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 reflection  Describe 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 reflection  Describe 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 reflection  Recall 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 technology  Draw 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 refraction  Powerpoint: Physics 18 – Reflection and refraction  Textbook  Pages 142-143; Reflection in plane mirrors (1)  Pages 144-145; Reflection in plane mirrors (2)  Pages 146-147; Refraction of light  Pages 148-149; Total internal reflection  Pages 150-151; Refraction calculations  Pages 152-153; Lenses (1)  Pages 154-155; Lenses (2)  Section 18 checklist.doc | Textbook  Page 143 – Questions 1 and 2  Page 145 – Question 1  Page 147 – Questions 1 to 3  Page 149 – Questions 1 to 3  Page 151 – Questions 1 to 3  Page 153 – Questions 1 to 3  Page 155 – Questions 1 to 3  Textbook answers – page 329  Talking paper – CiE Physics Section 18 – Reflection and refraction  Section 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.