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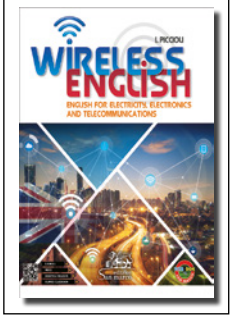
WIRELESS ENGLISH
English for Electricity, Electronics and Telecommunications



Sending light through water, an experiment

In 1870, physicist John Tyndall demonstrated that light could be transmitted through a curved stream of water, proving that a light signal could be bent.
This experiment is a recreation of that famous scientific demonstration.

What you need

- A torch
- Some black electrical tape
- An empty and clean food jar
- Some water
- A hammer
- A nail

Instructions

- Fill the jar with water and put the lid[1] on tightly.
- Tape the bottom of the jar to the torch.
- Make two holes in the lid with the hammer and nail.
- Switch off all the lights and switch on the torch.
- Start to pour the water out of the jar through one of the holes.

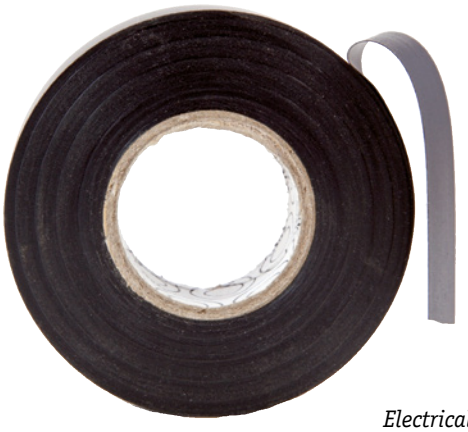
What's happening?

You will see some light escaping from the hole. You will also see some light escaping from the stream of water. Some of the light travelling inside the glass tube is also internally reflected and lights up the bottom of the jar.
In fibre optics light is transmitted through long fibre rods[2] of either glass or plastics. The light travels by a process of internal reflection.
The sides of the fibre act very much like the sides of the water stream, reflecting the light back and forth inside.

GLOSSARY

1 cap
2 bars

A torch.



Electrical tape.

A hammer.

A jar.