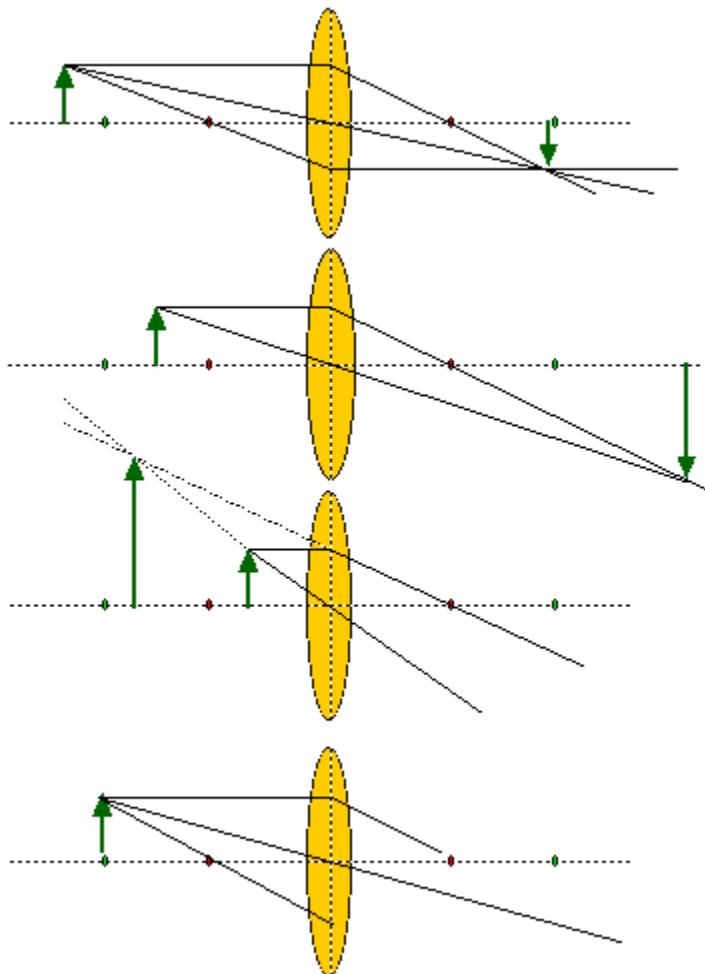


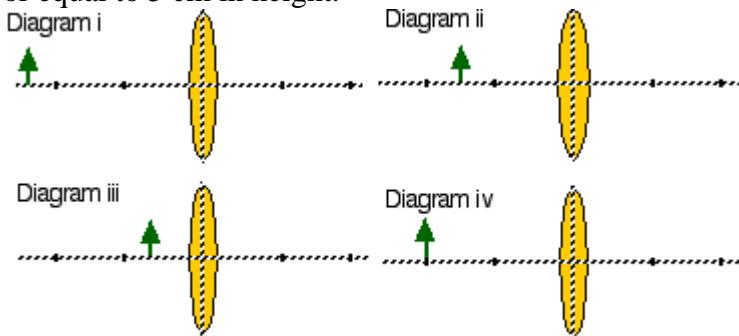
1. Which situation involving object placement in front of a converging lens is NOT shown in at least one of the diagrams? (Not all diagrams have all rays drawn)



- a) The object is between the focus and the lens, producing a magnified image.
- b) The object is beyond the lens' centre of curvature.
- c) The image is real, inverted and smaller than the object.
- d) The object is on the lens' centre of curvature which produces a real, inverted image.
- e) The object is on the lens' focus, so no image is formed.

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2. In all four diagrams, the object is 5 cm high. Which set ups will produce a real, inverted image that is greater than or equal to 5 cm in height.



a) Diagram iv
 b) Diagram i
 c) Diagram ii
 d) Diagram iii
 e) Diagrams ii and iv

3. Select *all that apply*. Marks are subtracted for incorrect answers...

During an experiment you will be working with a **real** image when:

a) an object is placed inside the focus of a converging lens
 b) an object is placed outside the focus of a converging lens
 c) the image can only be viewed on a screen
 d) the image can only be seen by placing your eye in the path of the light
 e) the object is placed outside the focus of a diverging lens

4. Select *all that apply*. Marks are subtracted for incorrect answers...

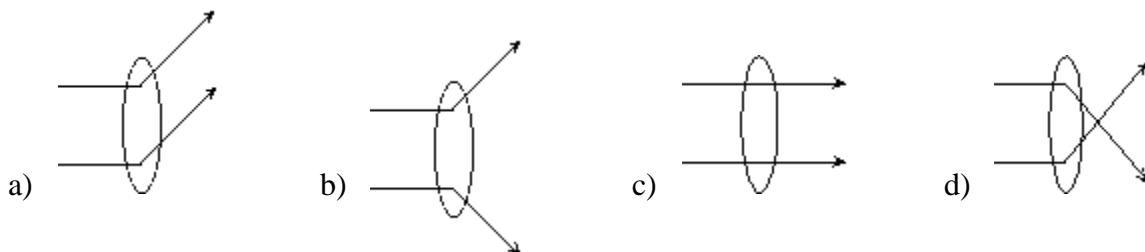
During an experiment you will be working with a **virtual** image when:

a) an object is placed inside the focus of a converging lens
 b) an object is placed outside the focus of a converging lens
 c) the image can only be viewed on a screen
 d) the image can only be seen by placing your eye in the path of the light
 e) the object is placed outside the focus of a diverging lens

5. A Florence flask filled with water behaves like a...

a) convex mirror.
 b) concave lens.
 c) convex mirror.
 d) convex lens.

6. Which diagram below BEST shows what happens when light hits a camera lens?



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7. The image of a distant object made by a convex lens is:
 - a) smaller than the object
 - b) larger than the object
 - c) the same size as the object
 - d) can be any of the above, depending on how distant the object is.
8. What sort of image do you see when you look through a hand magnifying glass?
 - a) real and right side up
 - b) real and enlarged
 - c) virtual and upside down
 - d) virtual and right side up
9. Which optical instrument produces a magnified, virtual, and inverted image of small objects?
 - a) A pair of binoculars
 - b) A refracting telescope
 - c) A single lens reflex camera
 - d) A microscope
10. What happens to a path of a light ray parallel to the principal axis, after it passes through a converging lens?
 - a) It passes through the $2F$ position on the other side of the lens.
 - b) It remains parallel to the principal axis.
 - c) It is reflected and passes through the focus on the same side of the lens.
 - d) It passes through focus on the other side of the lens.
11. What is the magnification of a convex lens which produces a 5 cm high image from a 1cm tall object when the object distance is 10 cm?
 - a) 0.2 times
 - b) 50 times
 - c) 2 times
 - d) 5 times
12. A pencil 10 cm long is placed 100 cm in front of a convex lens of focal length 50 cm. The image is
 - a) 5 cm long and upright
 - b) 10 cm long and inverted
 - c) 5 cm long and inverted
 - d) 10 cm long and upright