

Physics Review

Light and the Electromagnetic Spectrum

- Define optics.
- Is light a wave or a particle?
- List and provide uses for the various types of waves present on the electromagnetic spectrum.
- What is the speed of light?
- What is the difference between reflection and refraction?

Ray Model of Light

- List and describe the three types of objects that light can strike.
- Draw a ray diagram that contains a plane mirror, a normal, and angle of incidence.
- How might you predict the angle of reflection.
- What are the two laws of reflection.
- Contrast diffuse and specular reflection. Give an example of each.

Images in a Plane Mirror

- Contrast real and virtual images.
- What does SALT stand for? Why do we use it?

Refraction

- How does changing medium affect speed of light
- Light travels through a medium at 2.25×10^9 , what is the index of refraction for that medium?
- What is total internal reflection and how does it work?

Images in a Curved Mirrors and Lenses

- Locate C, F, and the primary axis.
- Contrast concave and convex mirrors/ lenses
- Why is a concave mirror/lens also called a converging mirror/lens?
- What are the 4 incident ray rules for mirrors? What are the 3 incident ray rules for lenses?
- Draw a ray diagram to show how to locate an image in a concave mirror /lens when the object is beyond C. Use SALT to describe.
- Draw a ray diagram to show how to locate an image in a concave mirror /lens when the object is at C. Use SALT to describe.
- Draw a ray diagram to show how to locate an image in a concave mirror /lens when the object is between C and F. Use SALT to describe.
- Draw a ray diagram to show how to locate an image in a concave mirror/lens when the object is at F. Use SALT to describe.
- Draw a ray diagram to show how to locate an image in a concave mirror /lens when the object is before F. Use SALT to describe.
- Draw a ray diagram showing how to locate an image in a convex mirror/lens. Use SALT to describe the image.
- Be able to use the thin lens equation to locate d_i , d_o , h_i , h_o , f , or magnification (equations will be provided)

The Eye

- List and describe the different parts of the eyeball.
- How does the eye accommodate for varying distances?

SNC 2D

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- Describe how the lens in our eye locates an image. What does this image look like(SALT)?
- Why are some people considered to be near sighted? Is this a 'short' or 'long' eyeball? How is it corrected?
- What are some people farsighted? Is this a 'short' or 'long' eyeball? How is it corrected?