

# Age-related macular degeneration



Age-related macular degeneration (AMD) is an eye disease that affects central vision and particularly affects older people. It causes a blurred or distorted field of vision, making it difficult to read and recognise details. There is a dry and a wet form of AMD, with the wet form being more severe but less common.

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/6729f51f26998c0002679ece>

PHYWE



## Teacher information

### Application

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The eye

Age-related macular degeneration (AMD) is an eye disease that affects central vision and occurs mainly in older people. It affects the macula, the central area of the retina that is responsible for sharp vision and recognising details. With AMD, the central field of vision gradually becomes blurred or distorted, which can make activities such as reading, driving or recognising faces difficult. There are two main forms of AMD: the more common dry form, which progresses slowly, and the rarer but more serious wet form, in which leaking blood vessels develop under the retina.

## Other teacher information (1/2)

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### Prior knowledge



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

### Principle



Age-related macular degeneration (AMD) is an eye disease that affects central vision and particularly affects older people. It causes a blurred or distorted field of vision, making it difficult to read and recognise details. There is a dry and a wet form of AMD, with the wet form being more severe but less common.

## Other teacher information (2/2)

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### Learning objective



Students should develop an understanding of the eye disease age-related macular degeneration.

### Tasks



- The pupils learn about the eye disease age-related macular degeneration and experience how the vision of a person with this disease changes by wearing simulation glasses.

## Safety instructions

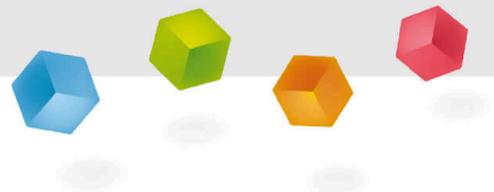
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The general instructions for safe experimentation in science lessons apply to this experiment.

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## Student information



## Motivation

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The eye

Age-related macular degeneration (AMD) is an eye disease that affects central vision and mainly occurs in older people. It affects the macula, the central area of the retina that is responsible for sharp vision and recognising details. With AMD, the central field of vision gradually becomes blurred or distorted, which can make activities such as reading, driving or recognising faces difficult. There are two main forms of AMD: the more common dry form, which progresses slowly, and the rarer but more serious wet form, in which leaking blood vessels develop under the retina.

## Tasks

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Simulation glasses

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

## Material

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

## Procedure

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Put on the purple simulation glasses to simulate the eye disease "age-related macular degeneration" and look around you.

Keep taking your glasses off to see the difference.



Simulation spectacles "Age-related macular degeneration" and eye half-shell

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## Report

## Observation

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Click on the following link to see another example of how age-related macular degeneration can affect a person's vision.

Move the slider in the centre to the left and right to see the comparison with and without illness directly.

[>> Simulation of age-related macular degeneration <<](#)



The eye model and simulation glasses

## Task 1

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Drag the words into the matching gaps.

Age-related macular degeneration (AMD) is an  that affects  vision and particularly affects  people. It causes a  or distorted field of vision, making it difficult to  and recognise . There is a dry and a wet form of AMD, with the wet form being  but less common.

more severe

central

details

read

older

eye disease

blurred

Check

## Task 2

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Which form of AMD develops more slowly and is more common?

- Moist AMD
- Dry AMD
- Mixed form AMD

✓ Check



At vero eos et accusam et justo

## Task 3

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Which function of the retina is mainly impaired in AMD?

- Central vision
- Colour vision
- Peripheral vision

✓ Check



The eye with glasses

Slide	Score / Total
Slide 13: Eye disease age-related macular degeneration	0/7
Slide 14: Forms of AMD	0/1
Slide 15: Impairment with AMD	0/1

Total amount  0/9

 Solutions

 Repeat