

Resonance

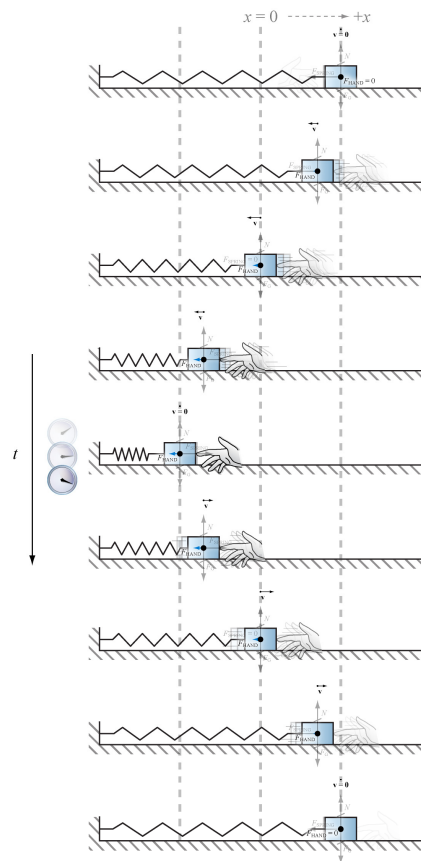
driving force – externally supplied input force

driving frequency – frequency with which driving force oscillates

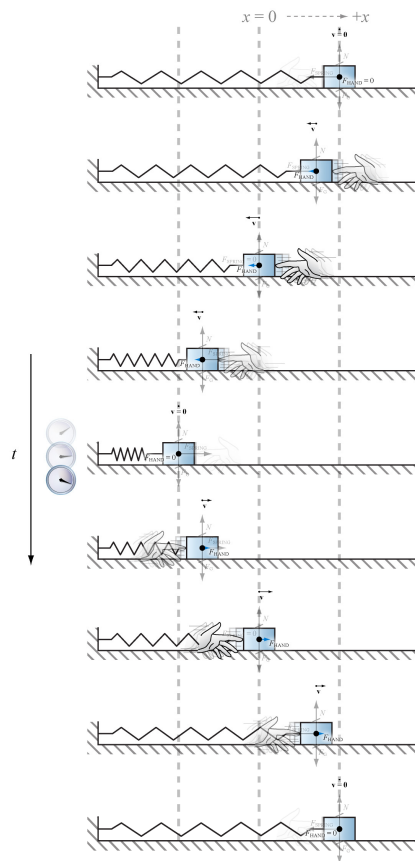
natural frequency – a frequency at which the system would be able to oscillate on its own in the absence of a driving force

resonance – when the driving force performs positive work on an oscillating object by oscillating at a driving frequency that matches a natural frequency of the object

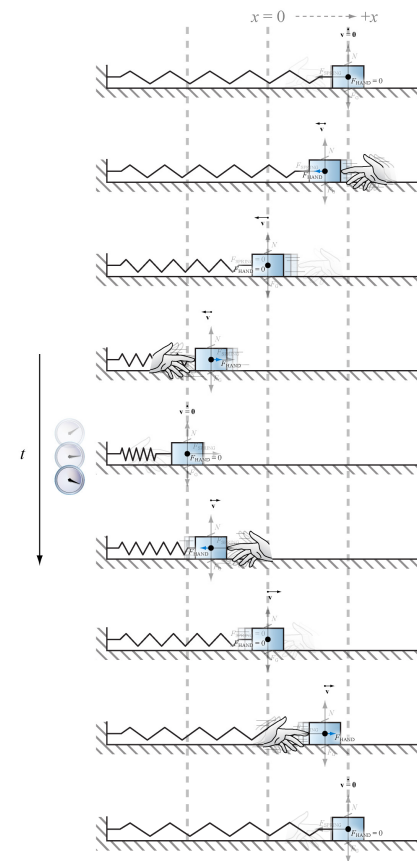
Driving frequency is much slower than natural frequency†



Driving frequency matches natural frequency



Driving frequency is much faster than natural frequency†



† Illustrating the mass continuing to oscillate at the depicted natural frequency even after the driving force begins to be applied is an approximation.