

# WJEC Wales Physics GCSE

## 1.6 - The Total Internal Reflection of Waves

### Flashcards

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# What does TIR stand for?



What does TIR stand for?

Total Internal Reflection



What form of communications make use of TIR?



What form of information transfer makes use of TIR?

Optical fibres (aka fibre optic technology).



Give two uses for optical fibres.



Give two uses for optical fibres.

1. High-speed internet connections
2. Endoscopes (medical diagnosis tool)



What condition relating to the incident angle of the wave, must be met for TIR to occur?





What condition relating to the incident angle of the wave, must be met for TIR to occur?

The angle of incidence must be greater than the critical angle.



# What is the critical angle?



## What is the critical angle?

The angle beyond which the wave will be fully reflected at the boundary between two mediums.



What is the critical angle in terms of angles of incidence and refraction?



What is the critical angle in terms of angles of incidence and refraction?

The critical angle is the angle of incidence which produces a 90 degree angle of refraction.



# What is a CT scan?



## What is a CT scan?

Computerised Tomography Scan.

A medical scanner that uses X-rays to form detailed images of the inside your body used for medical diagnosis.



Give two advantages of a CT scan over endoscopy.





Give two advantages of a CT scan over endoscopy.

1. CT scans are non-invasive so don't involve the insertion of equipment into the body.
2. CT scans can produce more detailed images of organ internals.



Give an advantage of endoscopy over a CT scan.



Give an advantage of endoscopy over a CT scan.

Endoscopy doesn't involve exposure to X-ray radiation, which in large doses can cause harm to body cells.

