

Grade 8: Light and Optics

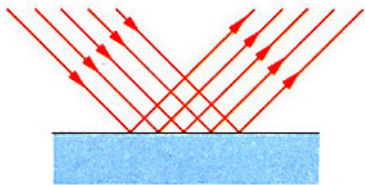
Topic 2: Reflections

Dr. Pineda

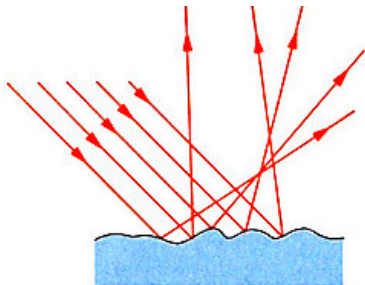
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Reflection

Process in which light strikes a surface and bounces back off that surface.



Specular reflection



Diffuse reflection

Specular vs. Diffuse Reflection

Specular reflection: Mirror-like reflection of light from a surface, in which light from a single incoming direction (a ray) is reflected into a single outgoing direction. A smooth surface will have all light reflect together and form a clear image

Diffuse reflection: Reflection of light from a surface such that an incident ray is reflected at many angles rather than at just one angle as in the case of specular reflection. A rough surface will scatter light and will not form a clear image

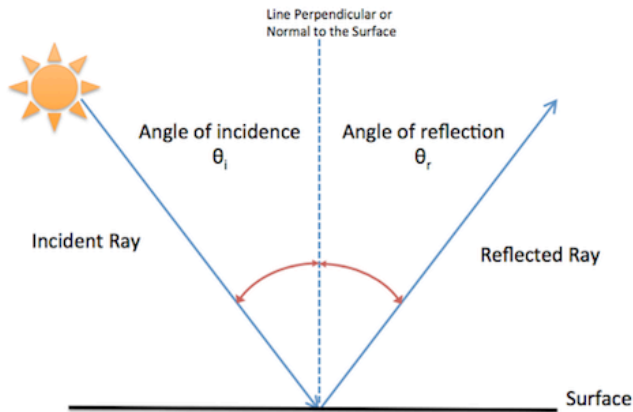
Scientific Law

- ▶ A scientific law is a statement of a pattern that has been observed and tested again and again with the same results each time.
- ▶ Scientific laws do not explain why we see a pattern.



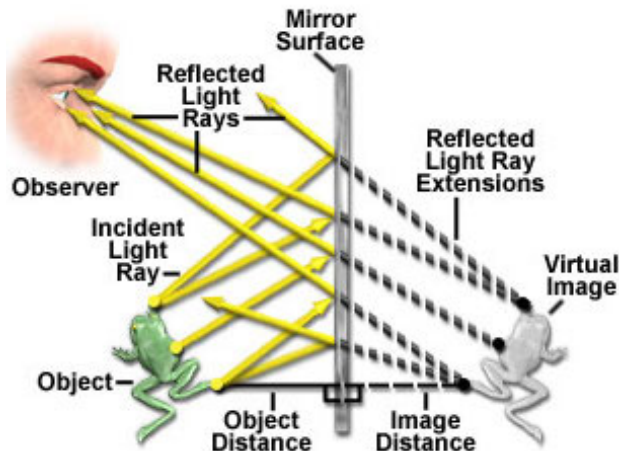
Law of Reflection

- ▶ Angle of incidence equals the angle of reflection
- ▶ The incident and reflected rays and the normal are all on the same plane



Law of reflection - the angle of incidence, θ_i is equal to the angle of reflection, θ_r .

How do we see reflections?



How do we see reflections?

The distance between object and plane (mirror surface) is same as distance between plane and virtual image.

Concave vs. Convex Surfaces

Concave: The surface "caves" inwards

Convex: The surface pushes or bulges outwards



Paragraphs of Text I

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Paragraphs of Text II

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$$x = \frac{1}{\pi}$$

Bullet Points

- ▶ Lorem ipsum dolor sit amet, consectetur adipiscing elit
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Blocks of Highlighted Text

Block 1

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Block 2

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This is a Block

This is important information

This is an Alert block

This is an important alert

This is an Example block

This is an example

Multiple Columns

Heading

1. Statement
2. Explanation
3. Example

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Table

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Theorem

Theorem (Mass–energy equivalence)

$$E = mc^2$$

Example (Theorem Slide Code)

```
\begin{frame}  
\frametitle{Theorem}  
\begin{theorem}[Mass--energy equivalence]  
$E = mc^2$  
\end{theorem}  
\end{frame}
```

Figure

Uncomment the code on this slide to include your own image from the same directory as the template .TeX file.

Citation

An example of the `\cite` command to cite within the presentation:

This statement requires citation [Smith, 2012].

References



John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.