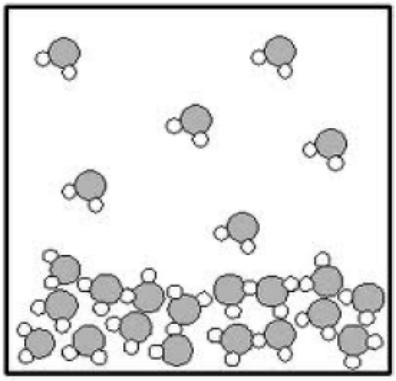
Revision Questions – First Year Physics

The diagram shows the evaporation of water.
What is evaporation?



What? _____

_____

What do water molecules have to gain in order to evaporate from liquid water?

What? _____

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

What? _____

_____

_____

The conversions of chemical energy to kinetic energy to potential energy occurs when you walk up a stairs. Give two more everyday examples of energy conversions and the contexts in which they occur.

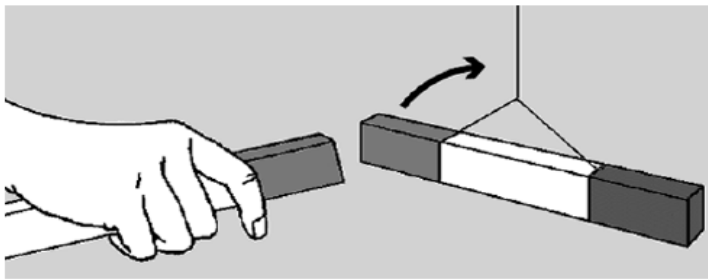
1 _____

_____

2 _____

_____

The diagram shows the interaction between two magnets. Explain why this happens. (6)

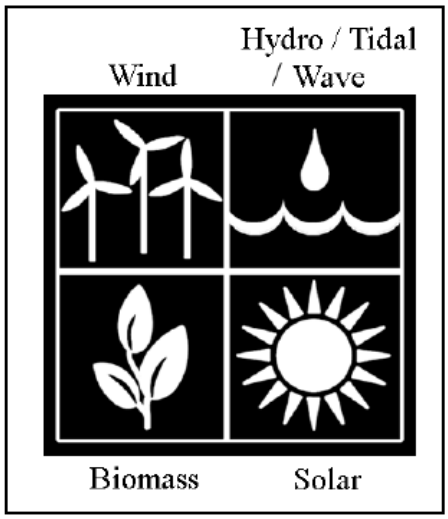


Explain _____

_____

_____

Renewable energies are shown in the picture.



Pick any two of the energies shown in the picture and name your selection.

Energy one _____

Energy two _____

(*i*) Give one advantage associated with each energy you've selected.
Two **different** reasons must be given.

Energy one _____

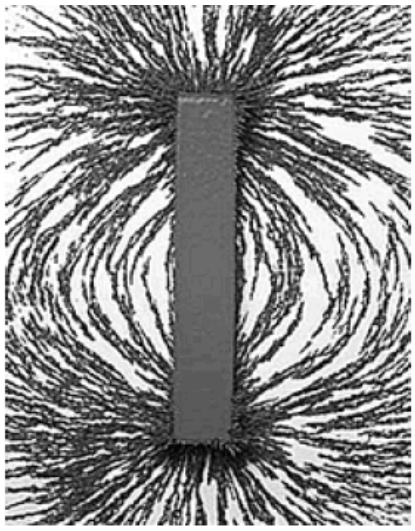
Energy two _____

(*ii*) Give one disadvantage associated with each energy you've selected.
Two **different** reasons must be given.

Energy one _____

Energy two _____

What causes the iron filings to form the pattern around the magnet seen in the photograph?



What? _____

_____

How would you determine the position of the north pole of the magnet?

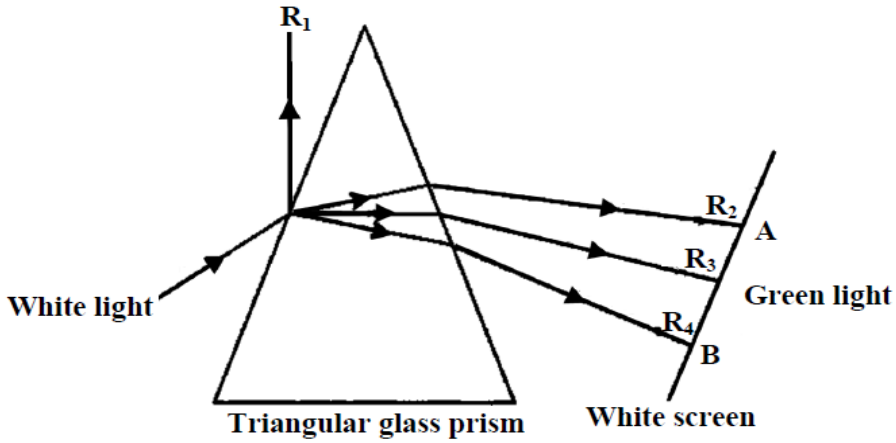
How? _____

Describe a simple experiment to show that sound is a form of energy.

Describe _____

_____

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** _____

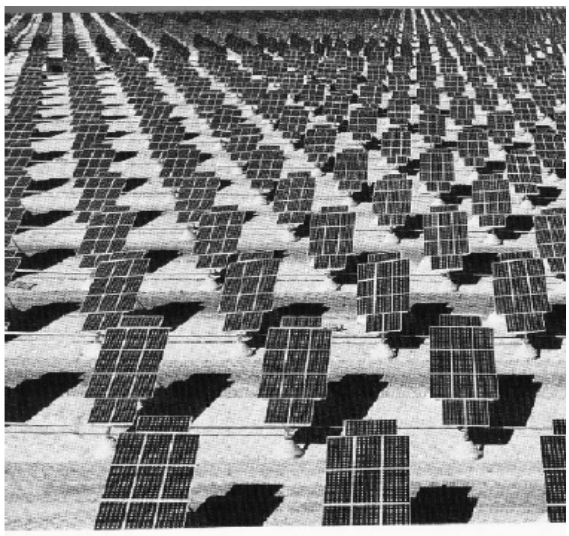
(*v*) Name a natural phenomenon that produces a band of coloured light from sunlight. (3)

Name _____

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. (

Source one _____

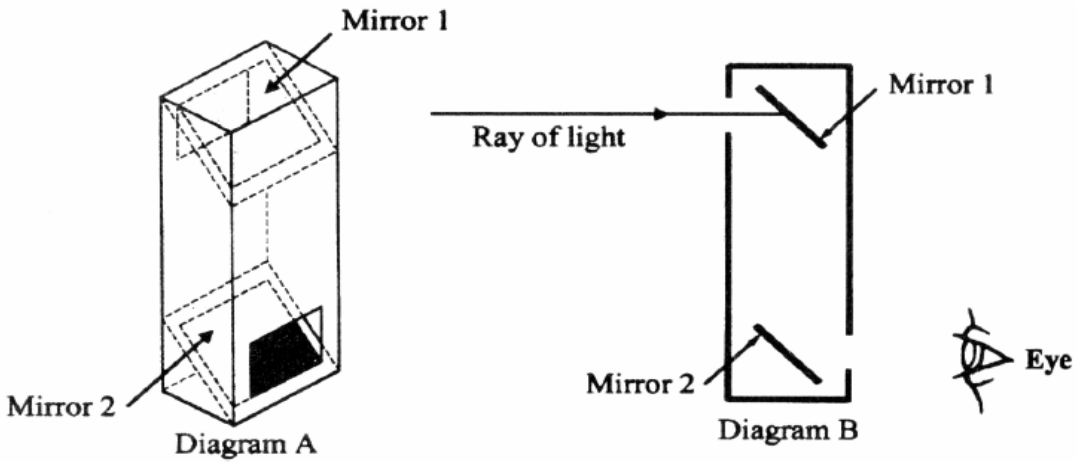
Source two _____

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

Benefit one _____

Benefit two _____

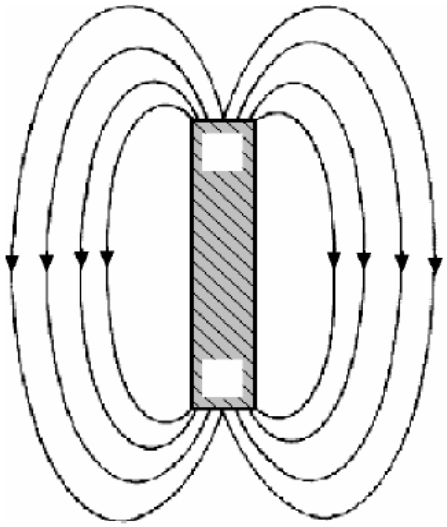
(*i*) Diagram A is of a simple periscope. Complete diagram B ***showing the reflections of the ray of light at both mirrors***. (



(*ii*) Give **one *use*** for a periscope. (3)

Give _____

The diagram shows a bar magnet with magnetic field lines on both sides.



(*i*) Label the ***north pole*** (N) ***or*** the ***south pole*** (S) of the magnet in the diagram. (3)

(*ii*) What information is given by the arrows on the magnetic field lines? (3)

What? _____

_____

(*iii*) Describe, using a labelled diagram in the box provided, a simple experiment to show that ***like magnetic poles repel each other***. (6)

_____

_____

_____

_____

_____

_____

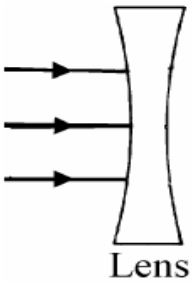
(*iv*) Name a ***material*** that is attracted by magnets. (3)

Name _____

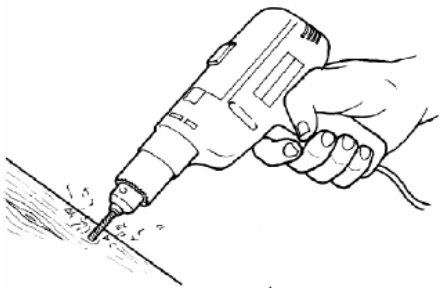
(*v*) How would you ***show*** that the Earth exerts ***magnetic forces***? (3)

How? _____

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.



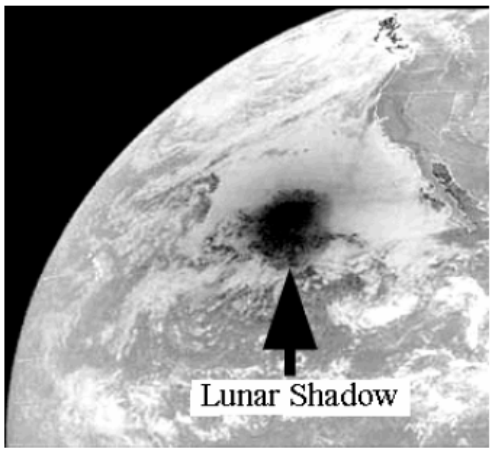
Give ***two <u>useful</u> energy conversions*** that occur when the drill shown in the diagram is being used.



(*i*) _____

(*ii*) _____

The photograph, taken from a satellite above the earth, shows the shadow of the moon on the earths surface.



(*i*) Where does the ***light*** falling on the earths surface come from?

Where? _____

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

What? _____

What causes an ***echo***?

What? _____