

Access to Higher Education Unit

This unit forms part of an Access to HE Diploma. If delivering the graded version of this unit, please refer to the Provider Handbook for details on grading descriptors and the application of these across units within your programme.

Unit Title: Properties of Matter

Graded Unit Reference Number: GA33PHY19

Ungraded Unit Reference Number: UA33PHY19

Module: Physics

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

| Learning Outcome (The Learner will): | Assessment Criterion (The Learner can): |
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| 1. Understand the bulk properties of matter | 1.1 Explain the properties of solids, liquids and gases |
| | 1.2 Define density and solve problems involving density |
| 2. Understand the effects of forces on solid materials | 2.1 Investigate Hooke's Law |
| | 2.2 Define proportional limit, elastic limit, and yield point |
| | 2.3 Explain the difference between ductile and brittle behaviour |
| | 2.4 Explain the difference between elastic and plastic behaviour |
| | 2.5 Define tensile stress, tensile strain and Young's modulus and solve problems involving these concepts |
| | 2.6 Define elastic shear modulus and solve problems involving elastic shear modulus |
| 3. Understand the molecular kinetic theory model | 3.1 Using a simple molecular model, explain the relationship between p , V and T |
| | 3.2 Use the relationship between p , V and T to solve problems |

3.3 State the assumptions of the kinetic theory of gas

3.4 Solve problems using the ideal gas equations

3.5 Derive the relationship between molar kinetic energy, temperature, Boltzmann constant and the molar gas constant

3.6 Solve problems using the relationship between molar kinetic energy, temperature, Boltzmann constant and the molar gas constant