

# AQA Physics GCSE

## RP09 - Light

### Flashcards



Outline the basic steps of the practical.



## Outline the basic steps of the practical.

1. Draw a straight line and a line normal to it in the centre of the paper
2. Place the block along the main line and shine the ray light at the position where the normal meets the box
3. Mark with crosses the incoming, and any outgoing rays of light
4. Turn lights on and measure the angles of incidence, reflection and refraction



What tool should be used to help draw the normal line on the sheet of a paper?



What tool should be used to help draw the normal line on the sheet of a paper?

A set square or protractor to ensure that the angle is at a right angle to the main line.



What precautions should be taken to use the ray box safely?



What precautions should be taken to use the ray box safely?

- Don't touch any metal parts since the box gets very hot when in operation
- Switch off when not in use to prevent overheating



What conditions are needed for this experiment?





What conditions are needed for this experiment?

Low lighting is needed so that the rays are visible.



What three angles should you measure after you have marked the lines on the paper? How?



What three angles should you measure after you have marked the lines on the paper? How?

1. Angle of incidence
2. Angle of reflection
3. Angle of refraction

Using a protractor.



Which angle is the angle of incidence?



Which angle is the angle of incidence?

The angle as measured between the incident (incoming) ray and the normal.



Which angle is the angle of reflection?



Which angle is the angle of reflection?

The angle as measured between the reflected ray and the normal.



# What is the normal?





# What is the normal?

Any line perpendicular to the surface of the mirror.



# How do you draw the refracted ray?



## How do you draw the refracted ray?

Connect the point where the ray entered the block and the point where the ray left the block on the other side with a straight line.



What does theory suggest about the angle of **refraction** for different materials?



What does theory suggest about the angle of refraction for different materials?

It should be different for each material depending on its refractive index.



What does theory suggest about the angle of incidence and the angle of **reflection**?



What does theory suggest about the angle of incidence and the angle of reflection?

The angle of incidence should be the same as the angle of reflection.

