Rigid body mechanics

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

Word	Example
rigid body /ˈrɪdʒɪd ˈbɒdi/	A wheel can be treated as a **rigid body**.
torque /tɔːk/	A longer spanner gives more **torque**.
lever arm /ˈliːvə ɑːm/	A longer **lever arm** makes the door easier to open.
couple /ˈkʌpl/	Your two hands on a steering wheel make a **couple**.
rotational equilibrium /rəʊˈteɪʃənl ˌiːkwɪˈlɪbrɪəm/	A balanced see-saw is in **rotational equilibrium**.
centre of mass /ˈsentə ɒv mæs/	The **centre of mass** of a ruler is in its middle.
angular displacement /ˈæŋgjʊlə dɪˈspleɪsmənt/	After a quarter turn, the **angular displacement** is 90°. 90°
angular acceleration /ˈæŋgjʊlə əkˌseləˈreɪʃn/	A wheel that spins faster and faster has an **angular acceleration**.
moment of inertia /ˈməʊmənt ɒv ɪˈnɜːʃə/	A long rod is harder to spin: it has a large **moment of inertia**.
angular momentum /ˈæŋgjʊlə məʊˈmentəm/	A spinning ice skater has **angular momentum**.
conservation of angular momentum /ˌkɒnsəˈveɪʃn ɒv ˈæŋgjʊlə məʊˈmentəm/	By **conservation of angular momentum**, a skater spins faster when she pulls in her arms.

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angular impulse /ˈæŋgjʊlə ˈɪmpʌls/	A push on a door gives it an **angular impulse**.
rotational kinetic energy /rəʊˈteɪʃənl kɪˈnetɪk ˈenədʒi/	A spinning wheel stores **rotational kinetic energy**.