Simple harmonic motion

International Baccalaureate · IB Diploma · Physics · HL · Vocabulary in context

Word	Example
simple harmonic motion /ˈsɪmpl hɑːˈmɒnɪk ˈməʊʃn/	A mass on a spring moves with **simple harmonic motion**.
oscillation /ˌɒsɪˈleɪʃn/	A swing makes one **oscillation** every 3 s. 3 s
equilibrium position	The pendulum moves fastest at its **equilibrium position**.
restoring force /rɪˈstɔːrɪŋ fɔːs/	The spring gives a **restoring force** towards the middle.
displacement /dɪˈspleɪsmənt/	After walking 3 km east, your **displacement** is 3 km east. 3 km 3 km
angular frequency /ˈæŋgjʊlə ˈfriːkwənsi/	The **angular frequency** is 2π times the frequency. 2π
amplitude /ˈæmplɪtjuːd/	Loud sounds have a large **amplitude**.
period /ˈpɪərɪəd/	The **period** of the wave is 0.02 s. 0.02 s
frequency /ˈfriːkwənsi/	A **frequency** of 50 Hz means 50 waves every second. 50 Hz 50
isochronous	A pendulum is **isochronous**: each swing takes the same time.
spring constant /sprɪŋ ˈkɒnstənt/	A stiff spring has a large **spring constant**.
simple pendulum /ˈsɪmpl ˈpendjʊləm/	A **simple pendulum** is a small mass on a string.

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total energy /ˈtəʊtl ˈenədʒi/	The **total energy** of the oscillator stays the same.
damping /ˈdæmpɪŋ/	**Damping** makes the swing slowly stop.
phase angle /feɪz ˈæŋgl/	The **phase angle** shows how far through the cycle the mass is.
phase difference /feɪz ˈdɪfrəns/	The two waves have a **phase difference** of half a cycle.
antiphase /ˌæntɪˈfeɪz/	The two waves are in **antiphase**: one goes up as the other goes down.