

Name \_\_\_\_\_

## Photon Play: The Dance of Light Particles

### Short Answer Key

1. Photons exhibit wave-like behavior through phenomena like interference. For example, when two beams of light overlap and their peaks align, they reinforce each other, creating a brighter light. This interference demonstrates the wave-like nature of photons.
2. The color of light is determined by the wavelength of photons. Longer wavelengths correspond to warmer colors like red, while shorter wavelengths correspond to cooler colors like blue and violet.
3. Photons interact with matter by being absorbed, reflected, or transmitted. In the case of vision, photons trigger chemical reactions in the cells of the retina, leading to the perception of objects.
4. One example of a technology relying on photons is laser technology, where photons are manipulated to produce coherent and intense beams of light. This technology is used in various applications, including laser surgery and barcode scanners.
5. Photons are called the "building blocks of light" because they are the smallest units of light and carry energy in the form of electromagnetic waves.

