

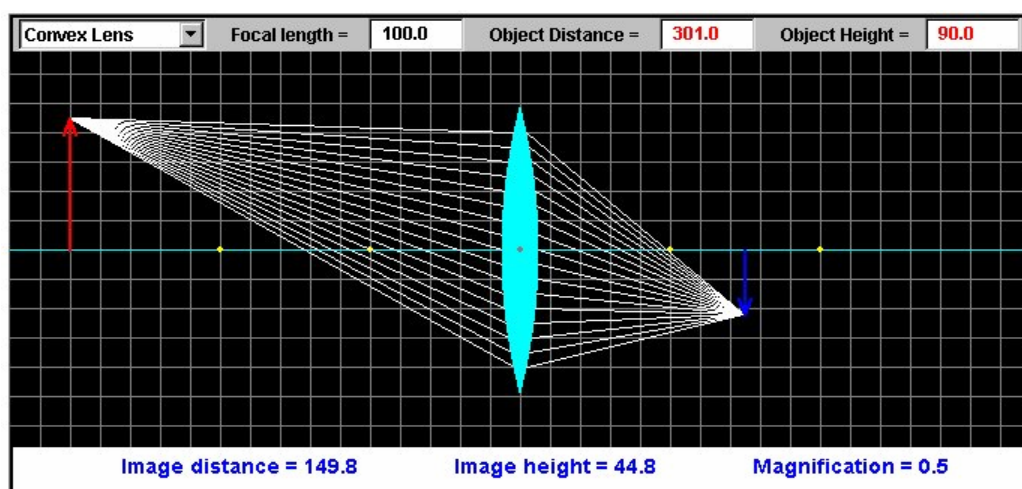
Images from Converging Lenses

Learning Tasks:

Complete and hand in one copy of the “PreLab Predictions” before picking up your equipment.

Resources:

converging lenses, candles, textbook, meter stick,
computer simulation at <http://www.schulphysik.de/suren/CurvSurf/CurvSurf.html>



Part I: Blocking the Front of the Lens

Use the available resources (candles, lenses, computer simulation, textbook, peer counsel) to answer the following questions:

- What happens to the image formed by a converging lens when the **top half of the front side of the lens** is covered?
- What happens to the image formed by a converging lens when the **bottom half of the front side of the lens** is covered?
- What happens to the image formed by a converging lens when a **central portion of front side of the lens** is covered?
- What happens to the image formed by a converging lens as **more and more of the front side of the lens** is covered?

Part II: Blocking the Back of the Lens

Use the available resources (candles, lenses, computer simulation, textbook, peer counsel) to answer the following questions:

- a) What happens to the image formed by a converging lens when the **top half of the back side of the lens** is covered?
- b) What happens to the image formed by a converging lens when the **bottom half of the back side of the lens** is covered?
- c) What happens to the image formed by a converging lens when a **central portion of back side of the the lens** is covered?
- d) What happens to the image formed by a converging lens as **more and more of the back side of the lens** is covered?

Part III: Blocking the Object

Use the available resources (candles, lenses, computer simulation, textbook, peer counsel) to answer the following questions:

- a) What happens to the image formed by a converging lens when the **top half of the object** is covered?
- b) What happens to the image formed by a converging lens when the **bottom half of the object** is covered?
- c) What happens to the image formed by a converging lens when a **central portion of the object** is covered?
- d) What happens to the image formed by a converging lens as **more and more of the object** is covered?

Develop an explanation of your answers using the behavior of light through lenses as justification.

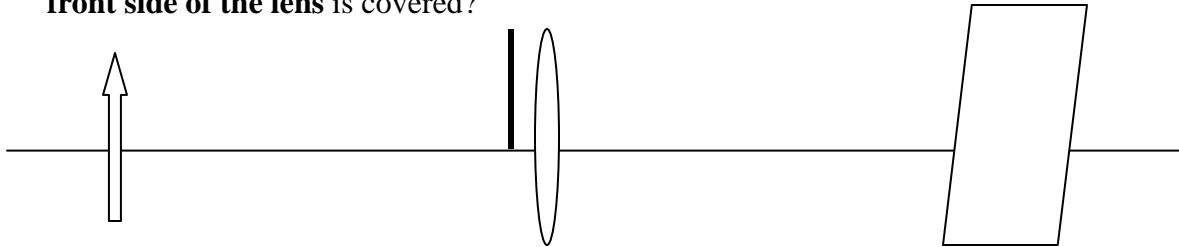
Write and hand in a complete and organized explanation that includes diagrams to justify your responses.

PRELAB: Images from Converging Lenses

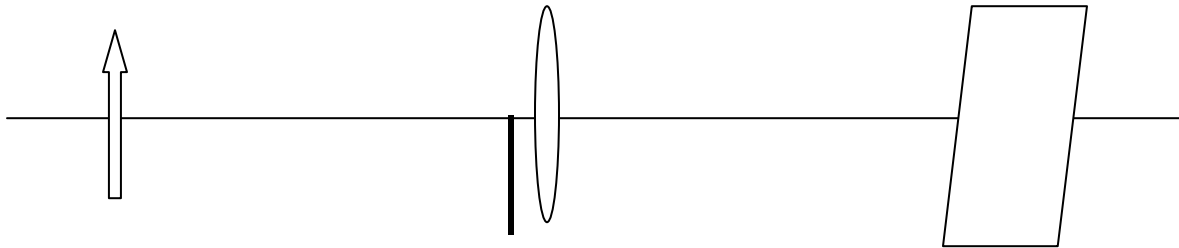
Draw a sketch of what you think the image on the screen would look like when various portions of the lens/object are covered. Sketch in some rays traveling from the object to the screen that would form such an image.

Part I: Blocking the Front of the Lens

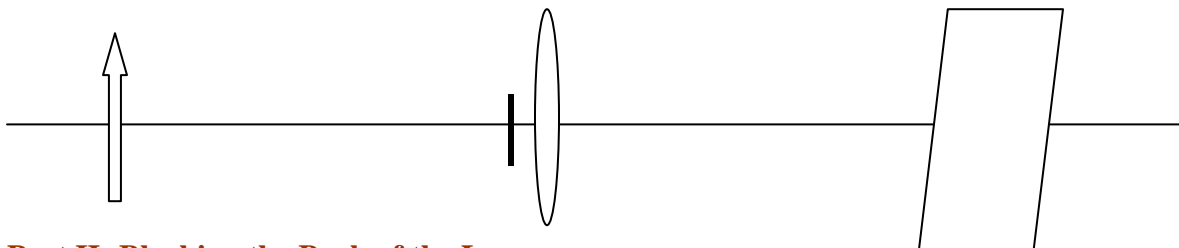
- a) What happens to the image formed by a converging lens when the **top half of the front side of the lens** is covered?



- b) What happens to the image formed by a converging lens when the **bottom half of the front side of the lens** is covered?

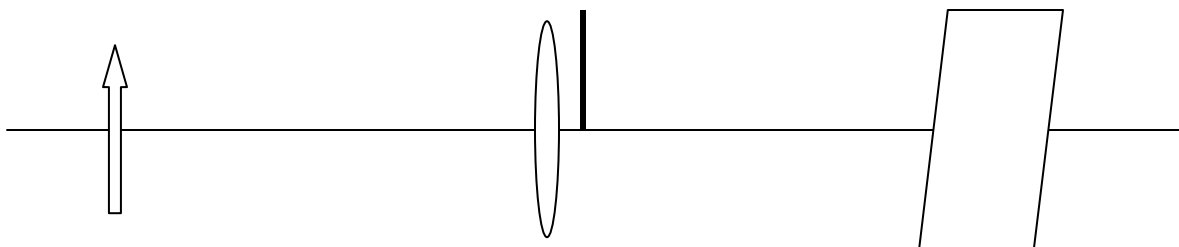


- c) What happens to the image formed by a converging lens when a **central portion of front side of the lens** is covered?

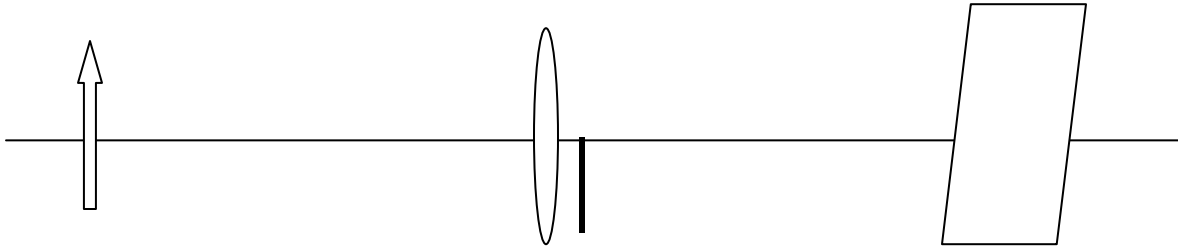


Part II: Blocking the Back of the Lens

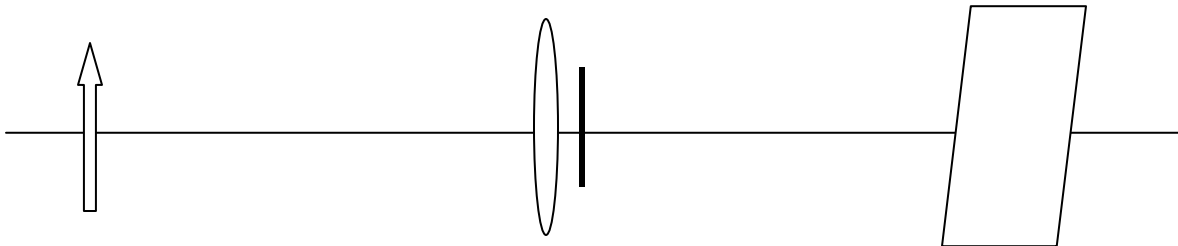
- a) What happens to the image formed by a converging lens when the **top half of the back side of the lens** is covered?



b) What happens to the image formed by a converging lens when the **bottom half of the back side of the lens** is covered?

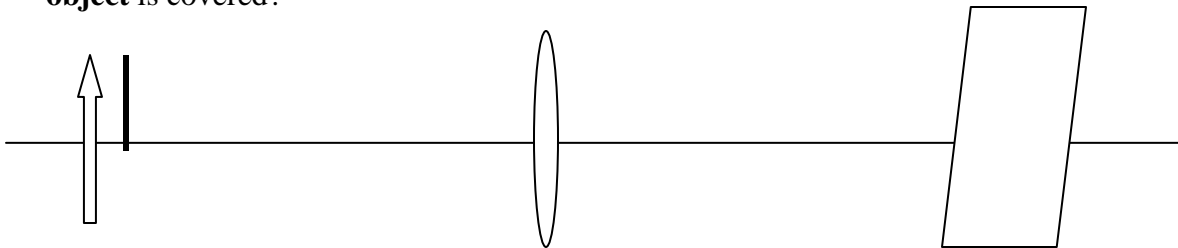


c) What happens to the image formed by a converging lens when a **central portion of back side of the the lens** is covered?

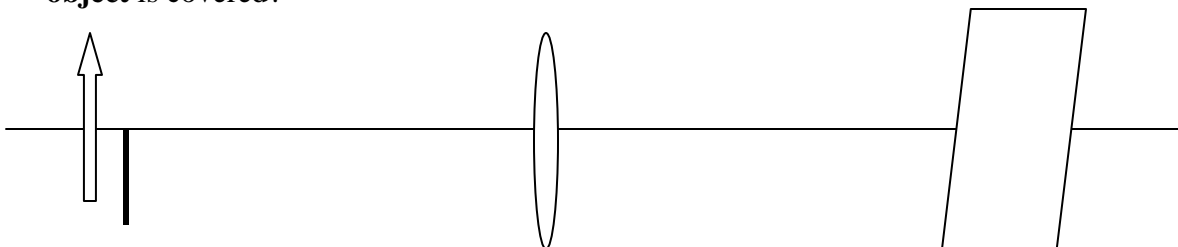


Part III: Blocking the Object

a) What happens to the image formed by a converging lens when the **top half of the object** is covered?



b) What happens to the image formed by a converging lens when the **bottom half of the object** is covered?



c) What happens to the image formed by a converging lens when a **central portion of the object** is covered?

