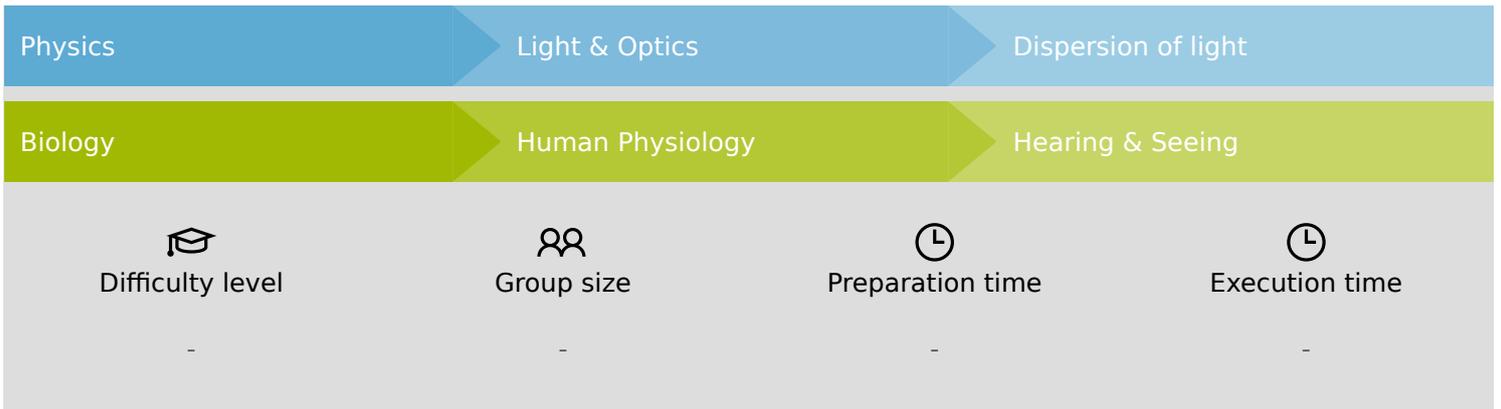


Color blindness



This content can also be found online at:



<https://www.curriculab.de/c/671793f817f7cb00029d4348>

PHYWE



Teacher information

Application

PHYWE



Colour blindness

Colour blindness is a condition that causes some people to be unable to recognise certain colours. Normally, colour blindness does not cause major problems. However, it can sometimes be difficult to perform certain tasks, such as distinguishing colours on a map or in a diagram.

The most common form of colour blindness is red-green vision impairment, in which the person affected has difficulty distinguishing between red and green colours. However, there are also other types of colour blindness.

Other teacher information (1/2)

PHYWE

Prior knowledge



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

Principle



Colour blindness is often caused by special cells in our eyes called 'cones', which normally help to filter light into different colours. Each person has millions of these cones, and they are divided into three types, each of which responds to red, green or blue. If one or more of these types are not working properly, this can result in a person being unable to see certain colours.

Other teacher information (2/2)

PHYWE

Learning objective



Students learn the basic principle of colour blindness.

Tasks



The pupils carry out an experiment to find out whether they themselves are affected by a type of colour blindness.

Safety instructions

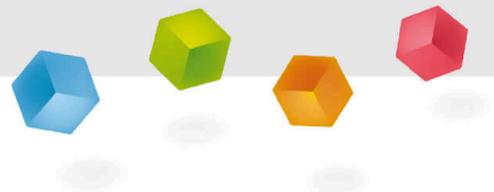
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The general instructions for safe experimentation in science lessons apply to this experiment.

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Student information



Motivation

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Colour blindness

Almost 8% of men and 0.5% of women worldwide are affected by colour blindness. It is therefore important to understand how different people perceive the world around them. It shows us how our eyes and brains work together to perceive the many beautiful colours around us. Learning about colour blindness also helps us to develop empathy and understand what life feels like with this condition. It teaches us to respect and appreciate diversity and we realise that our differences actually make us unique and special.

Tasks

PHYWE



Ishihara cards

- Identify all the numbers on the cards to see if your eyes can separate the colours.

Material

Position	Equipment	Item no.	Quantity
1	Cards to demonstrate colour blindness	64952-00	1

Set-up and procedure

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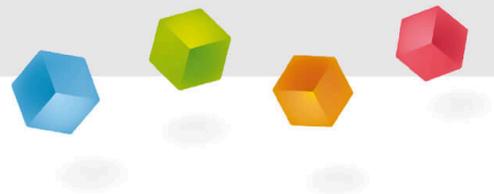


Ishihara cards for demonstrating colour blindness

- Place a card on the table in front of you and see if you can recognise the number on the card.
- Repeat this for each of the cards.

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Report



Task 1

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Complete the cloze text.

Our ability to see colours is controlled by special cells in our eyes called . Around % of men and % of women worldwide are colour blind. Learning about colour blindness can help promote for those living with this condition and can help us understand how our work.

 Check

Task 2

What is colour blindness?

- A condition where you can't see any colours.
- A condition in which you cannot see certain colours.
- A condition where you can see all the colours.

 Check

How many types of cones do we have in our eyes?

- Three
- One
- Two

 Check

Task 2

PHYWE

What is colour blindness?

- A condition where you can't see any colours.
- A condition in which you cannot see certain colours.
- A condition where you can see all the colours.

 Check

How many types of cones do we have in our eyes?

- Three
- One
- Two

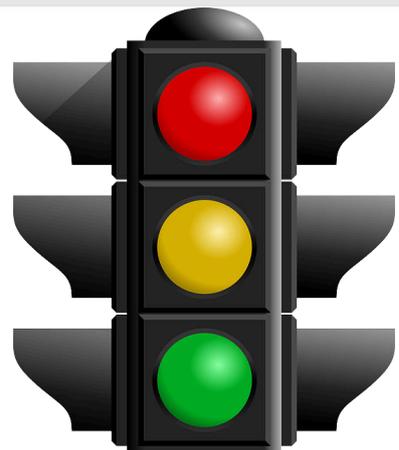
 Check

Task 3

PHYWE

Complete the cloze text.

In everyday life, people with colour blindness can sometimes find it difficult. In traffic, for example, they may have problems recognising and interpreting road signs. But even when cooking, it can be difficult to recognise the of food on the basis of colour.

 Check

Traffic light