Observing How the Eye Responds to Changing Light Levels

Use the cardboard core from a roll of paper towels, or roll 10 or 12 sheets of white paper into a hollow tube so that each sheet extends twice around the roll and slip a rubber band around the roll. Set the roll on the page of a book and press one eye against the top so that no light is admitted at the bottom or the top. It should be impossible at first to read any of the words. If any of the words can be read immediately, add a few more sheets of paper to the roll.

With the other eye closed, keep looking through the roll for a minute or two without admitting any light. The print will slowly become legible in the dim light diffused through the paper.

As soon as the print can be read clearly, look quickly into a mirror and note the size of the pupils of the eyes. Keep watching the pupils for a minute and see how they change in size as the bright light of the classroom enters the eyes. Each of the children should have the opportunity to perform this experiment for himself. Suggest some advantages of this ability of the pupils of the eye to change in size: contraction of the pupils protects the eyes against very bright light; enlargement helps us to see in very dim light; adjustment of the pupils helps us avoid danger.