

- **Speed of light** is constant in all frames of reference. (SPEED) (CONSTANT)
- **Time dilation** occurs when an object moves at a high speed relative to an observer. (TIME) (DILATION)
- **Length contraction** occurs when an object moves at a high speed relative to an observer. (LENGTH) (CONTRACTION)
- **Relativity of simultaneity** means that events that are simultaneous in one frame are not simultaneous in another. (RELATIVITY) (SIMULTANEITY)
- **Mass increases** as an object's speed approaches the speed of light. (MASS) (INCREASES)
- **Energy and mass are equivalent**. (E=mc²) (ENERGY) (MASS) (EQUIVALENT)
- **Spacetime is a four-dimensional continuum**. (SPACETIME) (CONTINUUM)
- **Gravity is the curvature of spacetime**. (GRAVITY) (CURVATURE) (SPACETIME)
- **Black holes are regions where spacetime is so curved that light cannot escape**. (BLACK HOLES) (SPACETIME) (CURVED)
- **General relativity predicts the bending of light by gravity**. (GENERAL RELATIVITY) (PREDICTS) (BENDING) (LIGHT) (GRAVITY)
- **The universe is expanding**. (UNIVERSE) (EXPANDING)
- **The Big Bang theory describes the origin of the universe**. (BIG BANG THEORY) (DESCRIBES) (ORIGIN) (UNIVERSE)
- **Dark matter and dark energy are mysterious components of the universe**. (DARK MATTER) (DARK ENERGY) (UNIVERSE)
- **String theory is a candidate for a theory of quantum gravity**. (STRING THEORY) (CANDIDATE) (THEORY) (QUANTUM) (GRAVITY)
- **Quantum entanglement is a phenomenon where particles are correlated**. (QUANTUM) (ENTANGLEMENT) (PHENOMENON) (CORRELATED)
- **The Standard Model of particle physics describes the interactions of elementary particles**. (STANDARD MODEL) (PARTICLE PHYSICS) (DESCRIBES) (INTERACTIONS) (ELEMENTARY) (PARTICLES)
- **Quantum mechanics is a fundamental theory of physics**. (QUANTUM MECHANICS) (FUNDAMENTAL) (THEORY) (PHYSICS)
- **The Schrödinger equation is a wave equation that describes the evolution of a quantum system**. (SCHRÖDINGER EQUATION) (WAVE EQUATION) (EVOLUTION) (QUANTUM) (SYSTEM)
- **Quantum tunneling is a phenomenon where particles can pass through a potential barrier**. (QUANTUM TUNNELING) (PHENOMENON) (PARTICLES) (POTENTIAL) (BARRIER)
- **The Heisenberg uncertainty principle states that the position and momentum of a particle cannot be known simultaneously with arbitrary precision**. (HEISENBERG UNCERTAINTY PRINCIPLE) (POSITION) (MOMENTUM) (ARBITRARY) (PRECISION)
- **Quantum entanglement is a phenomenon where particles are correlated**. (QUANTUM) (ENTANGLEMENT) (PHENOMENON) (CORRELATED)

Questions for Oral Answers

1. **What is the speed of light?** (SPEED) (LIGHT)
2. **What is time dilation?** (TIME) (DILATION)

