

Name \_\_\_\_\_

## Photon Play: The Dance of Light Particles

### Open-Ended Response Questions

1. Imagine you are a scientist researching the behavior of photons. Explain the significance of understanding wave-particle duality in the world of quantum physics and its practical applications.
2. Discuss the importance of photons in the field of telecommunications, particularly in the transmission of data using fiber-optic cables. How does the behavior of photons enable high-speed internet and clear phone calls?
3. Reflect on the role of photons in solar panels. How do they capture and convert sunlight into electricity, and why is this technology essential for renewable energy?
4. Consider the artistic representation of light and photons in various forms of media, such as paintings, photographs, and films. How do artists use the properties of light to create visual effects and convey emotions or narratives? Provide specific examples to support your answer.

