



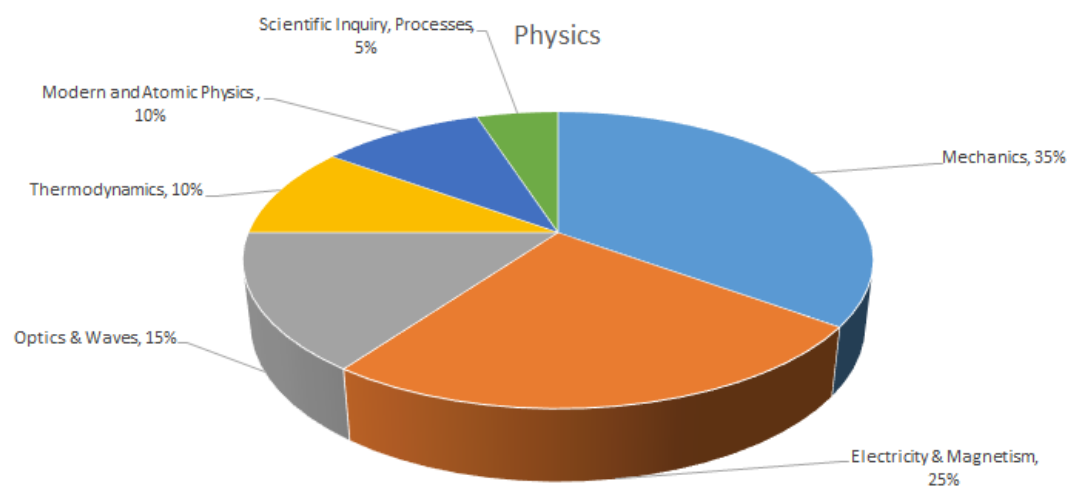
## Physics Test Study Guide

**Test Duration:** 2.5 hours

Teacher Qualification Test in Physics is a computer-based test that covers the Physics major parts: Mechanics, Electricity & Magnetism, Optics & Waves, Thermodynamics, Modern and Atomic Physics, Scientific Inquiry, and Processes

Test sections, questions, and options are randomized. Sections and subsections of the test are timed by the computer. Test takers can see how much time they have throughout the test.

Topic	Weight
<b>Mechanics</b>	<b>35%</b>
<b>Electricity &amp; Magnetism</b>	<b>25%</b>
<b>Optics &amp; Waves</b>	<b>15%</b>
<b>Thermodynamics</b>	<b>10%</b>
<b>Modern and Atomic Physics</b>	<b>10%</b>
<b>Scientific Inquiry, Processes</b>	<b>5%</b>
<b>Total</b>	<b>100%</b>





## Physics Test Study Guide

### Part 1: Mechanics

To understand, compare, and, apply concepts related to

- Kinematics in One Dimension
  - Kinematics in Two Dimensions
  - Forces and Newton's Laws of Motion
  - Dynamics of Uniform Circular Motion
  - Work and Energy
  - Impulse and Momentum
  - Rotational Kinematics
  - Rotational Dynamics
  - Simple Harmonic Motion and Elasticity
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### Part 2: Electricity & Magnetism

To understand, compare, and, apply concepts related to

- Electric Forces and Electric Fields
  - Electric Potential Energy and the Electric Potential
  - Electric Circuits
  - Magnetic Forces and Magnetic Fields
  - Electromagnetic Induction
  - Alternating Current Circuits
  - Electromagnetic Waves
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### Part 3: Optics & Waves

To understand, compare, and, apply concepts related to:

- Waves and Sound
- The Principle of Linear Superposition and Interference Phenomena
- The Reflection of Light: Mirrors
- The Refraction of Light: Lenses and Optical Instruments



## Physics Test Study Guide

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### Part 4: Thermodynamics

To understand, compare, and, apply concepts related to

- Fluids
  - Temperature and Heat
  - The Transfer of Heat
  - The Ideal Gas Law and Kinetic Theory
  - Thermodynamics
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### Part 5: Modern and Atomic Physics

To understand, compare, and, apply concepts related to

- Interference and the Wave Nature of Light
  - Special Relativity
  - Particles and Waves
  - The Nature of the Atom
  - Nuclear Physics and Radioactivity
  - Ionizing Radiation, Nuclear Energy, and Elementary Particles
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