**Study Notes for Topic 1) Waves, Particles and Energy Transfer**

|  |  |  |
| --- | --- | --- |
| 1. **Explain, in terms of the particle model, the processes underlying convection and conduction of heat energy.** | | |
| 1. define the terms conduction and convection |  | |
| 1. recall the arrangement and behaviour of particles in a solid, liquid and gas (particle model) |  | |
| 1. using the particle model explain the processes which allow heat to be transferred by conduction and convection |  | |
| 1. give examples of heat transfer by conduction and convection |  | |
| 1. WS - design your own experiment (Questioning and Predicting) |  | |
| 1. **Describe** [**qualitatively**](http://syllabus.bos.nsw.edu.au/glossary/sci/qualitative/?ajax)**, using the wave model, the features of waves including wavelength, frequency and speed** | | |
| 1. describe the properties of a wave |  | |
| 1. compare longitudinal waves and transverse waves, providing an example of each |  | |
| 1. draw a wave diagram, labelling the wavelength and amplitude |  | |
| 1. define the frequency and speed of a wave |  | |
| 1. given diagrams identify the wave with the greatest wavelength, frequency and amplitude |  | |
| 1. Solve problems using the wave equation |  | |
| 1. **Explain, using the particle model, the transmission of sound in different mediums.** | | |
| 1. classify a sound wave as a longitudinal wave |  | |
| 1. link volume and pitch to the amplitude and frequency of a sound wave |  | |
| 1. using the particle model, explain why sound doesn’t travel through a vacuum and travels fastest through a solid |  | |
| 1. identify and label the main parts of the ear: outer ear, eardrum, ossicles, cochlea, auditory nerve |  | |
| 1. describe how energy is transferred/transformed in the ear |  | |
|  | |  |
|  | |  |
|  | |  |