Image Characteristics for Plane Mirrors

Lesson Notes

Learning Outcomes

- What are the characteristics of the images formed by plane (flat) mirrors?

Four Characteristics of Plane Mirror Images

1. Plane mirror images are located the same distance behind the mirror as the object is in front of the mirror.
2. A plane mirror image is the same size as the object.
3. A plane mirror image is a virtual image.
4. There is an appearance of left-to-right reversal (but the reality is quite different than the appearance).

Image Locating

Images of objects are located directly across the mirror, the same distance behind the mirror as the object is in front of the mirror.

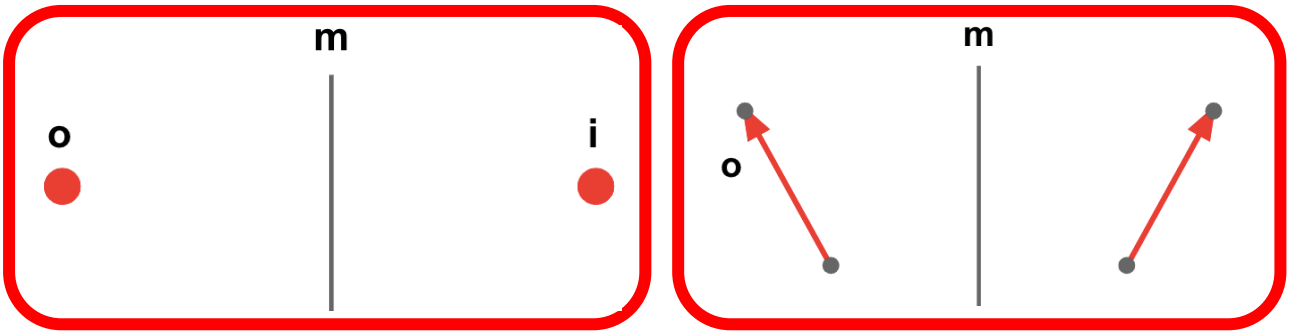


Image Size and Location

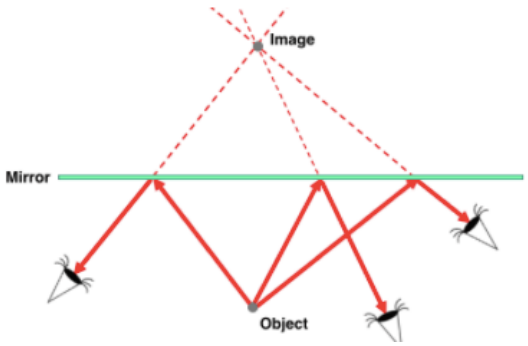
Consider a 2-foot tall object located 5 m from a mirror. It's image is 2-feet tall and located 5 m behind the mirror (putting it 10 m away from the object).

Reference: Eye Chart animation

Virtual Images

A **virtual image** (for a mirror) is …

- Located behind the mirror.
- Formed when the reflected rays diverge (travel away from each other).
- Located at a point in space where light does not actually reach.
- Always formed by a plane mirror.



Left-to-Right Reversal

A plane mirror image appears to have had its letter reversed (both the letters themselves and the words they form). But on closer examination, the mirror is causing the reversal. The letters were reversed the whole time, at least from the reference frame of a person looking in the direction of the mirror.