

Interference

Apparatus

laser, slides with single and double slits

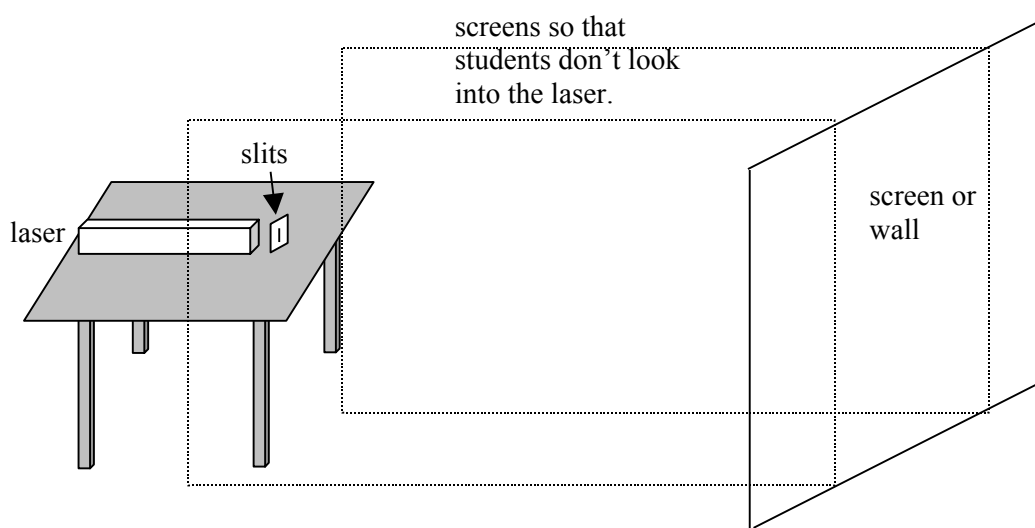
Action

The students use the laser to observe interference patterns.

The students are encouraged to draw diagrams showing why the interference pattern occurs.

The Physics

Waves passing through the two slits interfere to give a pattern of fringes, with spacing depending on wavelength and slit separation. The greater the slit separation, the closer together the fringes are. This shows the wave nature of light. Note that there are also diffraction effects visible.



Note: This is used with both the waves tutorials and the quantum tutorials.

Accompanying sheet

Interference

Observe the interference patterns with the laser and the double slits.

Sketch the pattern of intensity with position.

Why does this pattern occur?