

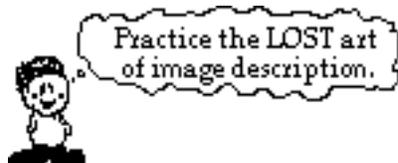
Ray Diagrams for Converging Lenses

Read from Lesson 5 of the Refraction and Lenses chapter at The Physics Classroom:

<http://www.physicsclassroom.com/Class/refrn/u14l5da.html>
<http://www.physicsclassroom.com/Class/refrn/u14l5db.html>

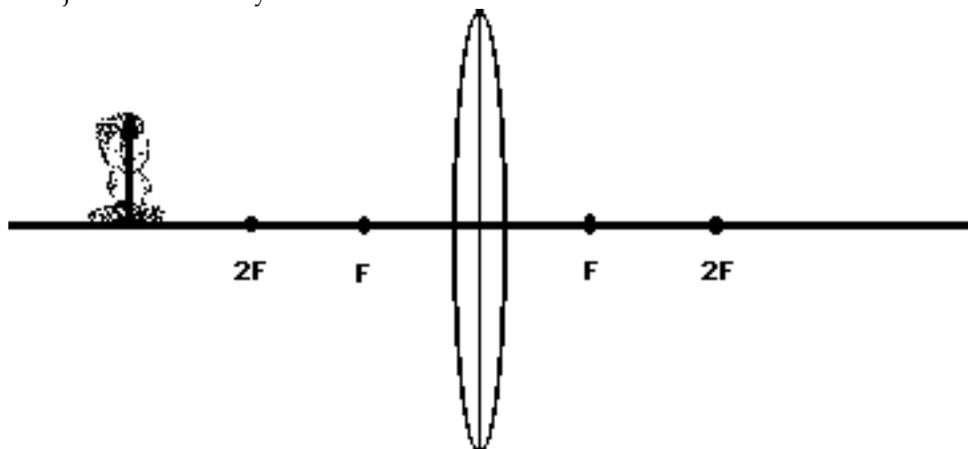
MOP Connection: Refraction and Lenses: sublevels 8 and 9

For the following lenses and corresponding object positions, construct ray diagrams. Then describe the Location of the image, Orientation (upright or inverted) of the image, the relative Size of the image (larger or smaller than object), and the Type of image (real or virtual). For Case 4, merely construct the ray diagram.



NOTE: 1) All light rays have arrowheads that indicate the direction of travel of the ray.
 2) Always draw in the image once located (an arrow is a good representation).
 3) Exactness counts. Use a straight-edge and be accurate.

Case 1: If the object is located beyond 2F:

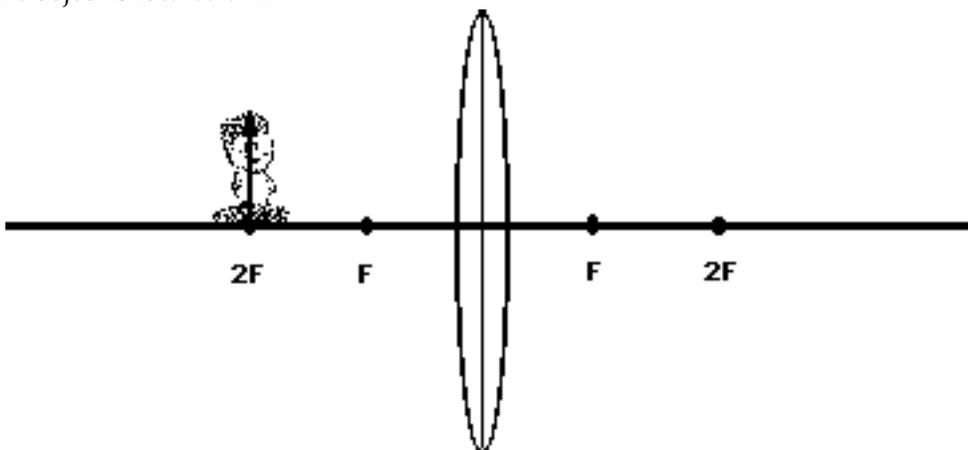


Description of Image:

Location: _____

O: Upright or Inverted S: Magnified or Reduced T: Real or Virtual

Case 2: If the object is located at 2F:



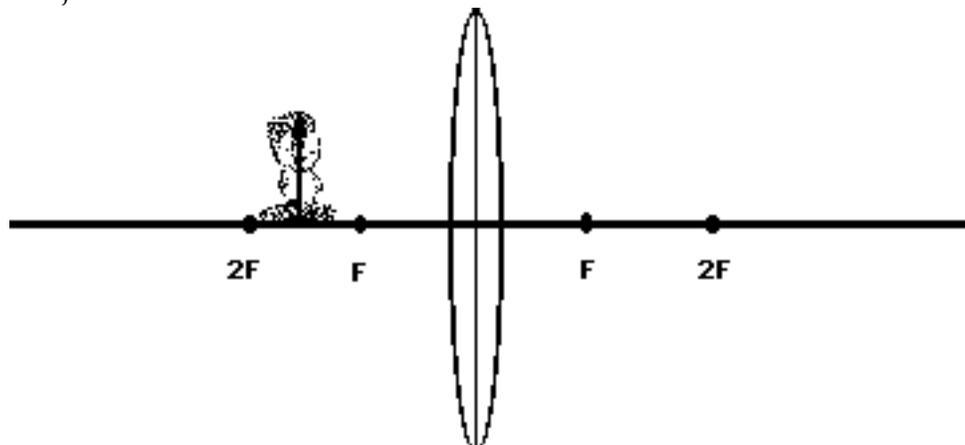
Description of Image:

Location: _____

O: Upright or Inverted S: Magnified or Reduced T: Real or Virtual

Light, Refraction and Lenses

Case 3: If the object is located between $2F$ and F :



Description of Image:

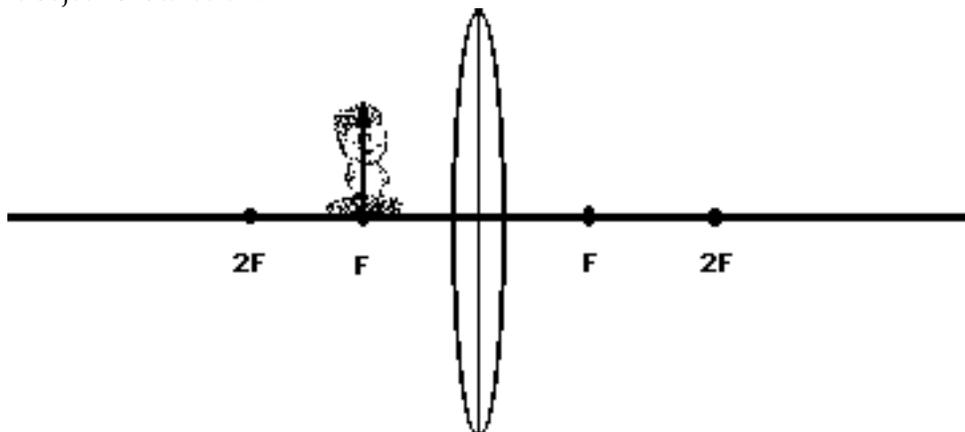
Location: _____

O: Upright or Inverted

S: Magnified or Reduced

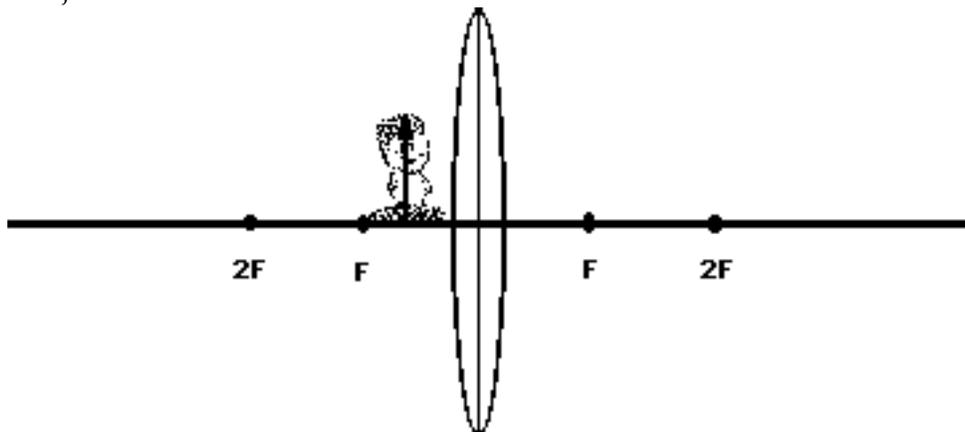
T: Real or Virtual

Case 4: If the object is located at F :



No Description Required

Case 5: If the object is located between F and the lens:



Description of Image:

Location: _____

O: Upright or Inverted

S: Magnified or Reduced

T: Real or Virtual