Figure 3.5: A simulation of electrons arriving on a photographic plate, having passed through either a horizontal one slit (a) or two slit (b) barrier.

Figure 5.1: Time evolution of a Gaussian wavepacket for a free particle. Only the real part of the complex wavefunction is shown. To illustrate the motion we employ “periodic boundary conditions,” meaning that a classical particle moving past the left boundary reappears at the right boundary, and vice versa.
Figure 5.4: Evolution of a Gaussian wavepacket in an infinite square well.

(a) large scale  (b) close-up

Figure 8.7: Scattering of a wavepacket from a potential, $E > V_{\text{max}}$. (a) overview; (b) close to the potential well, slow-motion.
Figure 8.8: Scattering of a wavepacket from a potential, $0 < E < V_{\text{max}}$. (a) overview; (b) close to the potential well, slow-motion. Note, in (a), the sudden increase in amplitude of the wavepacket as it strikes the well. This is due to constructive interference between the incoming and reflected waves.

Figure 8.12: Scattering from a repulsive well with $\langle E \rangle < V_0$, illustrating the phenomenon of tunneling. (a) overview; (b) close to the potential well, slow-motion.

$y(x,t) = \int dq$ \hspace{1cm} \text{(a) large scale} \hspace{1cm} \text{(b) close-up}$

Figure 9.1: Any solution $y(x,t)$ of the wave equation (9.4) is a sum of plane waves $e^{iqx}$ whose amplitude, $Y(q, t)$, oscillates in time as a harmonic oscillator, with angular frequency $\omega_q = qv$. Quantizing a classical system obeying the wave equation amounts to quantizing an infinite number of uncoupled harmonic oscillators.
Figure 20.4: Tunneling in real time. The animation shows the evolution of (a) the real part of the wavefunction and (b) the probability density for a particle initially contained in a well. The height of the well is greater than the energy expectation value of the particle state, so classically the particle could never escape.

Figure 22.5: The $l = 0$ contribution to the total scattering cross section $\sigma_0$ from a thin shell potential of radius $r_0$, as a function of $kr_0$, which is proportional to incoming particle momentum. The animation shows how $\sigma_0$ vs. $kr_0$ changes as the strength of the thin shell potential, described by the dimensionless parameter $\alpha$, increases from $\alpha = 0$ to $\alpha = 5$. 
Figure 22.6: Same as Fig. (22.5), but for stronger potentials in the range $5 < \alpha < 50$. Note how “spikes” appear in an otherwise smooth plot of scattering cross section, as the potential strength increases.

Figure 22.7: Closeup of the development of one peak in $\sigma_0$ vs. $kr_0$, for the range $10 < \alpha < 100$. As $\alpha \to \infty$, the peak tends to zero width, and approaches the value $kr_0 = \pi$ corresponding to a bound state in an infinite spherical well.