Kinematics

A-Level Physics · Vocabulary in context

Word	Example
projectile /prəˈdʒektaɪl/	A thrown ball is a **projectile**.
speed /spiːd/	The bus moves at a **speed** of 15 m/s. 15 m/s
distance /ˈdɪstəns/	The **distance** from home to school is 2 km. 2 km
kinematics /ˌkɪnɪˈmætɪks/	**Kinematics** describes how things move.
• **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.
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.
uniform acceleration /ˈjuːnɪfɔːm əkˌseləˈreɪʃn/	A car with **uniform acceleration** gains the same speed every second.
acceleration of free fall /əkˌseləˈreɪʃn ɒv friː fɔːl/	The **acceleration of free fall** on Earth is 9.81 m/s^2. 9.81 m/s^2
free fall /friː fɔːl/	A stone dropped from a bridge is in **free fall**.
uniform gravitational field /ˈjuːnɪfɔːm ˌgrævɪˈteɪʃənl fiːld/	Near the ground, the Earth's field is a **uniform gravitational field**.

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air resistance /eə rɪˈzɪstəns/	**Air resistance** slows down a falling leaf.
negligible /ˈneglɪdʒəbl/	For a heavy stone, air resistance is **negligible**.
deceleration /dɪˌseləˈreɪʃn/	The car brakes with a **deceleration** of 4 m/s^2. 4 m/s^2
graphical methods /ˈgræfɪkl ˈmeθədz/	We can solve the problem with **graphical methods**, using a graph.
gradient /ˈgreɪdɪənt/	The **gradient** of a distance-time graph gives the speed. –
tangent /ˈtændʒənt/	Draw a **tangent** to the curve to find the gradient at one point.
trapezium /trəˈpiːzɪəm/	Split the area under the graph into a **trapezium** and a triangle.
parabola /pəˈræbələ/	A thrown ball follows a **parabola**.
gravity /ˈgrævɪti/	**Gravity** pulls the ball back down.
symmetric /sɪˈmetrɪk/	The path of the ball is **symmetric**: it goes up and comes down the same way.
terminal velocity /ˈtɜːmɪnl vəˈlɒsɪti/	A skydiver falling at a steady speed has reached **terminal velocity**.
range /reɪndʒ/	The **range** of the ball is how far it lands from where it started.
random error /ˈrændəm ˈerə/	Small changes in your reaction time cause a **random error**.

Word	Example
light gate /laɪt geɪt/	A **light gate** measures the time when a card passes through it.
reaction-time /rɪˈækʃn taɪm/	A **reaction-time** test uses a falling ruler.
horizontal /ˌhɒrɪˈzɒntl/	The floor is **horizontal**.
vertical /ˈvɜːtɪkl/	A falling stone moves in a **vertical** line.
component /kəmˈpəʊnənt/	Find the vertical **component** of the ball's velocity.
energy /ˈenədʒi/	Food gives your body the **energy** it needs to move.

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