**Vision Activities**

Materials:

1 ruler and 1 sheet of paper (A4)

## Task 1: Near point

‘Accommodation’ occurs in our eye when the lens changes its shape to focus an image on the retina. The closer an object is to the eye the thicker the lens. However, there is a limit to the lens’s ability to thicken. At very close distances the lens cannot clearly focus on an object. The distance from the eye to the nearest point that can be focused clearly is called the **near point** of vision.

To find the near point of your right eye:

1. Place a hand over your left eye.
2. Focus your right eye on the tip of a pencil held at arm’s length.
3. Slowly bring the pencil in closer to your eye until the tip becomes blurred.
4. Hold the pencil in this position and ask your partner to measure the distance from your eye to the tip of the pencil.
5. Repeat the above procedure to find the near point for the left eye.

**Q1.** How does the near point for your left eye compare with that of your right eye?

**Q2.** How does your partner’s near point compare with yours?

Task 2: Binocular vision

1. Roll a sheet of paper into a tube of 3-4 cm in diameter and hold it to one eye so that only the view through the tube can be seen.
2. With the other eye, look at your hand, palm open, held alongside the end of the tube. Keep both eyes open.

**Q3.** Describe what you see.

**Q4.** How can you explain this phenomenon?

Paper cylinder

Hand

Task 3: Dominant eye

One eye tends to dominate our vision. You can identify your dominant eye in the following way:

1. Roll a sheet of paper into a tube of 3-4 cm in diameter.
2. Hold the tube out in front of you and look through it with both eyes open at an object across the room.
3. Keeping the tube steady, close first one eye, open it and then close the other. Which eye kept the object in view through the tube?

**Q5.** Which is your dominant eye? How do you know?

Task 4: Judging distances

1. Hold your arms outstretched with your index fingers pointed.
2. Keeping both eyes open, bend your arms and try to make the finger tips meet in front of you.
3. Repeat this procedure with one eye closed.

**Q6.** Can you judge distance as accurately with one eye closed?

Task 5: Blind spot (this is amazing!!)

1. Hold up this page approximately 10 cm in front of you.
2. Look directly at the cross with your left eye while keeping your right eye closed.
3. Slowly move the page away from you until the circle disappears from your vision!!

**Q7.** Explain why the circle disappears (using the structure of the inside of your eye).

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