



**Science Revised Syllabus
Junior Certificate
Higher Level**

**Past Exam Questions on
P Light**

Q7 Part (f) 2013

(f) (i) What happens to white light when it is dispersed?

What? _____

(ii) What part of white light is refracted most by a triangular prism?

What? _____

Q7 Part (c) 2012

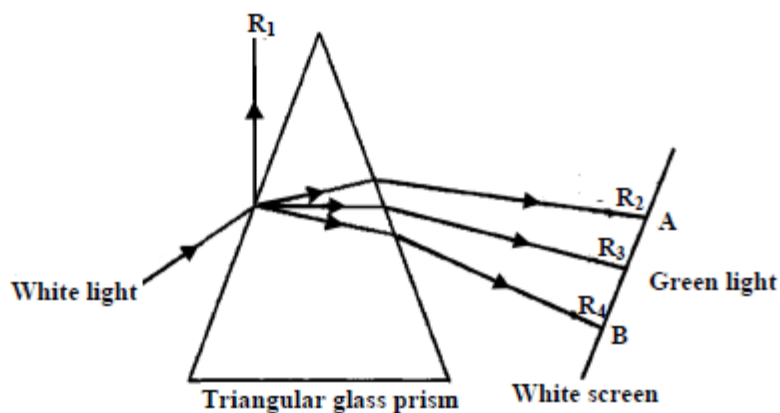
(c) What causes the appearance of a 'second' drinking straw in the drink in the glass shown in the photograph?

What? _____



Q8 Part (a) 2011

- (a) A narrow beam (ray) of white light is directed onto a triangular glass prism as shown in the diagram.



The paths of four rays: R_1 , R_2 , R_3 and R_4 produced from this ray of white light are shown in the diagram.

- (i) Ray one (R_1) is deflected off the prism as shown in the diagram. What word is used to describe the deflection of ray one (R_1)? (3)

- (ii) Rays two, three and four (R_2 , R_3 , and R_4) enter and leave the prism and change direction each time. What is this change of direction of light called? (3)

- (iii) A single ray of white light enters the prism and a band of light of many colours leaves the prism. Just three of the emergent rays are shown in the diagram. The coloured rays are produced from the white light. What is this separation of white light into coloured light called? (3)

- (iv) Give the colour of light that can be seen at the extreme ends A and B on the white screen. (6)

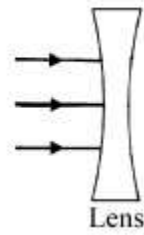
A _____ B _____

- (v) Name a natural phenomenon that produces a band of coloured light from sunlight. (3)

Name _____

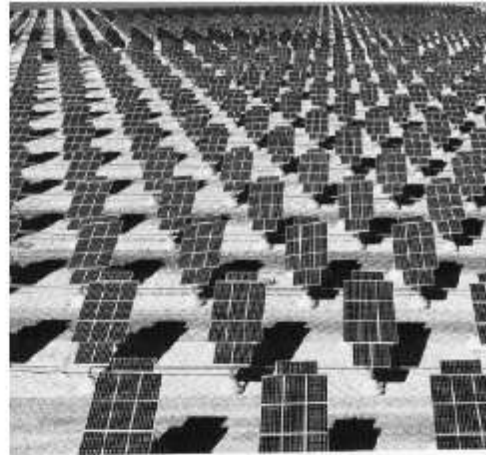
Q7 Part (c) 2010

- (c) The diagram shows three narrow beams of light (rays) hitting a lens. Draw **one ray** that passes through the lens *without refraction* and **one ray** that is *refracted* by the lens in the diagram.



Q9 Part (a) and (b) 2010

- (a) The photograph shows part of a very large array of photovoltaic cells that convert light, from the sun, directly into electrical energy.



Light, from the sun is a renewable source of energy.

Ireland only uses about 2% renewable sources to meet current energy needs.

- (i) Name two *renewable energy sources*, excluding sunlight, that are available in Ireland. (6)

Source one _____

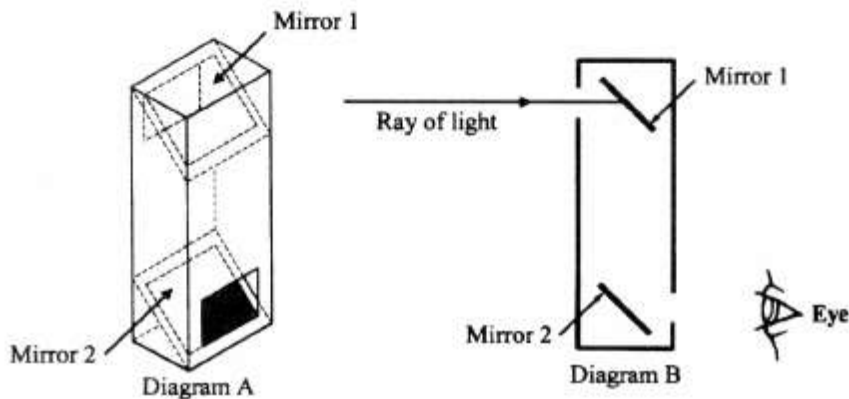
Source two _____

- (ii) Give two *benefits* that Ireland would get from increasing the use of renewable energy sources to meet our energy requirements. (6)

Benefit one _____

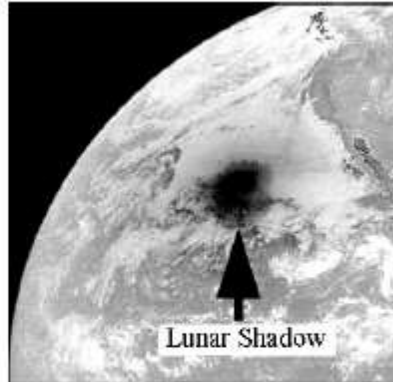
Benefit two _____

- (b) (i) Diagram A is of a simple periscope. Complete diagram B *showing the reflections of the ray of light at both mirrors*. (6)



Q7 Part (e) 2009

(e) The photograph, taken from a satellite above the earth, shows the shadow of the moon on the earth's surface.



(i) Where does the *light* falling on the earth's surface come from?

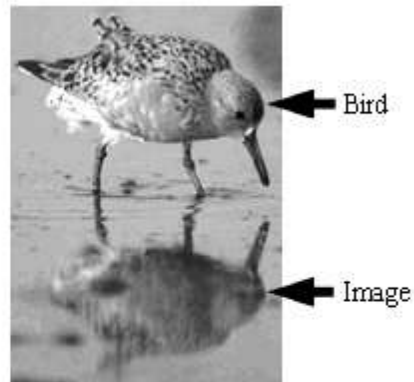
Where? _____

(ii) What *property of light* enables the formation of shadows?

What? _____

Q7 Part (g) 2008

(g) The photograph shows a wader i.e. a bird that feeds in shallow water. Is the *image* of the bird produced by *reflection* or by *refraction*? Give a *reason* for your answer.



Is? _____

Reason _____

Q8 part (b) 2008

(b) The photograph shows narrow beams of light (rays) passing through a lens-shaped piece of transparent material. *Parallel rays of light enter the material from the left and when they leave the material they converge and pass through a common point*, before moving apart.

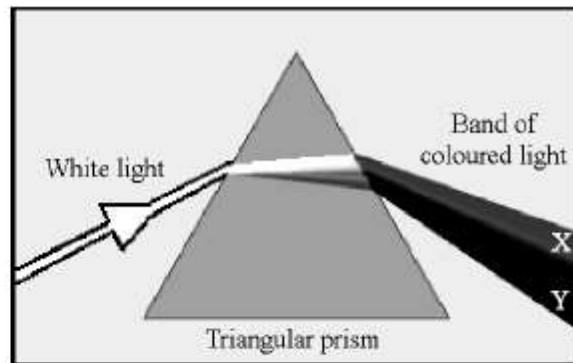


Give a *use* for a lens having this effect on light.

(3)

Q8 Part (c) 2008

- (c) The diagram shows a ray of white light entering a triangular glass prism. The light passes through the prism and emerges as a band of coloured light.



- (i) What does this experiment *show* about the *composition of white light*? (3)

- (ii) What is this *separation* of white light into different colours called? (3)

- (iii) What *name* is given to the *band* of coloured light produced? (3)

- (iv) State the *colour of the light labelled X* and the *colour of the light labelled Y* at the extreme ends of the band of light illustrated in the diagram. (6)

X _____

Y _____

Q7 Part (e) 2007

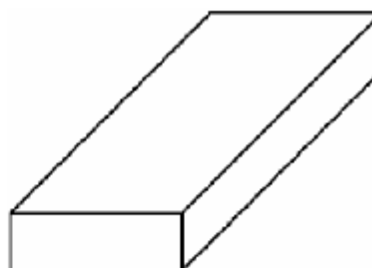
- (e) Thunder and lightning occur during electric storms. Explain why we *see* the lightning *before* we *hear* the thunder.

Why? _____



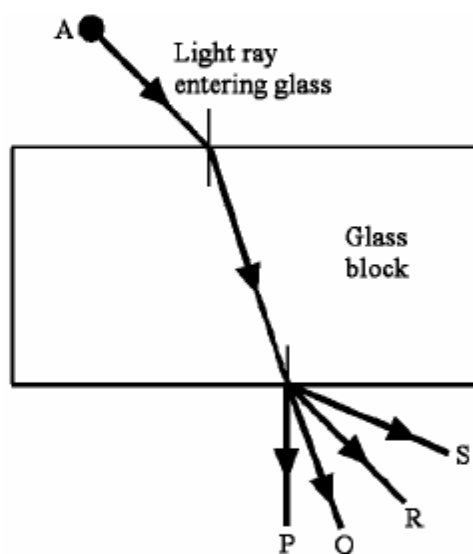
Q9 Part (a) 2007

- (a) A glass block like the one shown in the diagram was used in an experiment in which a narrow beam (ray) of light was shone through it. The light passed from air to glass, on entry, and glass to air, on exit.



The path of this light ray is shown in the second diagram.

The light ray from A bends both on entering and on leaving the glass block.



- (i) What is this *bending of light* called? (3)

What? _____

- (ii) Pick, from 'rays' P, Q, R or S the path taken by the light ray leaving the glass. (3)

Ray _____

- (iii) Give an *application* of this bending of light. (3)

Application _____

- (iv) Name *another way* in which the direction of a light ray can be changed. (3)

Name _____

Q7 Part (d) 2006

- (d) What is *refraction* of light?

Give an everyday example of an effect caused by refraction.

What? _____

Example _____

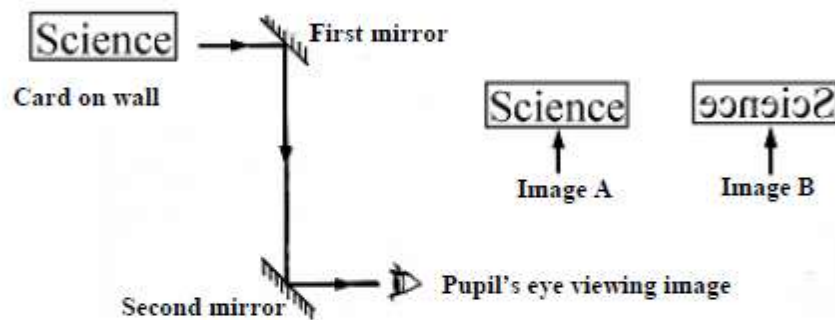
Q8 Part (a) 2006

- (a) (i) Why is the word **Ambulance** painted in reverse on the front of many ambulances? (3)

Why? _____



- (ii) A pupil made a *simple periscope* using two plane (flat) mirrors. The mirrors were arranged as shown in the diagram. The pupil looked through the periscope at the word 'Science' written on a card pinned to the laboratory wall.



Did the pupil see **image A** or **image B** when she looked through the periscope? Give a *reason* for your answer. (9)

Image? _____

Reason _____
