CiE iGCSE Physics 0625 Learning Plan

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| **Section 18: Reflection and Refraction**  |
| Specification | Resources | Assessment |
| **Core**Describe the formation of an optical image by a plane mirror, and give its characteristics • Recall and use the law angle of incidence = angle of reflectionDescribe an experimental demonstration of the refraction of light • Use the terminology for the angle of incidence i and angle of refraction r and describe the passage of light through parallel-sided transparent material • Give the meaning of critical angle • Describe internal and total internal reflectionDescribe the action of a thin converging lens on a beam of light • Use the terms principal focus and focal length • Draw ray diagrams for the formation of a real image by a single lens • Describe the nature of an image using the terms enlarged/same size/diminished and upright/inverted**Supplement**Describe the formation of an optical image by a plane mirror, and give its characteristics • Recall and use the law angle of incidence = angle of reflectionRecall and use the definition of refractive index n in terms of speed• Recall and use the equation sin I / sin r=n• Recall and use n = n = 1 / sin c• Describe and explain the action of optical fibres particularly in medicine and communications technologyDraw and use ray diagrams for the formation of a virtual image by a single lens • Use and describe the use of a single lens as a magnifying glass • Show understanding of the terms real image and virtual image | Video: Physics – Section 3 – Properties of waves – Lesson 2 – Reflection and refractionPowerpoint: Physics 18 – Reflection and refractionTextbook Pages 142-143; Reflection in plane mirrors (1)Pages 144-145; Reflection in plane mirrors (2)Pages 146-147; Refraction of lightPages 148-149; Total internal reflectionPages 150-151; Refraction calculationsPages 152-153; Lenses (1)Pages 154-155; Lenses (2)Section 18 checklist.doc  | TextbookPage 143 – Questions 1 and 2Page 145 – Question 1Page 147 – Questions 1 to 3Page 149 – Questions 1 to 3Page 151 – Questions 1 to 3Page 153 – Questions 1 to 3Page 155 – Questions 1 to 3Textbook answers – page 329Talking paper – CiE Physics Section 18 – Reflection and refractionSection 18 Exam Question –. (pdf)Section 18 Exam Question – Mark Scheme. (pdf) |

Videos – www.igcsesciencecourses.com

Textbook Ref: Complete Physics for Cambridge iGCSE (Stephen Pople) - OUP

DVD Assessments – see resource DVD in textbook.