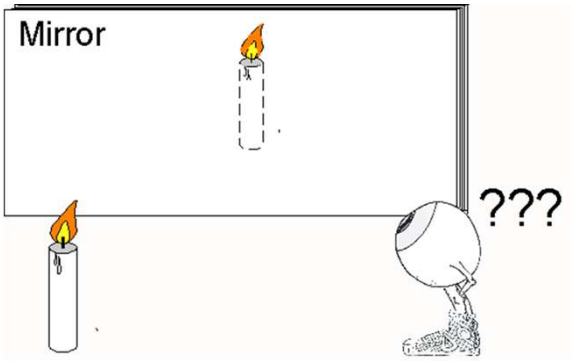
Seeing Things in Mirrors

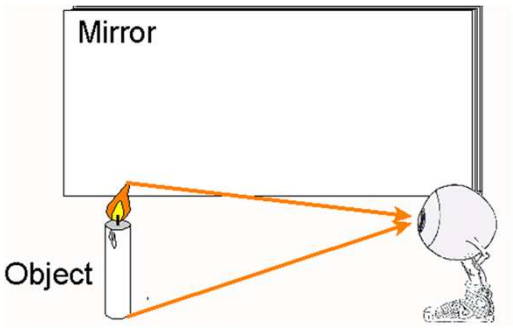
Plane Mirrors

- **How do we see things in a plane (flat) mirror?**
- **Thoughts?**



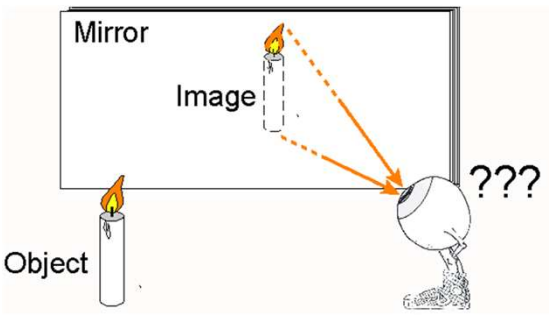
Seeing the Object

- We see the object when looking directly at it because rays of light go from the object into our eyes
- Experience has trained our eyes that things are located in the direction the light comes from



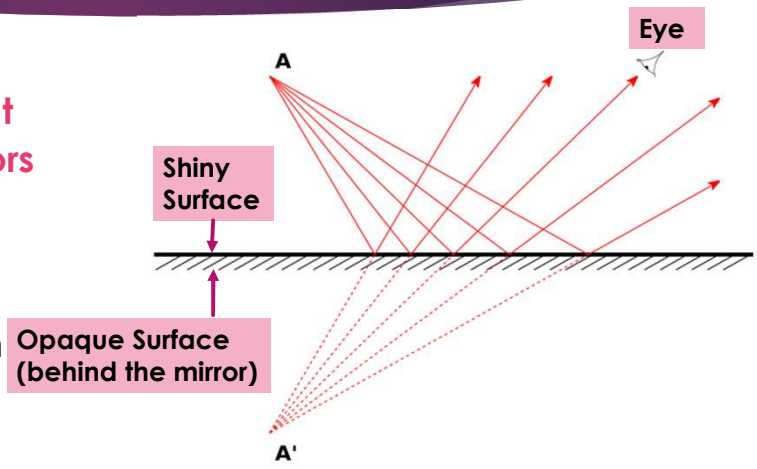
Seeing the Image

- When we look in the mirror, we see an Image of the object.
  - Rays of light must be coming straight from what we see in the mirror (the image) into our eyes.



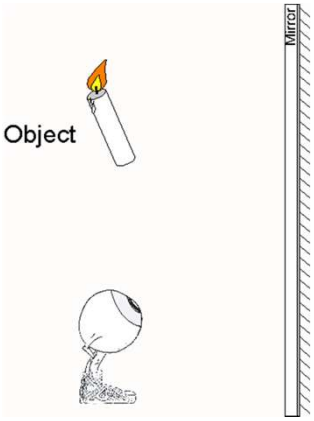
What's a Mirror?

- Mirrors have a shiny layer that reflects light
- We see things in mirrors because our brain THINKS the light is coming from behind the mirror!
  - Recall: triangulation estimation for distance



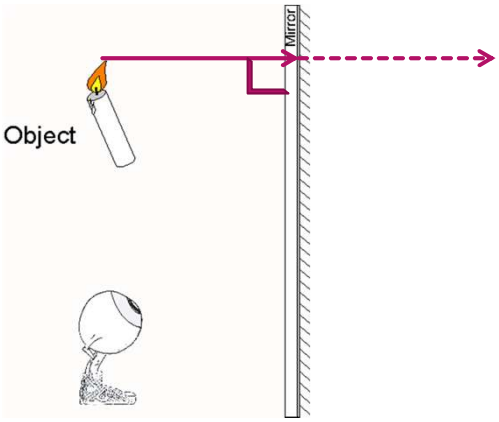
Locating an Image

- We use ray diagrams to show where the object appears to originate from
  - what eyeball thinks he sees
- Follow along by drawing the rays on your diagram



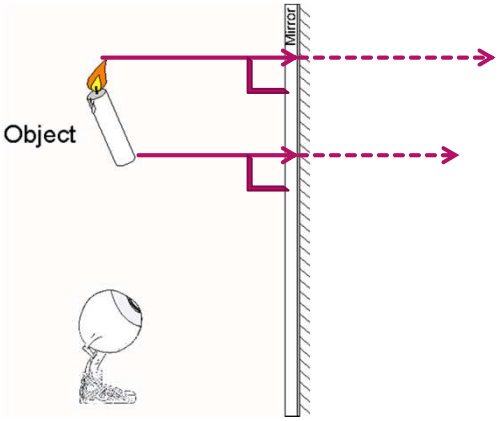
Step 1

- Draw a line that is perpendicular from the top of the object to the mirror.
- Measure the distance
- Draw a matching line on the other side of the mirror



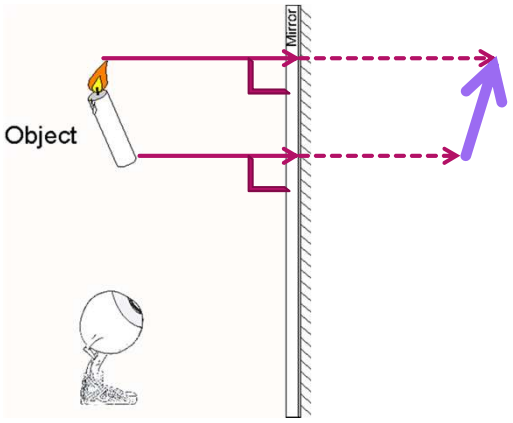
Step 2

- Repeat Step 1 for the bottom of the object



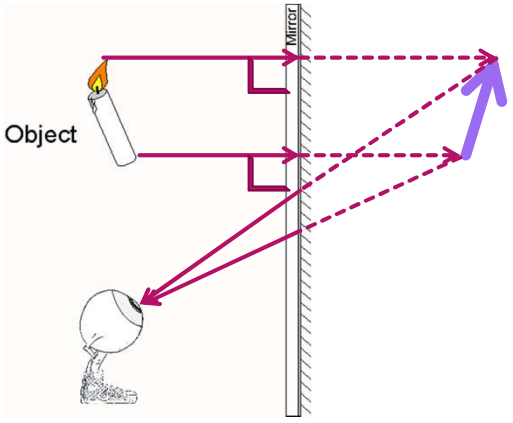
Step 3

- Draw the image that is seen



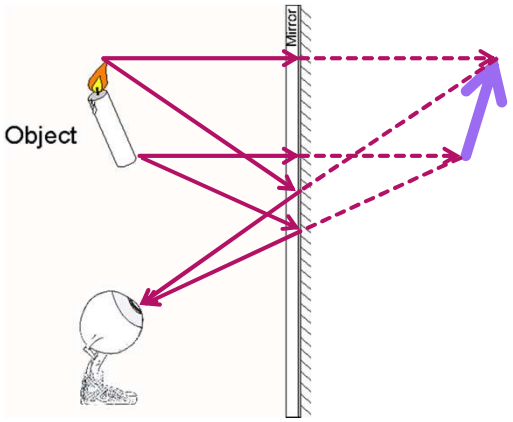
Step 4

- Draw the rays of light coming "from the image" to the eyeball



Step 5

- Draw the rays coming into the mirror that bounce to give the image so we are done!



What was the Point?

- Ray diagrams show us both the path light takes (or appears to take) as well as the image that we see!
- Practice the questions on the worksheet
- You MUST have this down before you leave class!