

# retinitis pigmentosa



Physics

Light &amp; Optics

Dispersion of light

Biology

Human Physiology

Hearing &amp; Seeing



Difficulty level

-



Group size

-



Preparation time

-



Execution time

-

This content can also be found online at:



<https://www.curriculab.de/c/671789be2787770002d59b57>

PHYWE



## Teacher information

## Application

PHYWE



The human eye

Retinitis pigmentosa is a group of eye diseases that are usually hereditary. It can lead to anything from night blindness to total blindness. It is important to consult an ophthalmologist if retinitis pigmentosa is suspected.

## Other teacher information (1/2)

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### Prior knowledge



The structure of a human eye should be discussed in class beforehand.

### Principle



In people with hereditary retinitis pigmentosa, the rods and cones are gradually destroyed. Those affected initially suffer from night blindness and then from an increasingly restricted field of vision, known as tunnel vision. Eventually they go completely blind.

## Other teacher information (2/2)

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### Learning objective



Students should develop an understanding of the eye disease retinitis pigmentosa.

### Tasks



The pupils learn about the eye disease retinitis pigmentosa and experience how the vision of a person with this disease changes by wearing simulation glasses.

## 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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At night

Retinitis pigmentosa is a group of genetic hereditary diseases that affect the human eye and can lead to progressive vision loss. The most common symptoms of this disease are night blindness and loss of peripheral vision (side vision). Subsequently, the patient usually suffers from increasingly restricted vision, known as tunnel vision. The disease can also lead to complete blindness.

## Tasks

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Simulation glasses

- Find out how the vision of a person with this condition changes by wearing simulation glasses.

## Equipment

Position	Equipment	Item no.	Quantity
1	Simulation glasses eye diseases, set consisting of 5 glasses	64956-00	1

## Execution

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Put on the blue simulation glasses to simulate the eye disease "retinitis pigmentosa" and look around you.

Take the glasses off again to see the difference.



Simulation glasses "Retinitis pigmentosa" and eye shell

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## Report



## Task 1

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Drag the terms to the right place.

Retinitis pigmentosa is a group of hereditary [ ] that affect the [ ]. These diseases lead to a gradual degeneration of the photoreceptors in the retina, resulting in [ ]. The most common symptoms are night blindness and loss of [ ].

eye

eye diseases

peripheral vision (side vision)

loss of vision

 Check

## Task 2

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What is retinitis pigmentosa?

- A group of diseases caused by excessive light in the eye.
- A group of hereditary eye diseases that cause degeneration of the photoreceptors in the retina and lead to vision loss.
- A group of infectious diseases that affect the human eye.

 Check

The eye

### Task 3

What are common symptoms of retinitis pigmentosa?

- Pain in the eyes and squinting.
- Night blindness and loss of peripheral vision.
- Improvement in visual acuity and hypersensitivity to light.

Check



At night

Slide	Score/Total
Slide 12: Definition of illness	0/4
Slide 13: Type of illness	0/1
Slide 14: Symptoms of the disease	0/1

Total amount  0/6

 Solutions

 Repeat