Concave Mirror Ray Diagrams

Lesson Notes

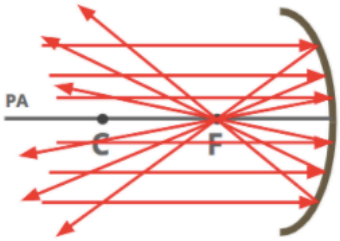
Learning Outcomes

- How do you draw a ray diagram for an object placed at varying locations in front of a concave mirror?

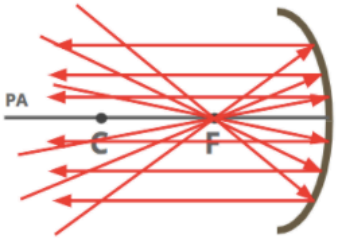
Rules of Reflection

F = Focal Point	C = Center of Curvature	PA = Principal Axis

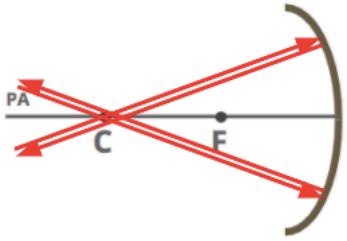
Light traveling || to the PA reflects and passes through F.



Light passing through F reflects and travels || to the PA.



Light traveling through C reflects back through C (along the same path it approached the mirror).



Drawing Ray Diagrams for Concave Mirrors - Directions

Pick a point on top of object.

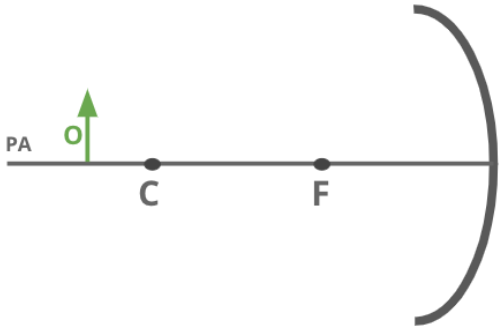
Draw two sets of incident-reflected rays:

- One ll to PA and reflecting through F.
- One passing through F and reflecting ll to PA.

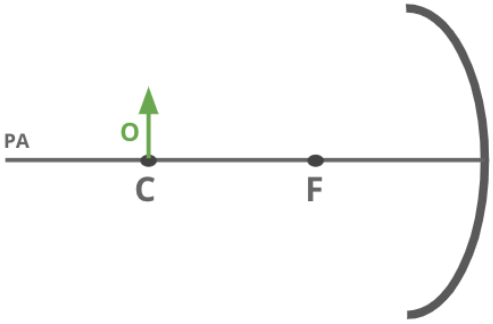
The image is the location where reflected rays intersect.

Use the directions above and the guidance provided in the video to construct ray diagrams for the following situations.

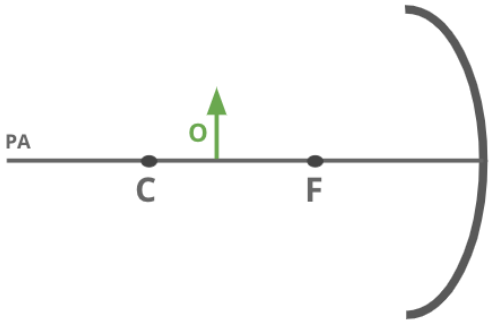
Situation 1: Object Located Beyond C



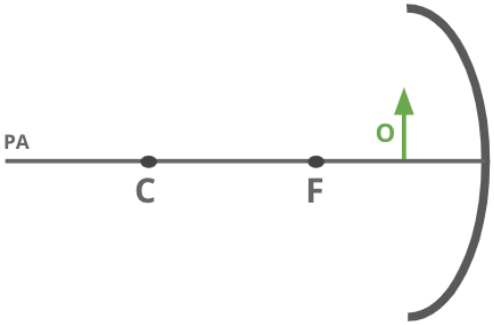
Situation 2: Object at C



Situation 3: Object Between C and F



Situation 4: Object Between F and the Mirror



What About the F Location?

Describe what happens when the object is placed at the focal point.