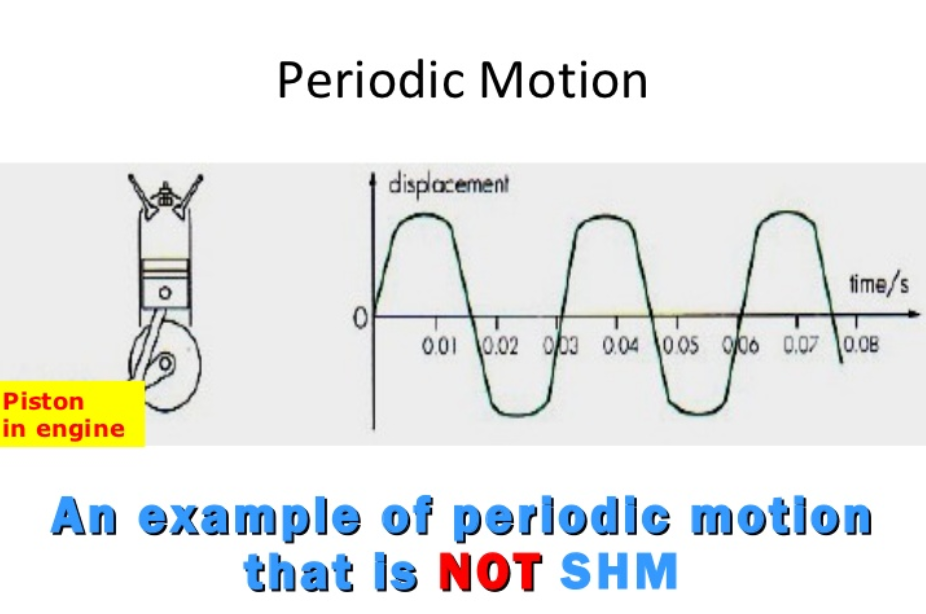


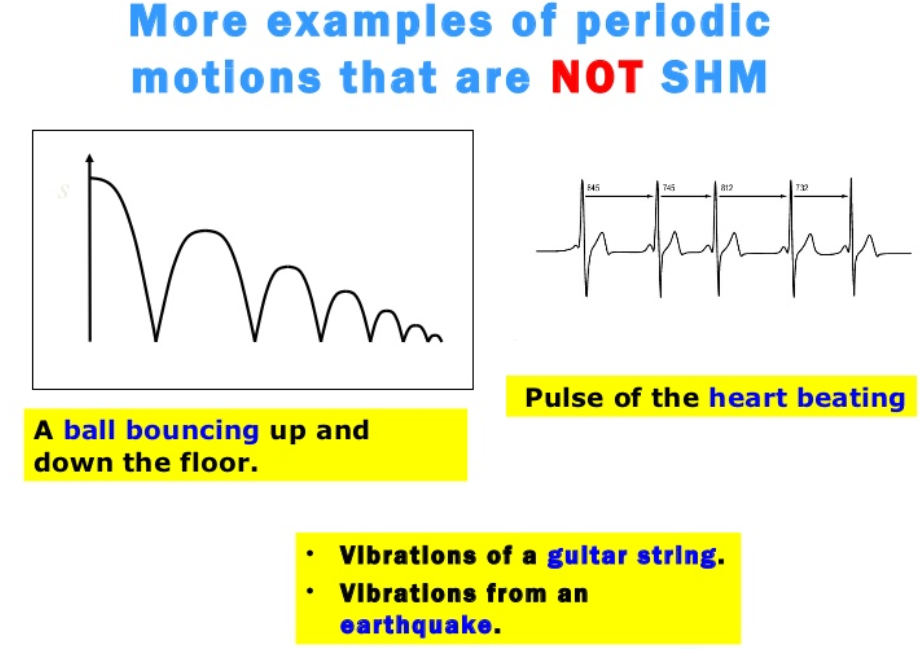


All periodic motion is not Simple Harmonic Motion.

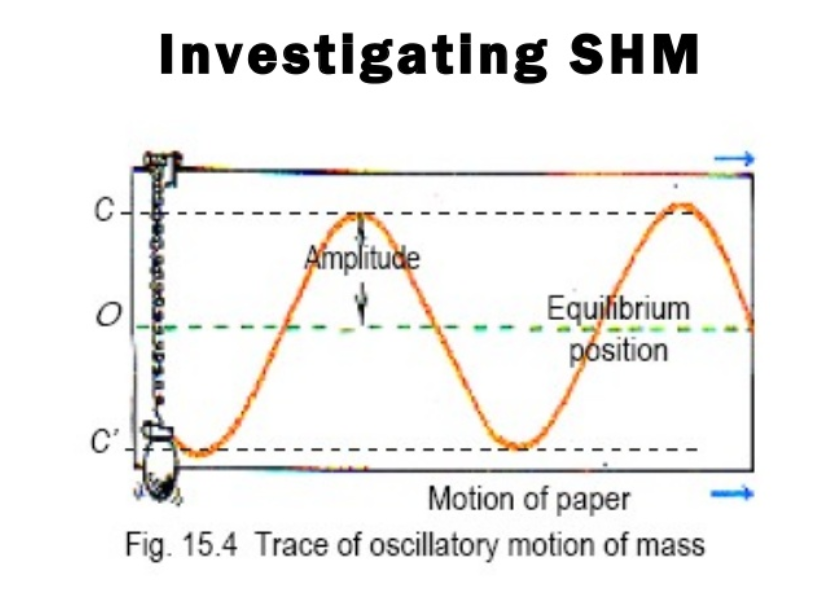
Example Periodic but **NOT** Simple Harmonic Motion:

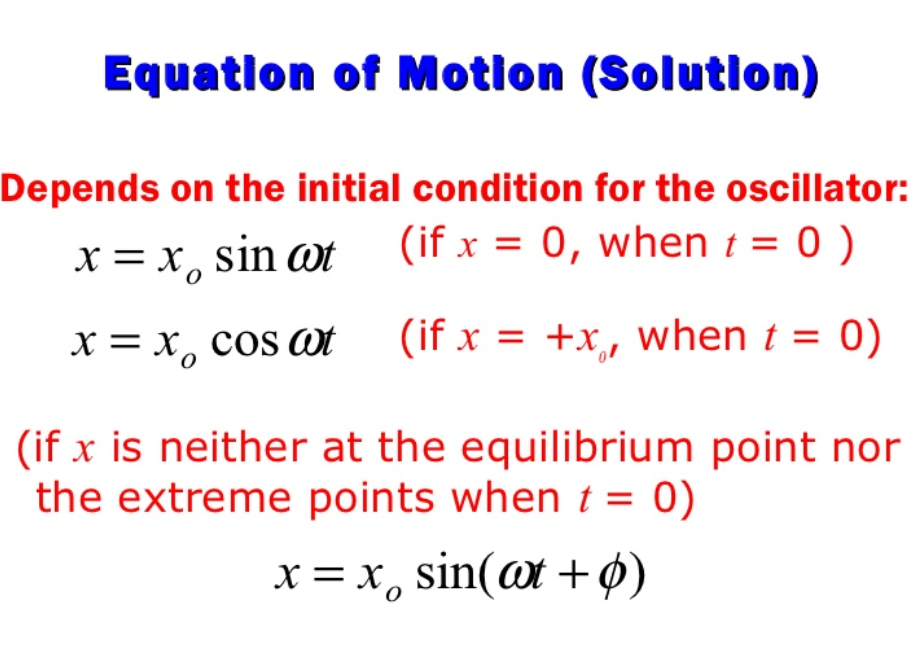


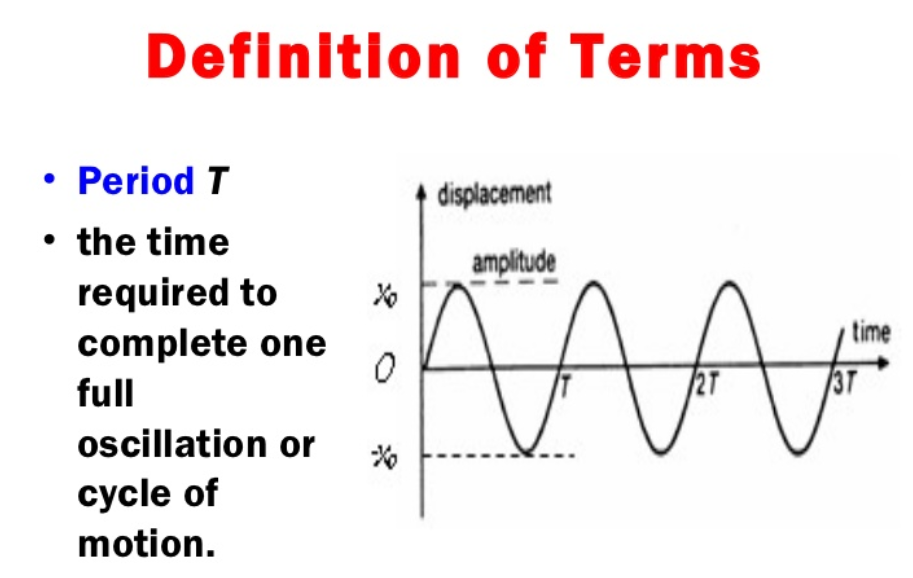


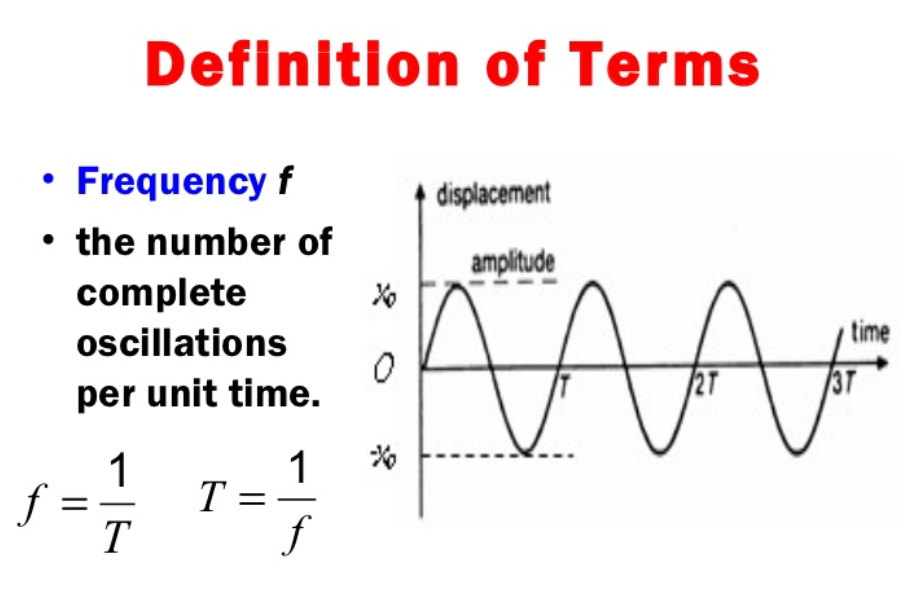


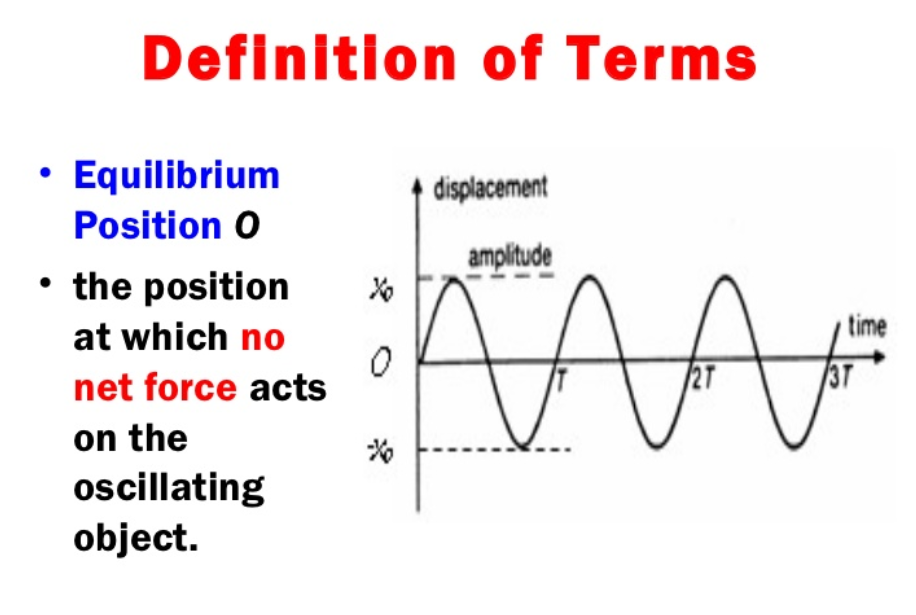


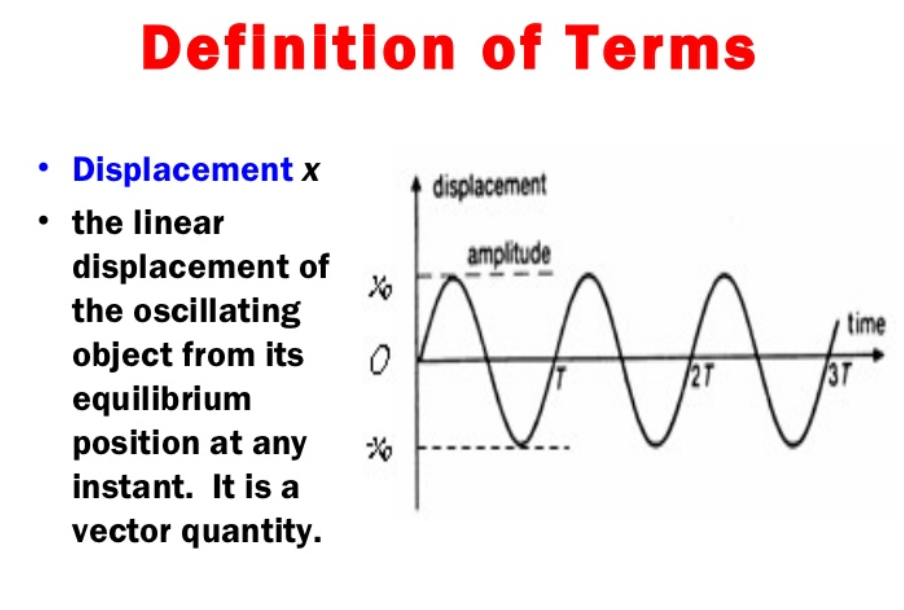


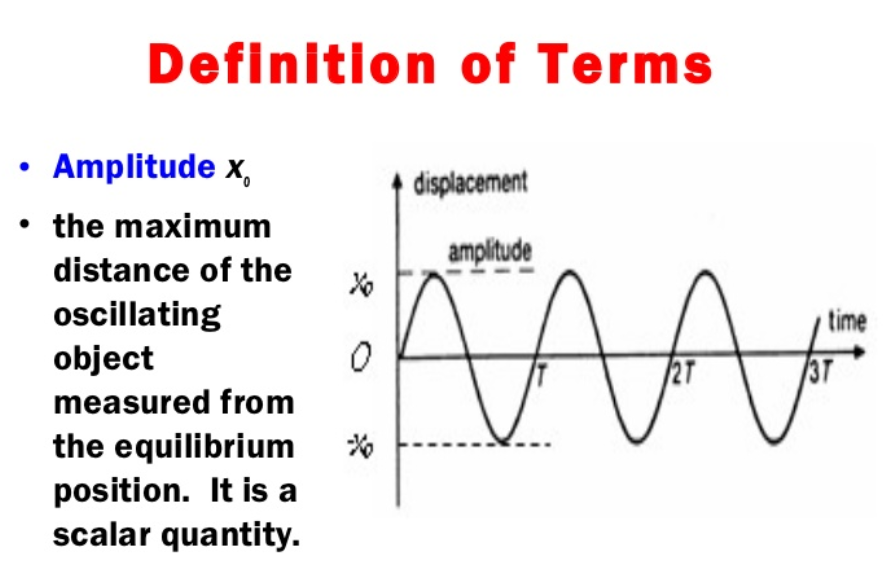


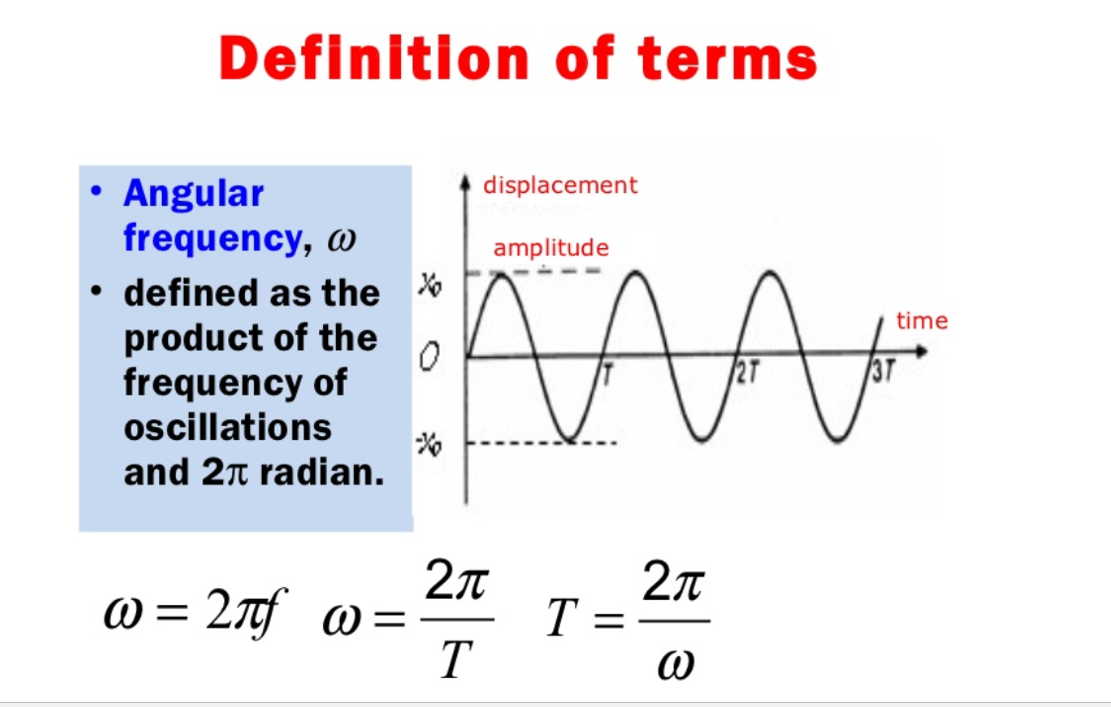


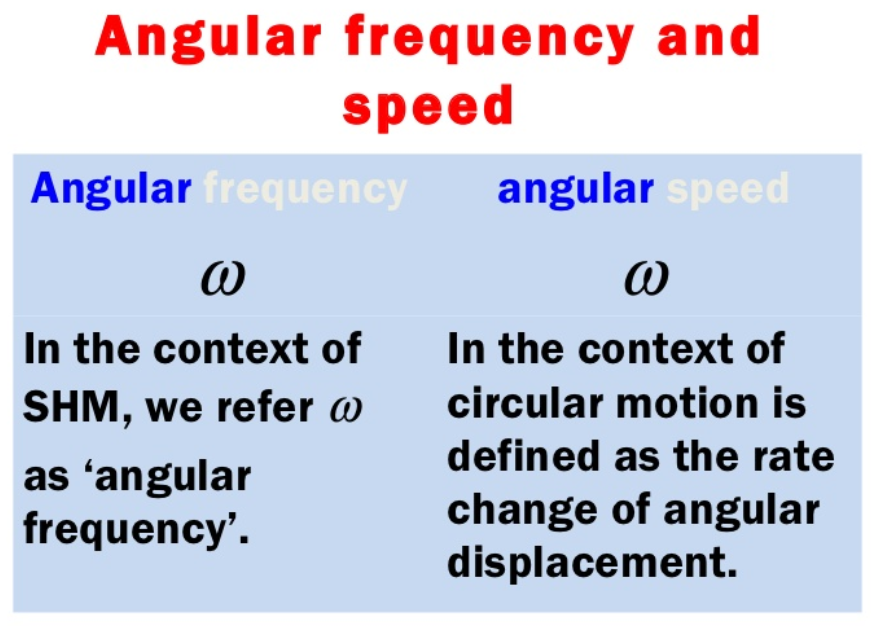


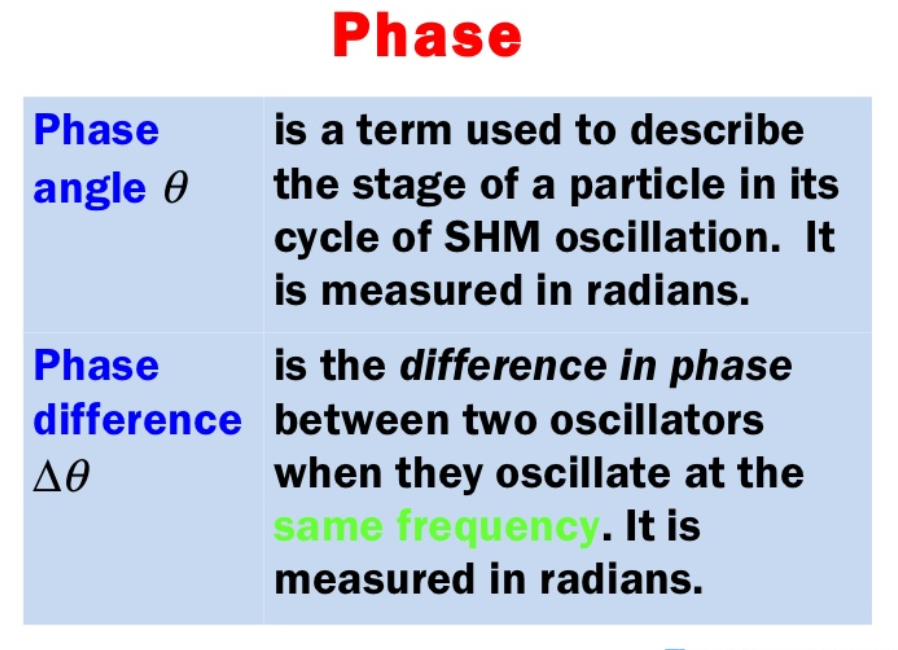


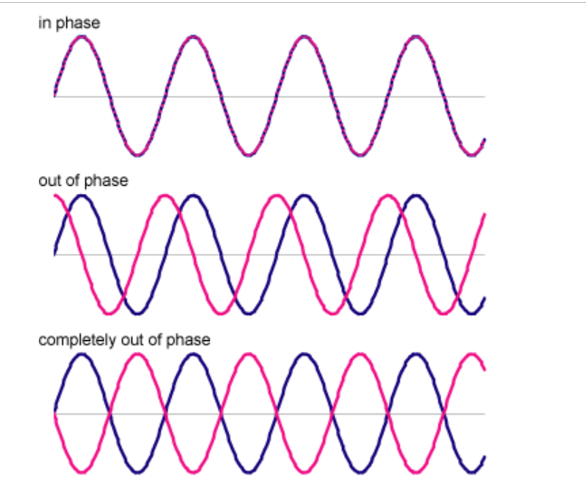




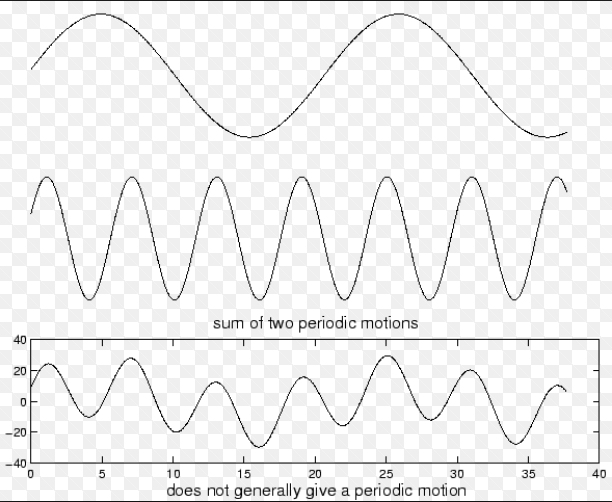


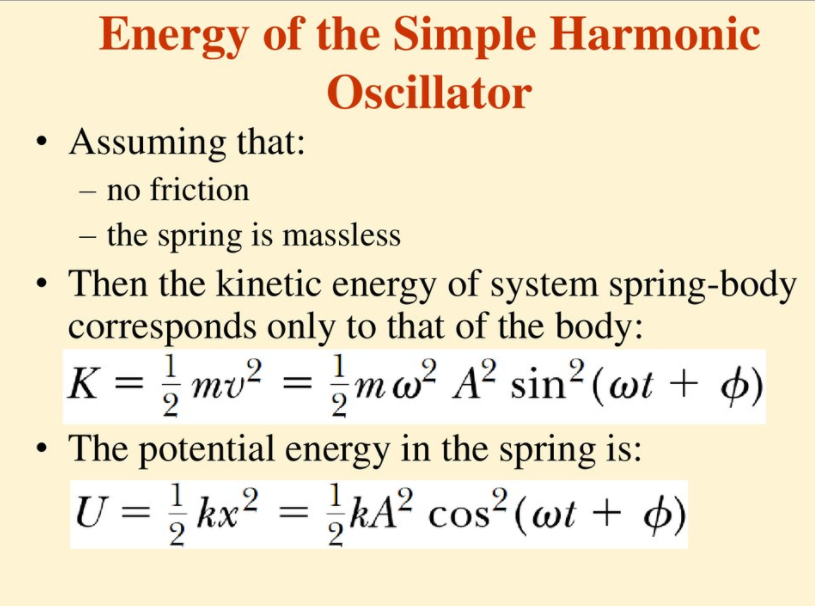


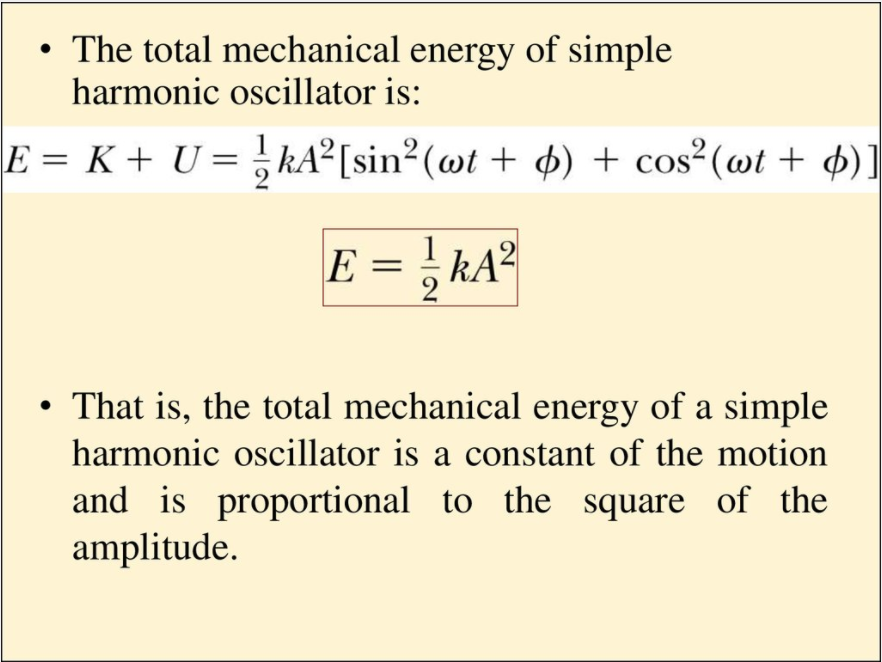




Periodic motion Example







*\*Common Difficulties*

* *Students are easily distracted by the mathematics of oscillations. It is important to keep the mathematical models connected to graphs, pictures and demonstrations of real oscillating systems.*
* *Unfamiliar with radians*
* *Thinking that sin and cosine are two distinct functions rather than the same oscillatory function with a different phase constant*

*There is some vocabulary worth committing to memory here.*

*Simple Harmonic Motion serves as the model for many kinds of oscillations.*

*Mention: Torsional Pendulum, oscillations of a (saw blade) meter stick clamped at one end, vibrating machinery and oscillating circuits. Engines, electric machines (washing machine, earthquake).*

* *Five Easy Lessons -Knight*