8J Light- Revision Worksheet

Describe the differences between a **light wave** and a **sound** wave.

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In the table below, describe what happens to **light** when it comes into contact with the following **surfaces**.

Transparent	
Translucent	
Opaque	

State the type of lines **light** travels in.

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Describe how a **pinhole camera** works.

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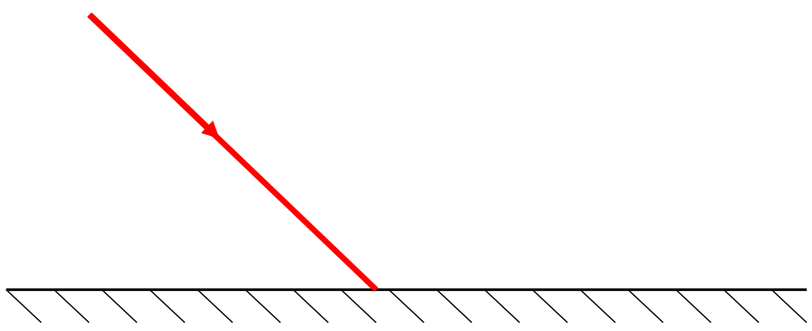
On the diagram below, draw what happens to the **ray** of **light** when it hits the **mirror**. Label the **incident** ray, the **normal**, the **reflected** ray, the **angle of incidence** and the **angle of reflection**.



Describe what is meant by the **law of reflection**.

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Describe what is meant by **specular reflection**.

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Describe what is meant by **diffuse reflection** and why it happens.

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Draw the **light rays** below to explain how we can see objects in a **mirror**.

State the three rules of an image in **mirror**.

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Explain how **mirrors** could be used to look around corners.

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State what **lenses** do to **light** as it passes through them.

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Define the term **refraction**.

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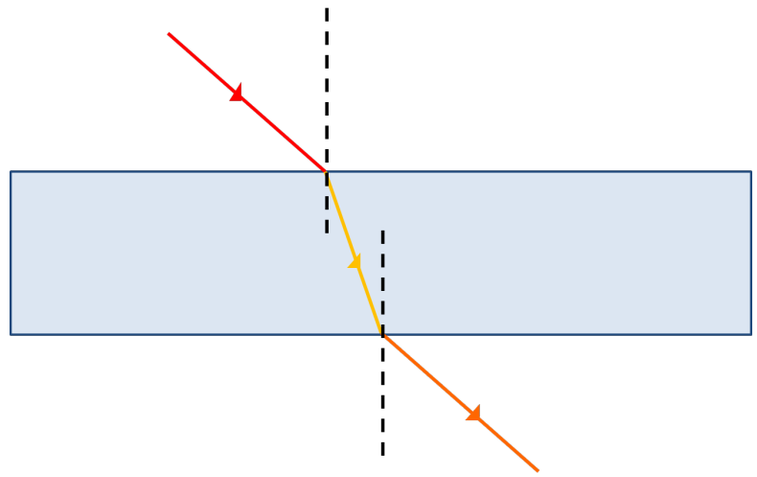
On the diagram below, label the **normal**, **angle of incidence**, **angle of refraction**, **refracted ray** and **glass** block.



Explain what happens to **light** as it travels through a **glass** block.

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Define the following key terms:

Lens	
Converging Lens	
Focal Point	
Focal Length	

Explain how **digital cameras** work.

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Explain how **eyes** work.

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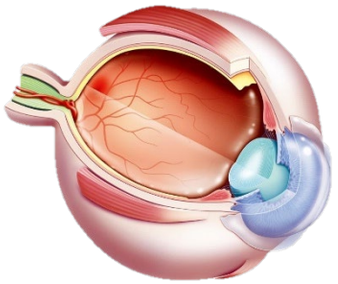
Label the **iris**, **pupil**, **lens**, **cornea**, **optic nerve** and **retina** on the **eye** diagram below.



State the role of the **rod cells**.

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State the role of the **cone cells**.

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Describe how **cyan**, **yellow** and **magenta colours** can be made.

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Describe what **white light** is and how it can be **separated**.

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From most **refracted** to least, state the **colours** in the visible **light spectrum**.

- ○
- ○
- ○
- ○
- ○
- ○
- ○

Explain why an object appears **blue** when you look at it.

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Explain why **white** and **black** objects appear as the colour they do.

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Describe what a **filter** is and what it does to **white light**.

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Rate the following on how well you think you can do them:



I can…

- ☐ Compare light and sound waves.
- ☐ Describe what happens to light when it hits different surfaces.
- ☐ Describe how to demonstrate that light travels in straight lines.
- ☐ Explain why agreed conventions are used in diagrams.
- ☐ Use the correct names for rays reaching and leaving a mirror and the angles between them and the normal.
- ☐ Use ray tracing to investigate mirrors.
- ☐ Describe how mirrors and rough surfaces reflect light.
- ☐ Describe how an image is formed in a mirror using a ray diagram.
- ☐ Recall some uses of lenses.
- ☐ Describe how light changes direction at the interface of two different surfaces.
- ☐ Use a model to explain how lenses work.
- ☐ Recall parts of cameras and eyes and state their functions.
- ☐ Describe some ways in which the energy transferred by light leads to chemical or electrical effects.
- ☐ Prepare a presentation using a mixture of texts, diagrams, charts and graphs.
- ☐ Choose a suitable method of presenting information for a given audience.
- ☐ Evaluate different ways of presenting the same information.
- ☐ Describe how to make a spectrum.
- ☐ Explain why coloured objects appear coloured.