

# Resonance

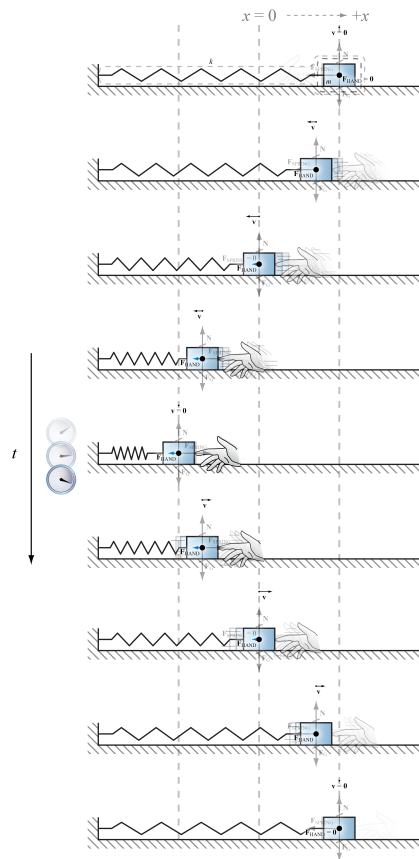
**driving force** – externally supplied oscillating input force

**driving frequency** – frequency with which driving force oscillates

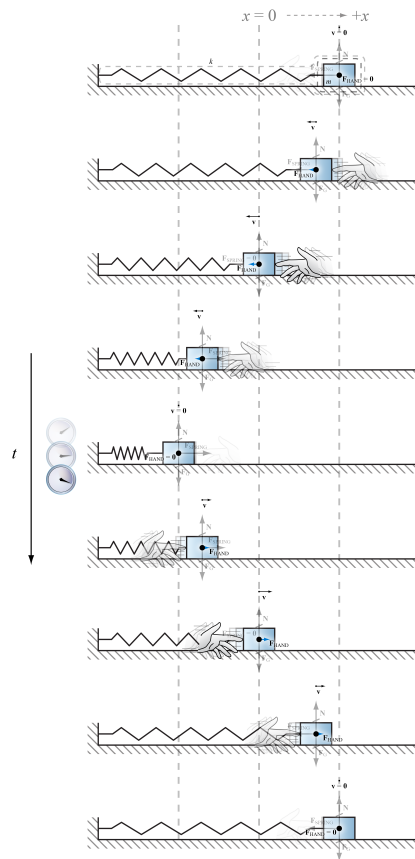
**natural frequency** – a frequency at which the system would be able to oscillate on its own in the absence of a driving force

**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

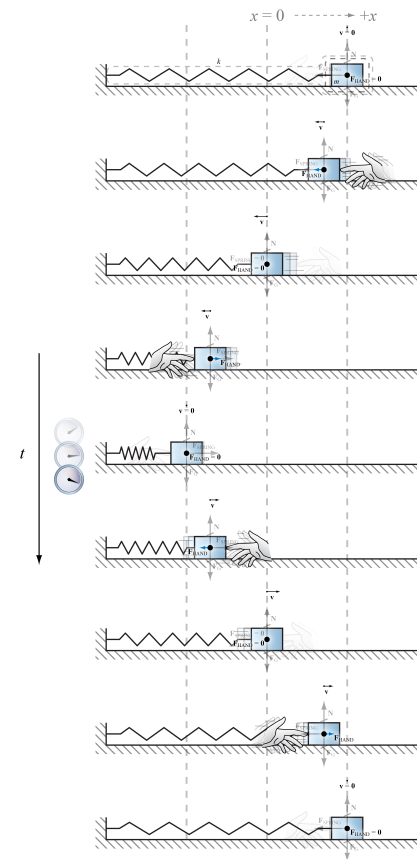
**Driving frequency is much slower than natural frequency†**



**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.