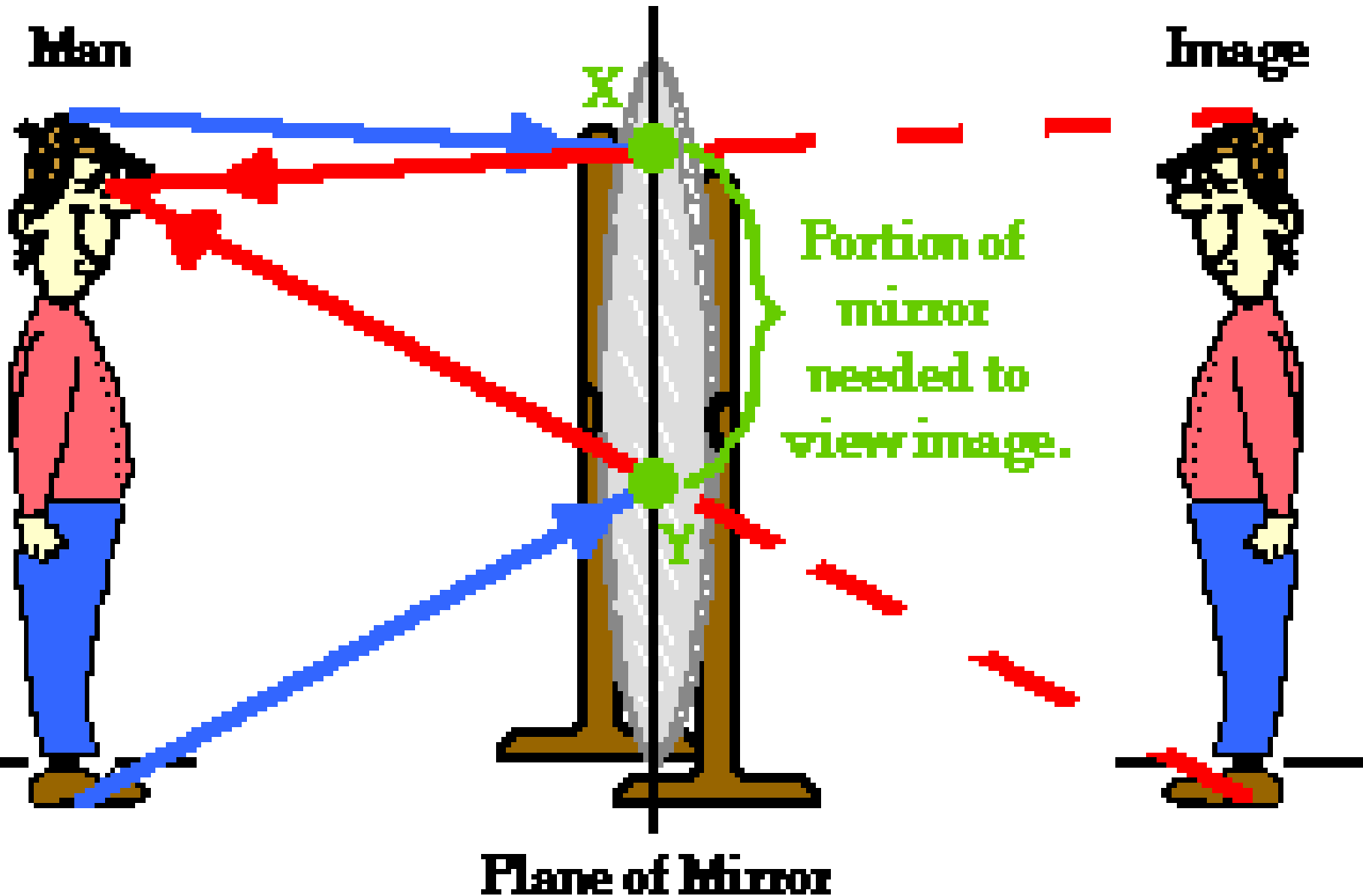
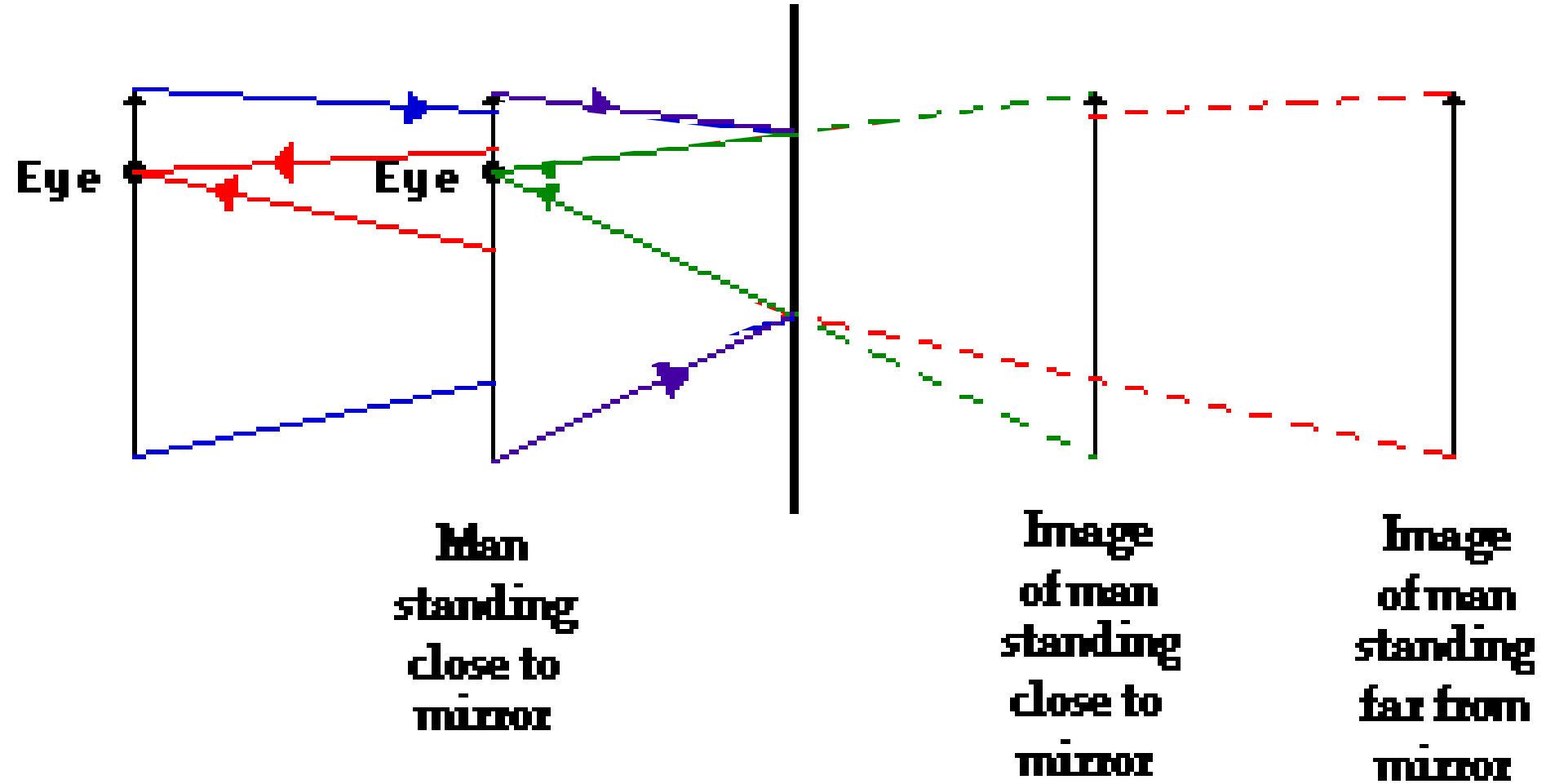


Need a mirror  $\frac{1}{2}$  your height to see from head to toe.



Move back, same amount of mirror



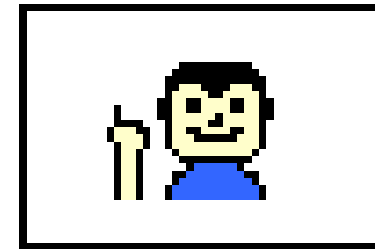
# Left-right Image Reversal



Image raises  
right hand



Mirror



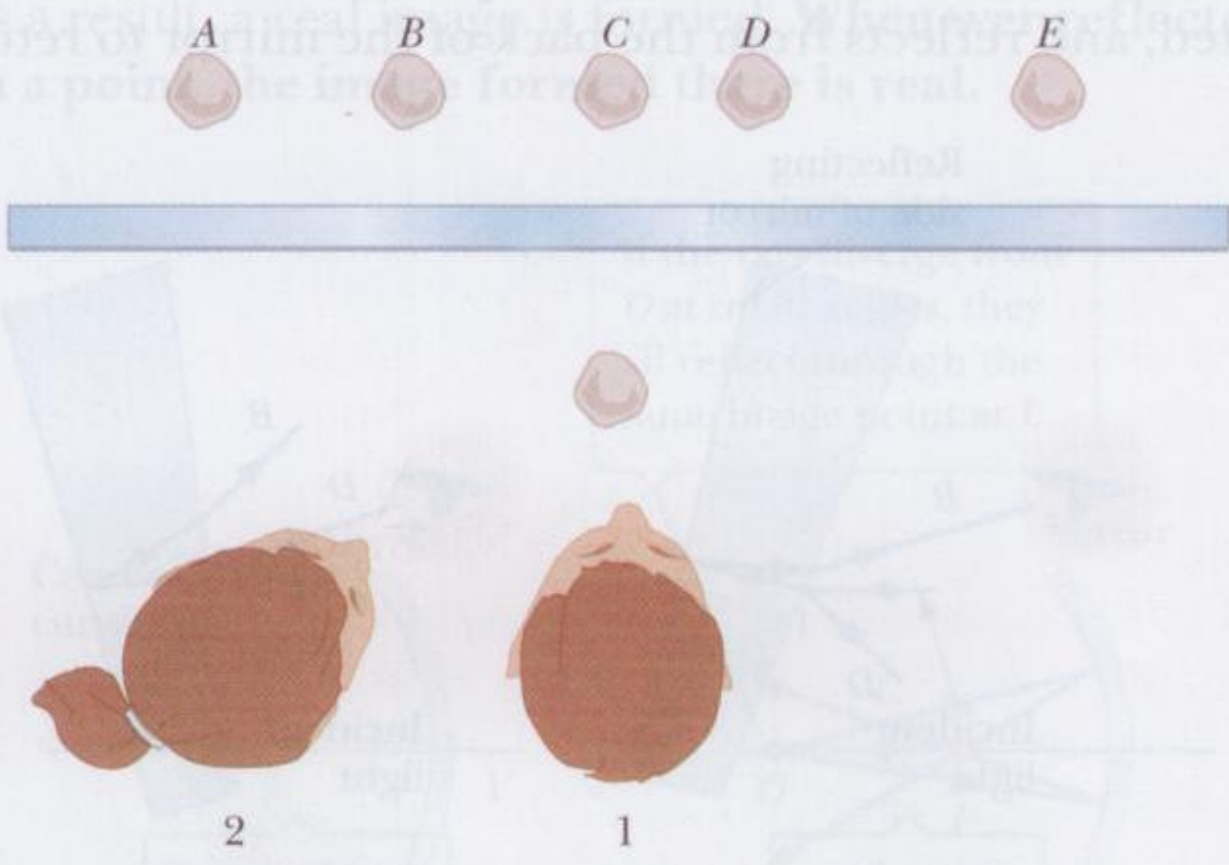
View of image  
raising its right hand.



Object raises  
left hand

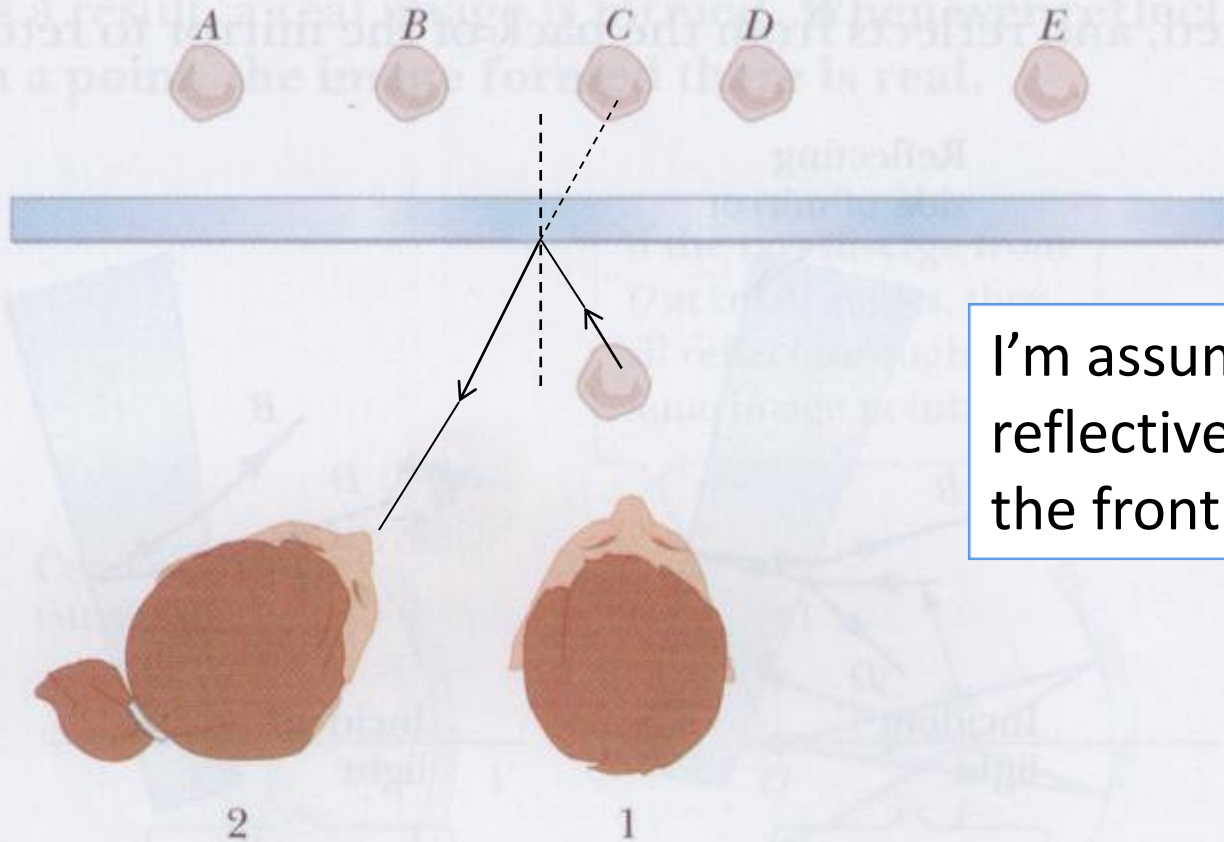
## Quick Quiz

**23.1** In the overhead view of Figure 23.3, the image of the stone seen by observer 1 is at *C*. Where does observer 2 see the image: at *A*, at *B*, at *C*, at *D*, at *E*, or not at all?

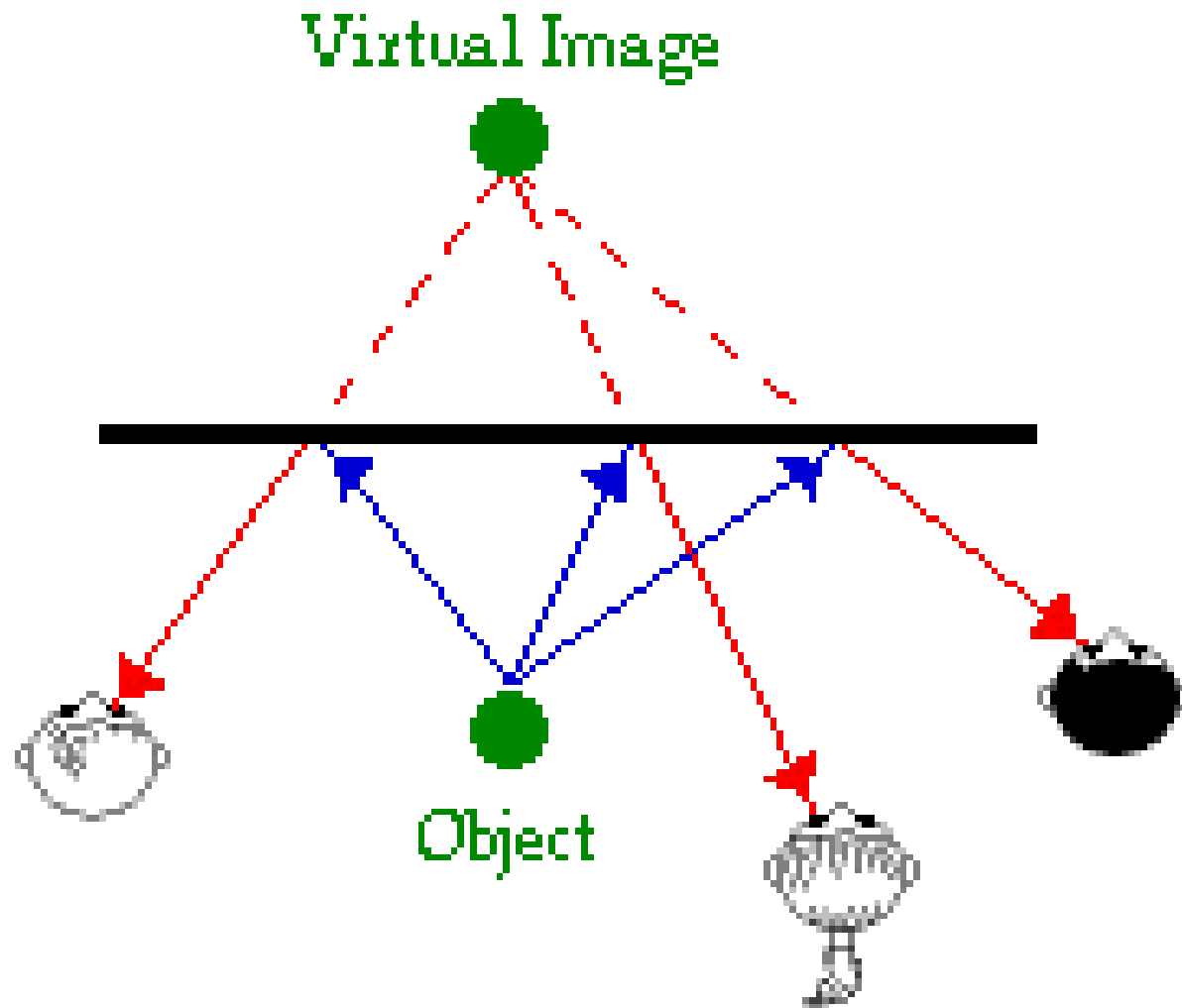


## Quick Quiz

**23.1** In the overhead view of Figure 23.3, the image of the stone seen by observer 1 is at *C*. Where does observer 2 see the image: at *A*, at *B*, at *C*, at *D*, at *E*, or not at all?



I'm assuming the reflective surface is the front



**All observers would perceive light to be diverging from the same point - the image point.**

# Wave, particle or...

- Wave vs. particle on microscopic scale

- $10^{-7}$  meters

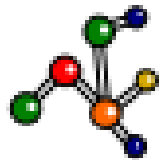
- *Very specialized study to see either*

Visible

$0.5 \times 10^{-6}$

Ultraviolet

$10^{-8}$



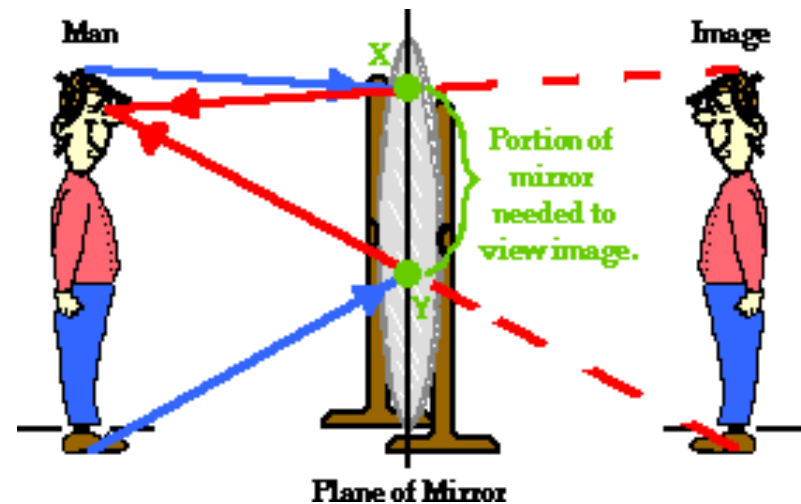
t Protozoans

Molecules

- Ray Approximation or **Geometric Optics**

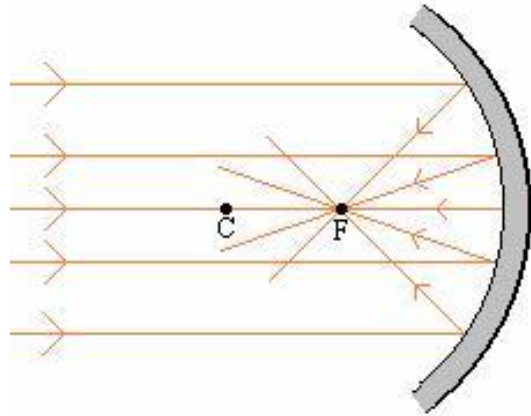
- Meters

- *Every day experiences*

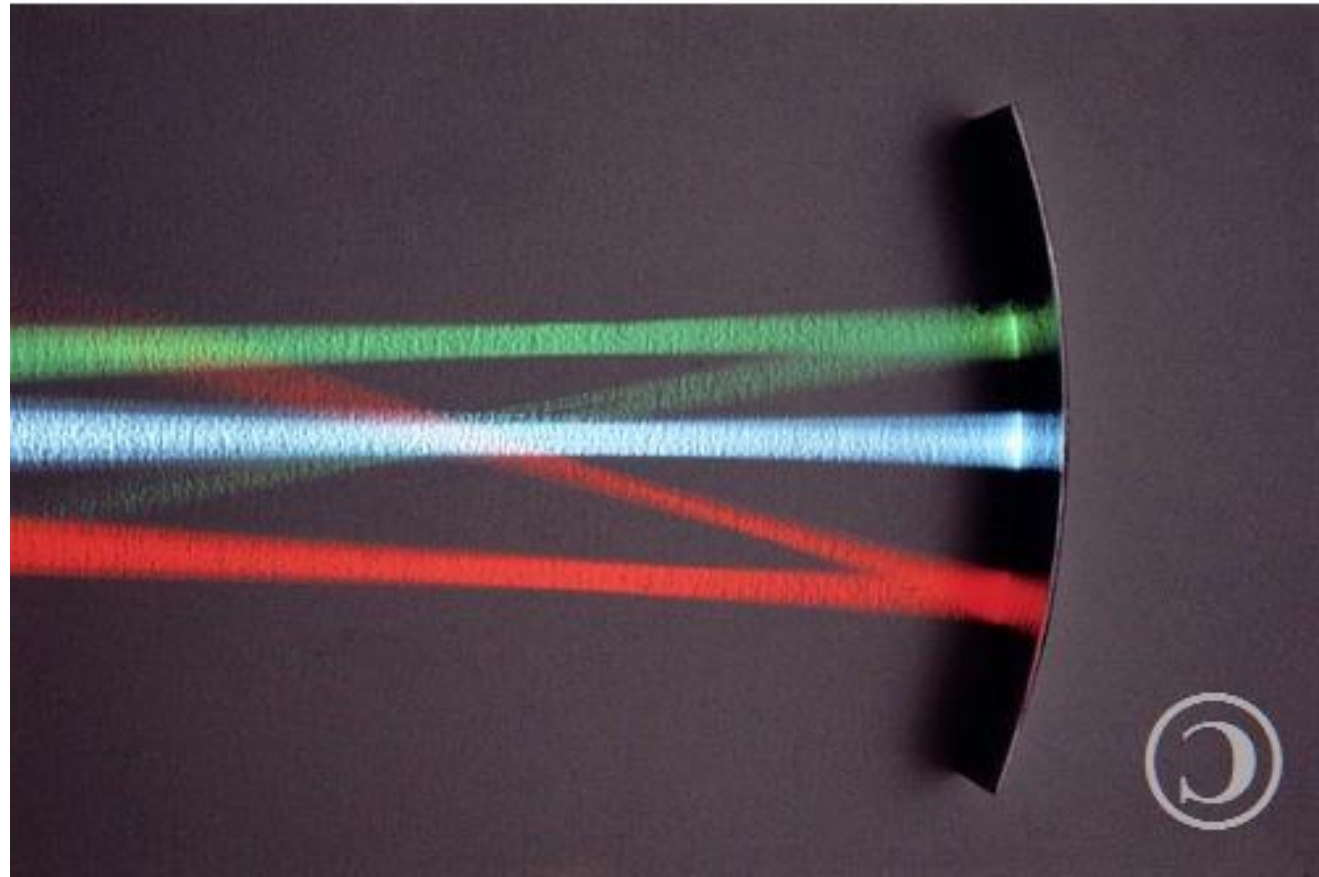


# Concave Mirror

**Converging mirror:** light reflects from the *inner* surface of a spherical mirror



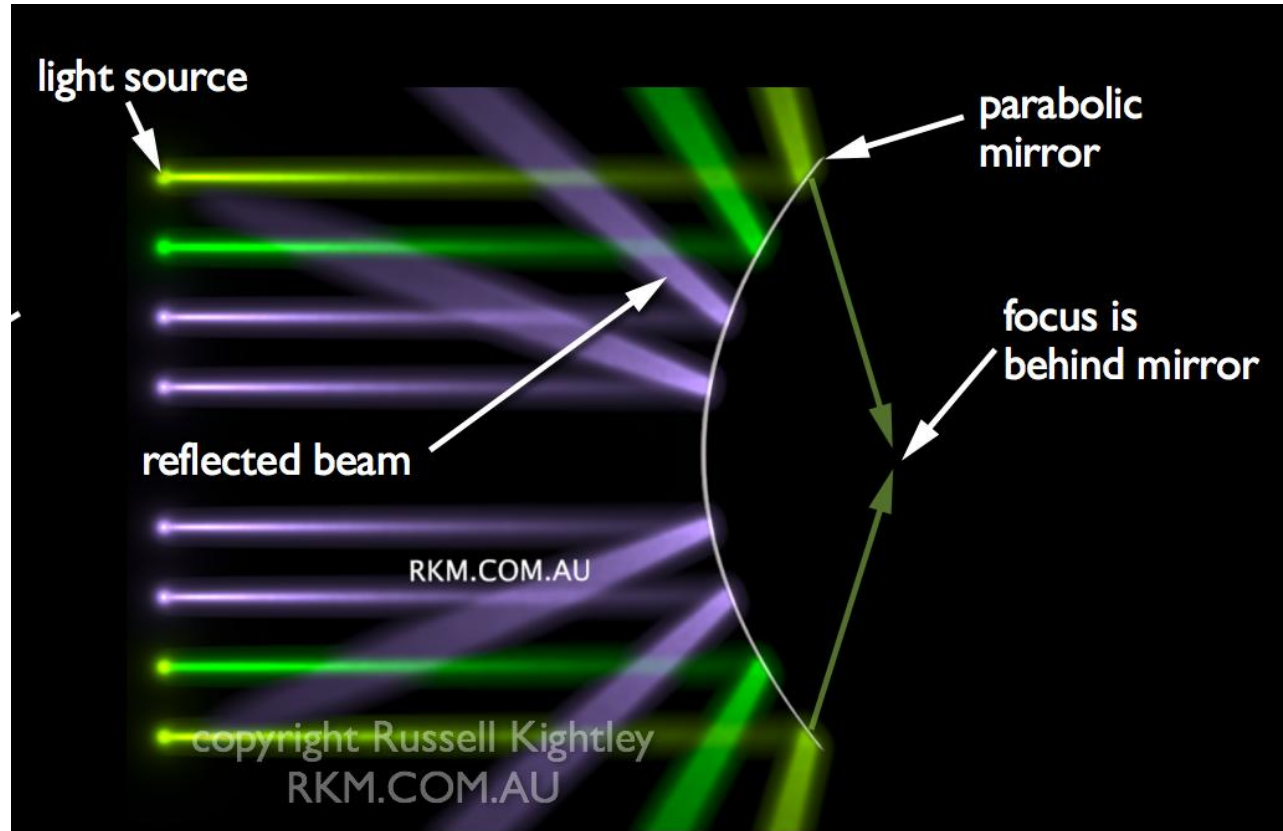
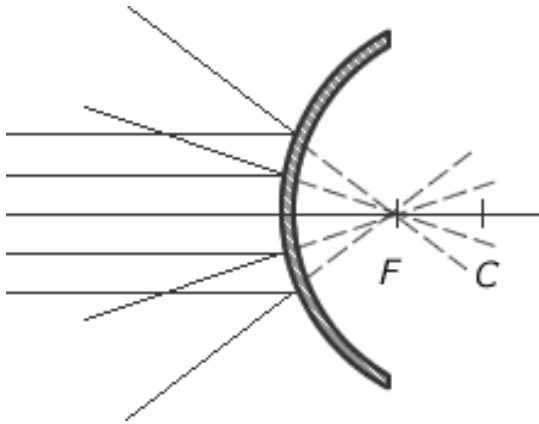
C47-381402 [RM] © www.visualphotos.com





# Convex Mirror

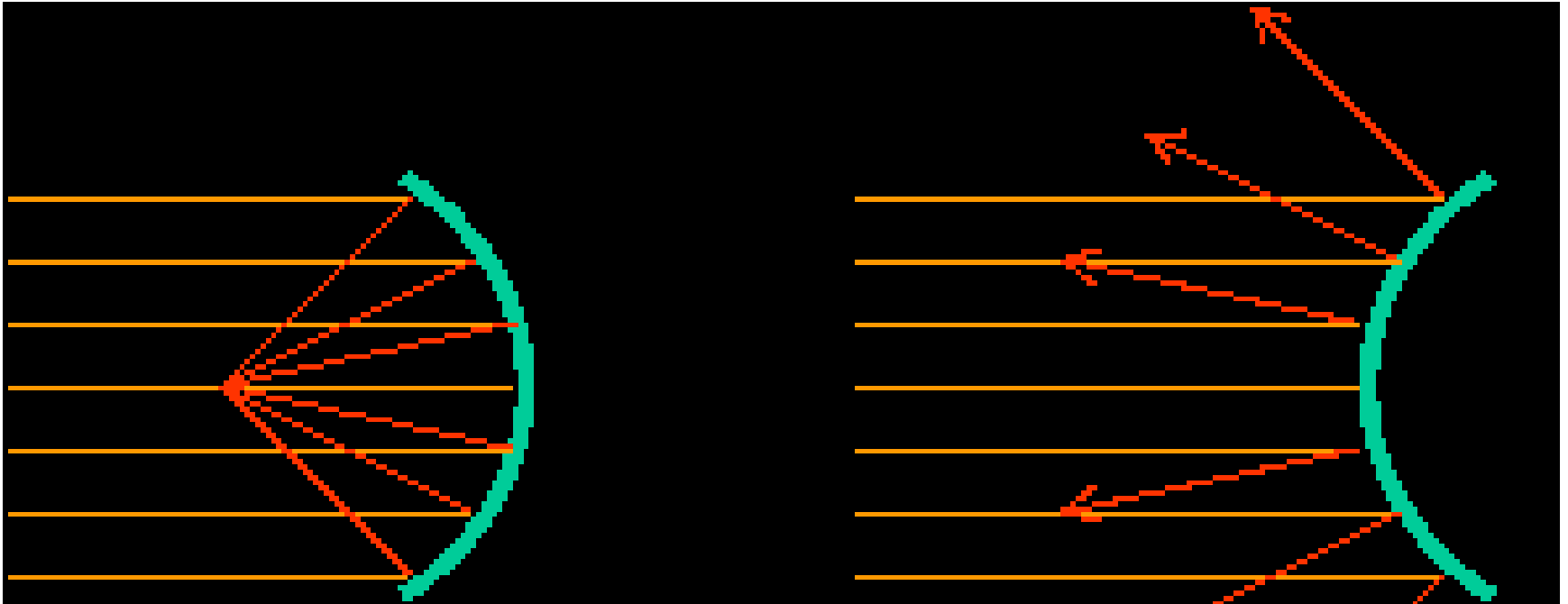
**Diverging mirror:** light reflects from the *outer* surface of a spherical mirror



Convex Parabolic Mirror

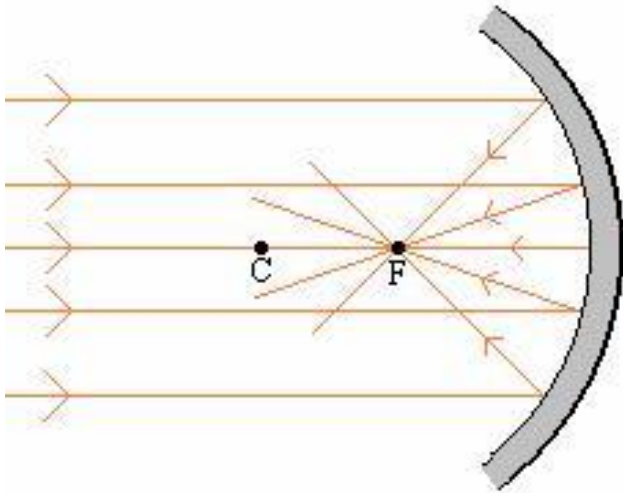
**Concave**  
converging

**Convex**  
Diverging



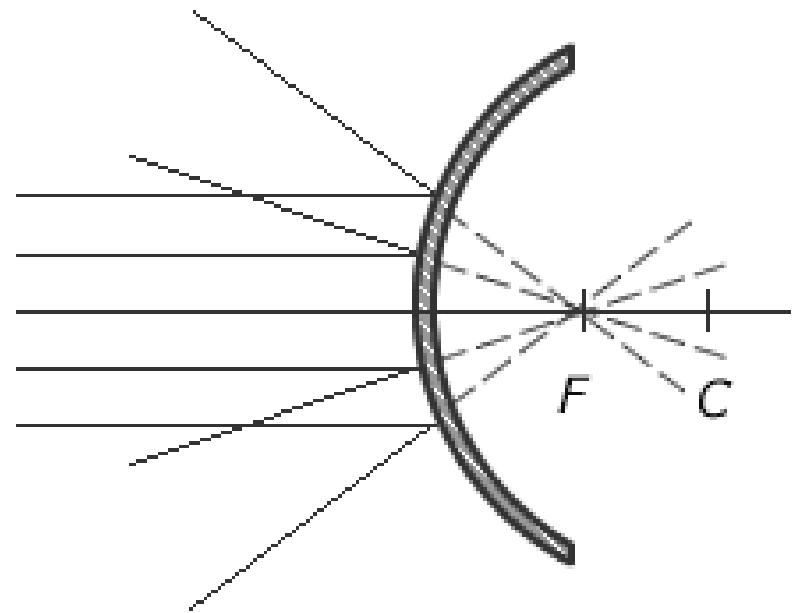
**MIRRORS**

# Concave converging



C is Center of curvature

# Convex Diverging



F is Focal Point