## Physics for the IB Diploma Programme



Simulation title	Link	Chapter	Aim	Instructions	Extra features
PhET: Bending light	<u>https://phet.colorado.edu/en/simulations/bending-</u> light	C.3	To be able to measure angles of incidence, reflection and refraction and link these to relative refractive indices.	This simulation is a refraction playground. You can vary the refractive indices of the media in which the ray is both incident and refracted, you can observe either rays or wavefronts, and you can become familiar with measuring the appropriate angles for different object shapes. A virtual experiment can be carried out into how the angles of incidence and refraction are related, how to find the critical angle or dispersion of wavelengths in a prism.	Under <b>More Tools</b> you can explore the very slight change in refractive index for different wavelengths of light when the two media have the greatest possible disparity in absolute refractive indices. You can also explore the ratios of intensities of refracted and reflected rays.
PhET: Ripple tank - wave interference	https://phet.colorado.edu/en/simulations/wave- interference	C.3	To know what diffraction and interference are, and how diffraction at two slits can result in an interference pattern.	All <b>four tabs</b> offer visual representations of wave phenomena: <b>Waves</b> for comparing the features of water, sound and light waves, <b>Interference</b> for displaying the screen intensity and seeing how the bright and dark fringes form, <b>Slits</b> to investigate the factors in Young's double slit equation and <b>Diffraction</b> to observe the rings that form	Alternative diffraction aperture shapes are available.

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		when a wave is diffracted	
		through a circular aperture.	