

1. Define refractive index. 2. Lenses and the Human Eye. 3. Define accommodation. 4. Define near and far points of vision.

1. The medical term for nearsightedness is Myopia.
2. Converging lenses are used to correct farsightedness.
3. List down the primary parts of the eye and elaborate its function in the eye.

- \* Lens - focus light/image/rays into the retina.
- \* Retina - sense light and sends signals to the brain.
- \* ciliary muscles - change the lens of the eyes
- \* iris - helps control the size of the pupil
- \* aqueous and vitreous humors - provides nutrients to the eyes and supports the pupil/iris.
- \* optic nerve - acts like a messenger carrying the details from the retina to the brain.
- \* sclerotic - maintains shape.

4. Fill in the blanks if (i) inverted or erect, (ii) real or virtual, (iii) smaller or larger.
  - a. For a converging lens, if the object is beyond the focal length the image is (i) Inverted and (ii) real.
  - b. For a converging lens, if the object is <sup>inside</sup> ~~beyond~~ the focal length the image is (i) Erect and (ii) virtual.
  - c. For a diverging lens, the image is always (i) Erect, (ii) virtual and (iii) smaller.

7. Explain why the converging lens is used to fix farsightedness

- converging lens are used to fix farsightedness due to its ability to compensate the under convergence of the eye.

The case for farsightedness is the near images reaches the way

pass the retina (the normal should be 2 images converging into a single ray in the retina). Converging lens helps the rays and the image to be focused and converged into a single ray to the retina producing a clear image.