KS5 Physics Projectile Motion Basics – Worksheet A

Question solving techniques

Make notes on each aspect of solving a physics question.

1. Read the question
2. Make it abstract
3. Identify knowns/unknowns
4. Recall 'Laws'
5. Manipulate
6. Calculate
7. Check

Equations of Constant Linear Acceleration

Name each of the variables below. Include the units.

$$v = u + at$$

$$s = \frac{u + v}{2} t$$

$$s = ut + \frac{1}{2} at^2$$

$$v^2 = u^2 + 2as$$

In an aluminium processing factory a large chunk of bauxite falls down a chute. The height of the chute is 4.0 m. Calculate the impact velocity of the bauxite chunk.

Additional Practice

Isaac Physics Game Board – Equations of motion 1d
https://isaacphysics.org/gameboards#equations_motion_1d

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KS5 Physics Projectile Motion Basics – Worksheet B

Projectile motion – thinking and theory

A teacher holds two identical pens. They impart a horizontal velocity of 2.0 ms^{-1} on one of the pens before releasing both at the same time. **Predict** which pen hits the ground first. **Explain** your answer.

Predict:

Explain:

Observe:

Explain:

Projectile motion – simplifying the problem [example]

A teacher imparts a 2.0 ms^{-1} horizontal velocity on a pen as they release it from a height of 1.5 m. Calculate how far the pen travels along the horizontal before it hits the ground.

Projectile motion – simplifying the problem [practice]

An aeroplane travelling at 120 ms^{-1} releases a supply package. After release the aeroplane continues to travel at 120 ms^{-1} for 1.2 km before the package hits the ground. Calculate the height at which the aeroplane is flying. State any assumptions you make.

Additional Practice

Isaac Physics Game Board – Equations of motion 2d
https://isaacphysics.org/gameboards#eqns_of_motion_2d

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