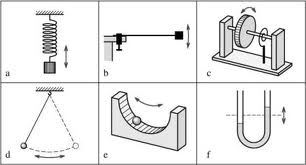
**Mechanical oscillations**

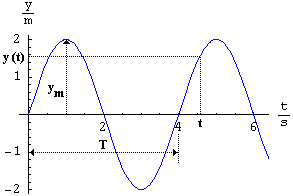
Mechanical and electromagnetic oscillations and wave motions are widespread types of motion, for example sound and light. The term [*…………………………*](https://en.wikipedia.org/wiki/Vibration) is used precisely to describe ……………………………………….. Familiar examples of oscillation include a swinging [pendulum](https://en.wikipedia.org/wiki/Pendulum) and [alternating current](https://en.wikipedia.org/wiki/Alternating_current).

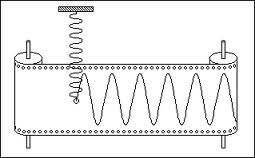
Mechanical and electromagnetic oscillations and waves are of course different, but they have a similar .............................................. and they follow similar rules.

Mechanical oscillation is the repetitive variation, typically in [time](https://en.wikipedia.org/wiki/Time), of some measure about a central value (often a point of [equilibrium](https://en.wikipedia.org/wiki/Mechanical_equilibrium)) or between two or more different states.

The oscillating body is called ........................................ Its motion state is determined by:

* an instantaneous position (displacement from the equilibrium position)
* an instantaneous ………………..
* an instantaneous acceleration

The oscillogram is a graph of the dependence of …………………………………………………… on time. It is actually its time record.



Mechanical oscillations can be *……………………………………….* (most of the vibrations in nature (e. g. earthquakes, …………………………..)) and *periodic*. Periodic oscillations can be *harmonical* (the oscillogram is a sinusoid) and *non-harmonical* (e. g. vowels).

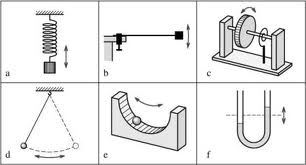
**Mechanical oscillations**

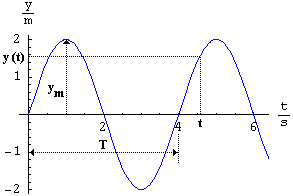
Mechanical and electromagnetic oscillations and …………………………… are widespread types of motion, for example …………………………………... The term [*vibration*](https://en.wikipedia.org/wiki/Vibration) is used precisely to describe mechanical oscillation. Familiar examples of oscillation include a swinging [pendulum](https://en.wikipedia.org/wiki/Pendulum) and [………………………………………….](https://en.wikipedia.org/wiki/Alternating_current).

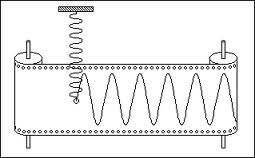
Mechanical and electromagnetic oscillations and waves are of course different, but they have a similar mathematical description and they follow similar rules.

Mechanical oscillation is the ………………………………, typically in [time](https://en.wikipedia.org/wiki/Time), of some measure about a central value (often a point of……………………………) or between two or more different states.

The oscillating body is called an oscillator. Its motion state is determined by:

* an instantaneous ………………… (displacement from the equilibrium position)
* an instantaneous speed
* an instantaneous …………………………………

The oscillogram is a graph of the dependence of the displacement of the oscillator on time. It is actually its ………………………………………….



Mechanical oscillations can be *non-periodic* (most of the vibrations in nature (e. g. earthquakes, consonants)) and *periodic*. Periodic oscillations can be *………………………………* (the oscillogram is a …………………………………..) and *non-harmonical* (e. g. vowels).