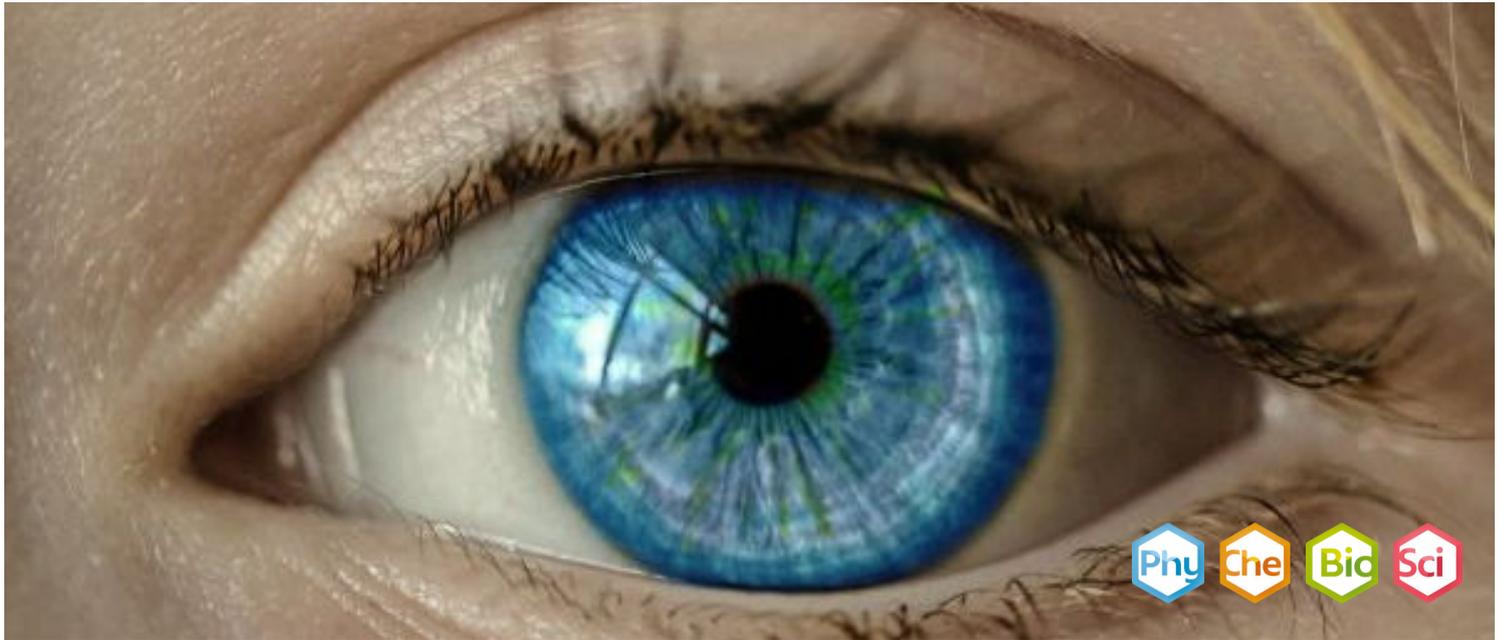


A look at your eye



Physics

Light & Optics

Dispersion of light

Biology

Human Physiology

Hearing & Seeing

Nature & technology

From senses to measuring



Difficulty level

easy



Group size

1



Preparation time

10 minutes



Execution time

10 minutes

This content can also be found online at:



<https://www.curriculab.de/c/67179fc62787770002d59bfc>

PHYWE



Teacher information

Application

PHYWE



Application

Without the eye, we would not be able to perceive the world with its colours and shapes. It is adapted to different light conditions and changes depending on whether we are looking into the light or the dark.

The eye also has a variety of different structures that can be seen from the outside with a magnifying glass: eyebrows, eyelashes, eyelids, iris, pupil, sclera and lacrimal puncta. This experiment brings all of this closer.

Other teacher information (1/2)

PHYWE

Prior knowledge



Pupils should already know the general structure of the eye and be able to name the functions of the individual components.

Principle



The eye changes when it moves from light to dark in order to absorb as much of the residual light as possible.

Other teacher information (2/2)

PHYWE

Learning objective



The pupils should recognise that the pupil of the eye adapts to the darkness in order to absorb as much residual light as possible.

Tasks



The pupils should look at their eyes in the mirror and investigate how they behave in the dark.

Safety instructions

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The general instructions for safe experimentation in science lessons apply to this experiment.

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Student information



Motivation

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Eye to eye with yourself

Without the eye, we would not be able to perceive the world with its colours and shapes. It is adapted to different light conditions and changes depending on whether we are looking into the light or the dark.

The eye also has a variety of different structures that can be seen from the outside with a magnifying glass: eyebrows, eyelashes, eyelids, iris, pupil, sclera and lacrimal puncta. This experiment brings all of this closer.

Tasks

PHYWE

- How does the eye change in the dark?
- Look at your eye in the mirror and see how it behaves in the dark.

When the eye changes from light to dark, the pupil becomes smaller.

 right false

Material

Position	Equipment	Item no.	Quantity
1	Set for 15 experiments, TESS beginner nature and technology NT-SIN	15241-88	1

Additional material

PHYWE

Position	Equipment	Quantity
1	Pencil	1
2	White paper	1
3	Scarf or cloth for blindfolding	1

Set-up and procedure

PHYWE



The human eye in close-up

- Look at your eye in the mirror and draw it as accurately as possible.
- Carefully pull the lower eyelid downwards. What do you see on the edge of the eyelid towards the nose? Also look at the upper eyelid margin at this point.
- Have your eyes blindfolded and wait a few minutes. Take off the blindfold and look in the mirror immediately. What do you see?

PHYWE



Report

Task 1

PHYWE



Draw your eye and label: eyebrow, eyelashes, lower eyelid, upper eyelid, iris, pupil and sclera.

Task 2

PHYWE

With the help of literature or internet searches, work out the functions of: Eyebrow, eyelashes, eyelids, iris, pupil, sclera and lacrimal puncta.

Task 3

PHYWE

Why does the eye change when it looks out of the dark into the light?

In the dark, the pupils are greatly in order to absorb as much light as possible from the surroundings. If you then look from the dark into the light and there is light available, the pupils again.



Slide	Score / Total
Slide 8: The eye	0/2
Slide 15: Sense of sight	0/3

Total amount  0/5

 Solutions

 Repeat

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