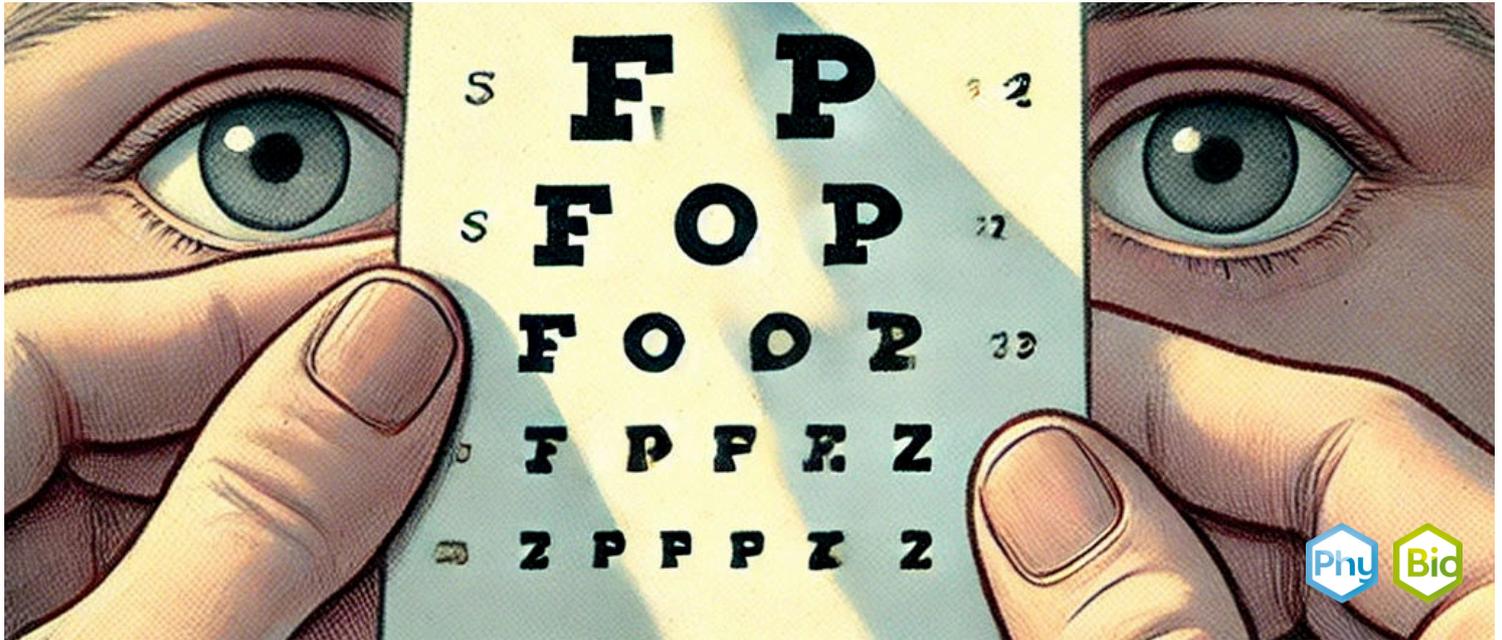


Primary eye



This experiment deals with the topic of the "primary eye" (also known as the dominant eye). The aim is to investigate which of the two eyes is more dominant for a person. The dominant eye is the one that is preferentially used for precise visual tasks, such as aiming or focussing on objects.

Physics

Light & Optics

Dispersion of light

Biology

Human Physiology

Hearing & Seeing



Difficulty level

-



Group size

-



Preparation time

-



Execution time

-

This content can also be found online at:



<https://www.curriculab.de/c/671793b817f7cb00029d4341>

PHYWE



Teacher information

Application

PHYWE



Primary eye

The primary eye plays an important role in many everyday tasks, especially in activities that require precise aiming and focussing. It is the eye that is more dominant and determines the direction in which we look. This is particularly relevant in sports such as archery, shooting or photography, where the primary eye is crucial for aiming accuracy.

In everyday life, it helps us to fixate objects better, for example when reading or using tools. Knowing your own primary eye can therefore be helpful in many situations.

Other teacher information (1/2)

PHYWE

Prior knowledge



The function of the human eye should be discussed in class beforehand.

Principle



When it comes to vision, one of our two eyes is more dominant and takes on a leading role. While both eyes work together to create an image, the primary eye is responsible for more precise alignment and focussing. This means that it is better able to fixate objects and correctly judge distances.

Other teacher information (2/2)

PHYWE

Learning objective



Pupils learn about the basic function of the human eye. They carry out an experiment to find out which eye is their primary eye and learn what it is used for in everyday life.

Tasks



Students determine their primary eye and learn about applications.

Safety instructions

PHYWE



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

PHYWE

Student information



Motivation

PHYWE

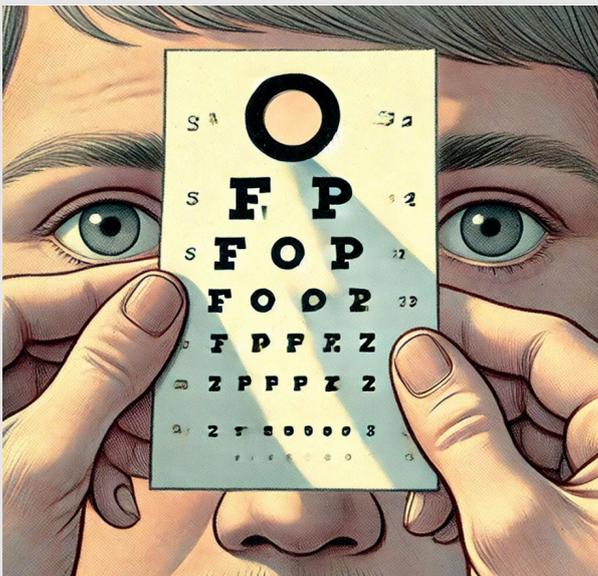


Primary eye

Knowing your primary eye can help you in many areas of life. For example, if you play sports such as archery, basketball or tennis, it can be useful to know which eye is your stronger one so that you can aim better. It also helps you to focus on objects more precisely when taking photographs or drawing. It's exciting to find out which eye takes the lead for you, as it shows how your brain and eyes work together to give you the best vision. By knowing your primary eye, you can work more purposefully and successfully in these activities.

Tasks

PHYWE



- Identify your primary eye.

Material

Position	Equipment	Item no.	Quantity
1	Card with hole, centred	64950-00	1

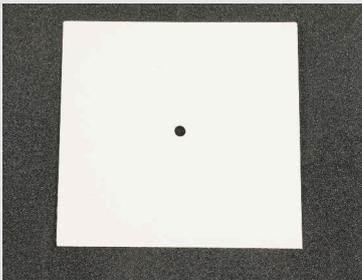
Additional material

PHYWE

Position	Equipment	Quantity
1	any object	1

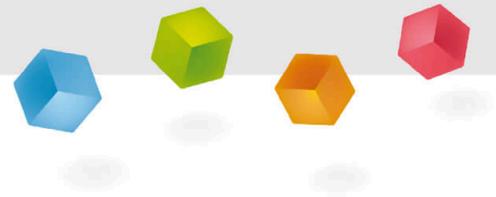
Set-up and procedure

PHYWE



- Position any object (e.g. the eye bowl from the experiment set "The Eye") approx. 2 m away from you on a table.
- Hold the card with the hole (pictured above) so that you can look at the object through the hole.
- Make sure that the focus of your eyes is on the object so that it can be seen clearly (illustration below).
- Now close your left and right eye alternately and see what happens.

PHYWE



Report

Task 1

PHYWE

What do you observe when your eyes take turns looking at the object through the hole?

- When looking through with the primary eye, the object remains unchanged; with the other eye, it jumps to the side and changes position.
- The object remains unchanged with both eyes.
- When looking through with the primary eye, the position of the object changes and it "jumps" to the side; with the other eye it remains unchanged.

Check

Task 2

PHYWE

Drag the matching words into the gaps.

The primary eye is the eye that you use when looking at objects to enable more precise perception and better focussing. To find out which eye is your primary eye, you can perform a simple test where you hold an in front of you and observe which eye sees the object more clearly when the other eye is . Knowing your primary eye is particularly useful for activities that require , such as shooting or precise drawing.

closed

primarily

accuracy

object

 Check

Task 3

PHYWE

Why is the knowledge of your primary eye particularly important for archery or aiming?

- It improves accuracy and stability when aiming.
- It affects your eye's sensitivity to light.
- It helps to better estimate the exact distance to an object.

 Check

Aiming with archery

Slide	Score / Total
Slide 13: Trial observation	0/1
Slide 14: Identify primary eye	0/4
Slide 15: Archery	0/1

Total amount  0/6

 Solutions

 Repeat