

QUESTION:

The critical angle for total internal reflection at an air - water interface is approximately 48 degrees. In which of the following situations will total internal reflection occur.

- A. light incident in water at 40 degrees
- B. light incident in water at 55 degrees
- C. light incident in air at 40 degrees
- D. light incident in air at 55 degrees

SOLUTION:

Total internal reflection is the reflection of the total amount of incident light at the boundary between two media. It occurs when light wave crosses a boundary between materials with different kinds of refractive indices and travels from a medium with a higher (in this case it is water) to one with a lower refractive index (in this case it is air). So, if the angle of incidence is greater than the critical angle total internal reflection occurs.

Hence the answer is **B**

ANSWER:

B