Eye wonder…

The pupil reflex

To investigate the pupil reflex and explain what is happening to bring about the changes in size of pupil.

The diameter of the pupil varies with changing light intensity. Work in pairs to study the effect of light intensity on pupil diameter.

Equipment

You will need:

Torch

Plastic ruler

Method

1. Working in pairs, one person is the experimenter and the other the subject. The subject covers one eye.
2. Darken the room and allow a few minutes for the eye to adjust.
3. Measure the diameter of the pupil using the plastic ruler close to the eye.
4. Slowly bring the light source in from the side of the subjects face until it is 30cm away from the eye.
5. Wait one minute and again measure the diameter of the subject’s pupil.
6. Remove the light and allow the subject’s pupil to return to its dilated state.
7. Repeat, with the torch at 25, 20, 15, 10 and 5 cm from the subject’s face.

Safety Issues

*If you wear glasses you should remove them (you do not need to remove contact lenses).*

*Do not bring the torch or rule within direct contact of the eye.*

*If irritation or discomfort occurs stop the experiment.*

Prediction

What do you think will happen? Use scientific knowledge in your answer.

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Results Table

What is your dependent variable?

(What are you measuring in your investigation)?

What is your independent variable?

(What are you changing in your investigation)?

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Conclusion

What did you find out? Try to link both variables together.

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Try to explain what you found out.

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