Kinematics

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

Word	Example
kinematics /ˌkɪnɪˈmætɪks/	**Kinematics** describes how things move.
distance /ˈdɪstəns/	The **distance** you walk round a track is 400 m. 400 m
scalar /ˈskeɪlə/	Mass is a **scalar** because it has no direction.
displacement /dɪˈspleɪsmənt/	After walking 3 km east, your **displacement** is 3 km east. 3 km 3 km
vector /ˈvektə/	Velocity is a **vector** because it has a direction.
speed /spiːd/	The bus moves at a **speed** of 15 m/s. 15 m/s
velocity /vəˈlɒsɪti/	The ball's **velocity** is 5 m/s to the left. 5 m/s
acceleration /əkˌseləˈreɪʃn/	The car speeds up quickly, so its **acceleration** is large.
average /ˈævrɪdʒ/	Her **average** speed for the trip was 50 km/h. 50 km/h
instantaneous /ˌɪnstənˈteɪnɪəs/	The speedometer shows the **instantaneous** speed.
tangent /ˈtændʒənt/	Draw a **tangent** to the curve to find the gradient at one point.
uniform acceleration /ˈjuːnɪfɔːm əkˌseləˈreɪʃn/	A car with **uniform acceleration** gains the same speed every second.
free fall /friː fɔːl/	A stone dropped from a bridge is in **free fall**.

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Word	Example
projectile /prəˈdʒektaɪl/	A thrown ball is a **projectile**.
component /kəmˈpəʊnənt/	Find the vertical **component** of the ball's velocity.
trajectory /trəˈdʒektəri/	The ball's **trajectory** is a curve.
time of flight /taɪm ɒv flaɪt/	The **time of flight** of the ball is 2 s. 2 s
range /reɪndʒ/	The **range** of the ball is how far it lands from where it started.
fluid resistance	**Fluid resistance** slows a swimmer down.
drag /dræg/	**Drag** slows down a boat in the water.
terminal speed /ˈtɜːmɪnl spiːd/	A skydiver reaches a **terminal speed** of about 55 m/s. 55 m/s