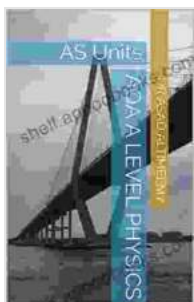


AQA Level Physics AS Units: An Exploration of the Physical World

Welcome to the realm of AQA Level Physics AS Units, a comprehensive and engaging study of the fundamental principles governing our universe. This article delves into the intricacies of each unit, providing a detailed overview of the concepts, equations, and applications that shape our understanding of the natural world. As you embark on this journey, you will uncover the secrets of motion, energy, waves, electricity, magnetism, and particle physics.



AQA A LEVEL PHYSICS: AS Units by Dr Asad Altimeemy

★★★★★ 5 out of 5

Language : English

File size : 8894 KB

Print length : 190 pages

Screen Reader : Supported

Paperback : 42 pages

Item Weight : 3.39 ounces

Dimensions : 8.5 x 0.09 x 8.5 inches

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Unit 1: Motion

Kick-off your exploration with Unit 1: Motion. Here, you will delve into the fascinating world of kinematics and dynamics, examining how objects move in different scenarios. From projectile motion to circular motion and Newton's laws, this unit lays the groundwork for understanding the motion of everything around us.

Key Concepts:

- Displacement, velocity, and acceleration
- Newton's laws of motion
- Momentum and impulse
- Work, energy, and power

Essential Equations:

- $v = u + at$
- $s = ut + \frac{1}{2} at^2$
- $F = ma$
- $p = mv$
- $W = Fd$

Unit 2: Energy

In Unit 2: Energy, you will uncover the fundamental principles of energy transformation and conservation. From gravitational potential energy to electrical energy, this unit explores the different forms of energy and how they interact with the world around us.

Key Concepts:

- Forms of energy
- Energy transfer and efficiency
- Power and energy calculations
- Renewable and non-renewable energy sources

Essential Equations:

- $E = mc^2$
- $U = mgh$
- $P = E/t$
- Efficiency = (Useful energy output/Energy input) x 100%

Unit 3: Waves

Immerse yourself in the captivating world of waves in Unit 3: Waves. This unit explores the properties, behavior, and applications of waves, from mechanical waves to electromagnetic waves. You will unravel the mysteries of wave phenomena, such as interference, diffraction, and polarization.

Key Concepts:

- Wave properties (amplitude, wavelength, frequency)
- Wave motion and superposition
- Interference and diffraction
- Applications of waves in technology and medicine

Essential Equations:

- $v = f\lambda$
- $I = A^2/2$
- Path difference = $d \sin \theta$
- Resolving power = λ/d

Unit 4: Electricity

Uncover the secrets of electricity in Unit 4: Electricity. This unit delves into the fundamental principles of electric circuits, alternating current, and electrical energy. You will explore the behavior of electric charges, the flow of current, and the applications of electricity in our daily lives.

Key Concepts:

- Electric charge and current
- Resistance and Ohm's law
- Capacitance and inductance
- Alternating current circuits

Essential Equations:

- $I = V/R$
- $C = Q/V$
- $L = \Phi/I$
- $Z = R + j\omega L - 1/j\omega C$

Unit 5: Magnetism

Explore the fascinating world of magnetism in Unit 5: Magnetism. This unit investigates the properties of magnets, magnetic fields, and the interactions between them. You will uncover the fundamental principles behind electromagnetic phenomena, such as magnetic forces, induction, and the applications of magnetism in technology.

Key Concepts:

- Magnetic fields and forces

- Electromagnetism and Faraday's law
- Magnetic materials and hysteresis
- Applications of magnetism in motors and generators

Essential Equations:

- $F = BIl$
- $\Phi = B$



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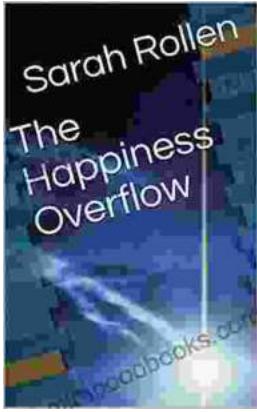
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Big Money, Big Oil, and the Struggle for Democracy

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