

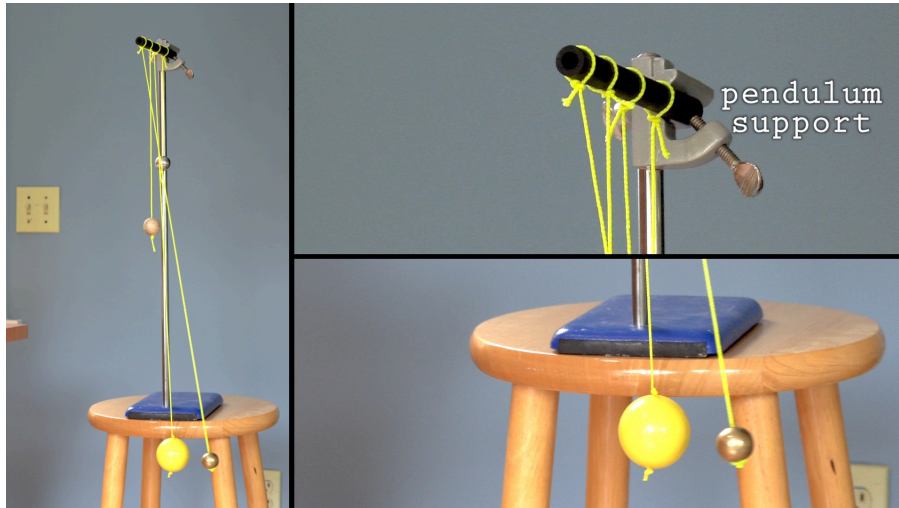
Flipping Physics Lecture Notes:

Sympathetic Vibrations by Bobby

<https://www.flippingphysics.com/sympathetic-vibrations.html>

Sympathetic vibrations are when an object begins to oscillate or vibrate because of an external vibration which matches the resonance frequency of the object. In other words, when the resonance<sup>1</sup> of one object causes another object to resonate, that is sympathetic resonance or sympathetic vibrations.

The example shown in the video is that a pendulum oscillating can cause small oscillations of its support. If other pendulums are attached to the same support, pendulums with similar resonance frequencies.



In the above picture, the oscillating brass pendulum is causing a slight motion of the pendulum support which is then causing the yellow pendulum to oscillate.

Another example is that a single plucked string of a guitar will cause other strings in the guitar to also vibrate. This is because the original plucked string will cause the guitar to vibrate and therefore cause other strings with similar resonance frequencies to also vibrate.

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<sup>1</sup> Resonance Introduction using 9 Demonstrations - <https://www.flippingphysics.com/resonance.html>