



A COR da LUZ

a COR da LUZ



2015 INTERNATIONAL YEAR OF LIGHT
AND LIGHT-BASED TECHNOLOGIES

ANO INTERNACIONAL DA LUZ

TEMA DE INTERESSE

IMPACTO VISUAL

MULTIDISCIPLINARIDADE

física + química + biologia + neurociência +
matemática + computação + engenharia +
psicologia + design + arquitetura + arte + ...



NA ONDA DA LUZ

COMO VEMOS AS CORES

GERAÇÃO DE CORES

SOMANDO LUZ

SUBTRAINDO LUZ

USANDO EFEITOS DE ONDA

MEDINDO CORES

JOGOS & EFEITOS & ILUSÕES

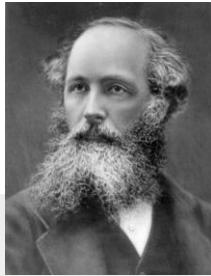
NA ONDA DA LUZ



Espectro EM

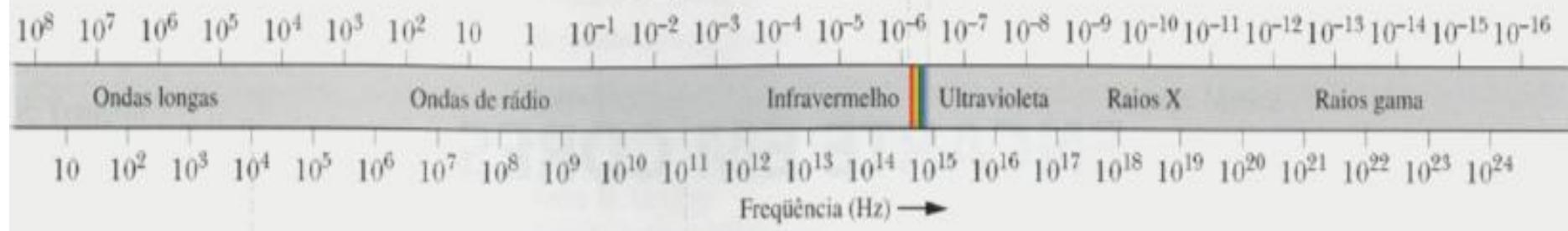
Decomposição da luz branca

Fontes de luz

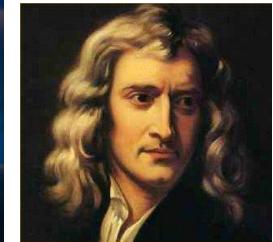


Maxwell

← Comprimento de onda (m)



Newton

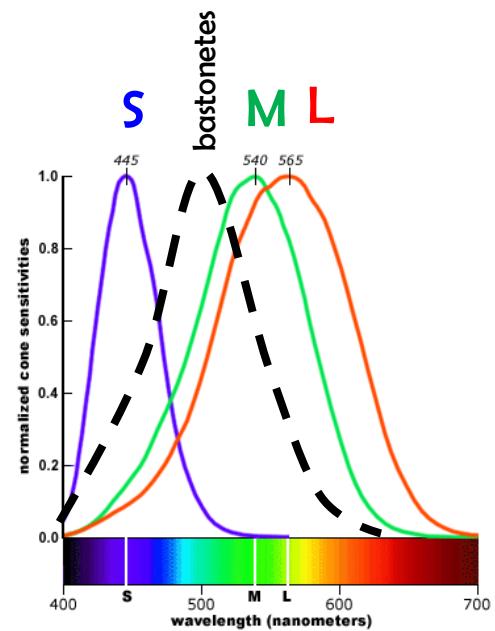
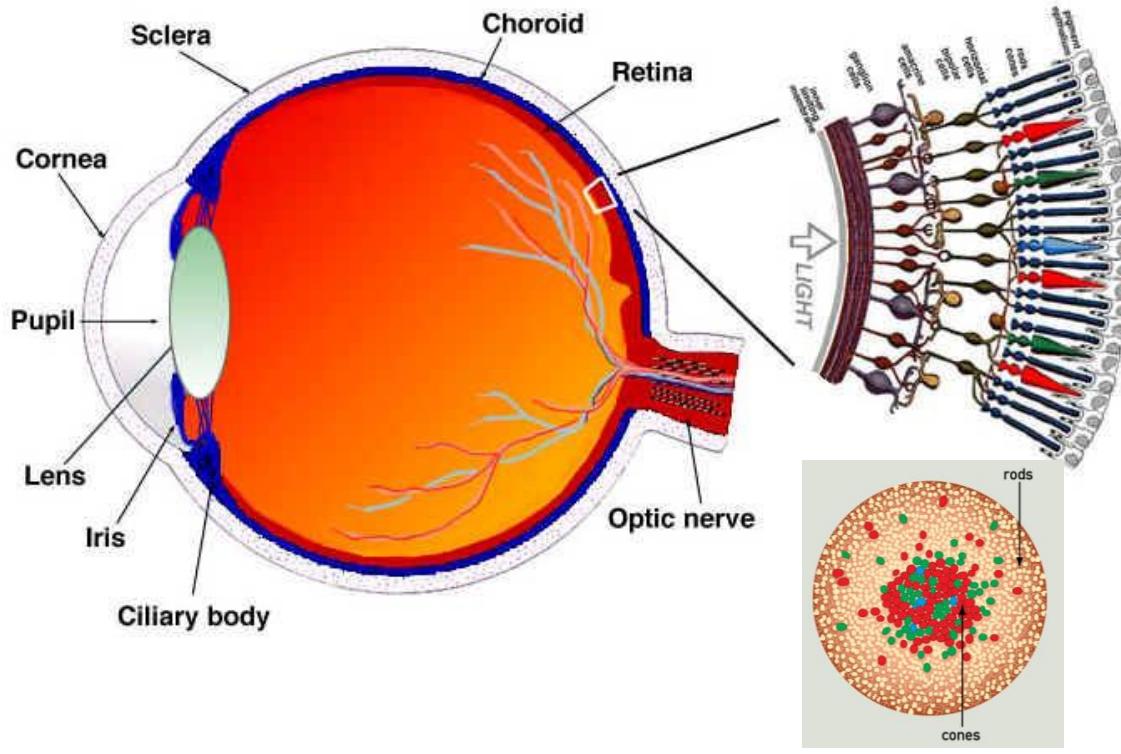


COMO VEMOS AS CORES



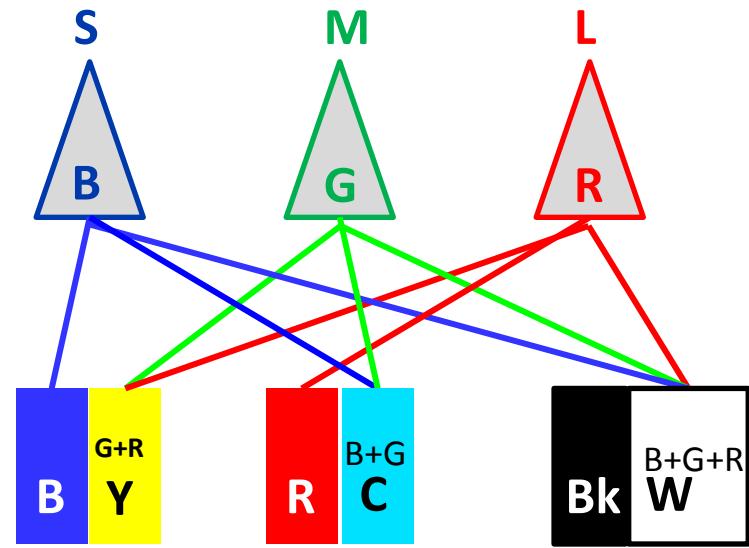
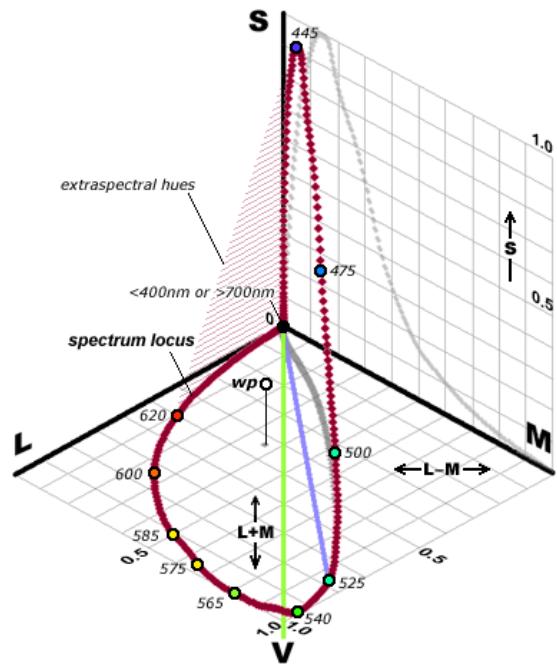
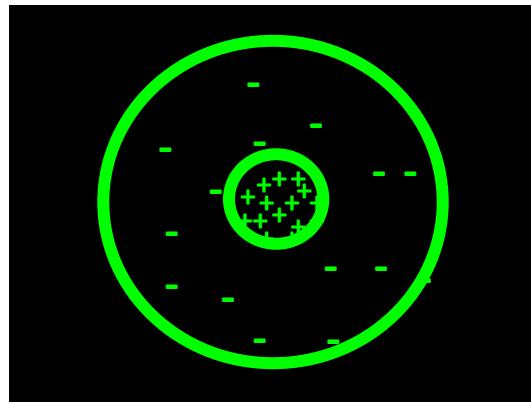
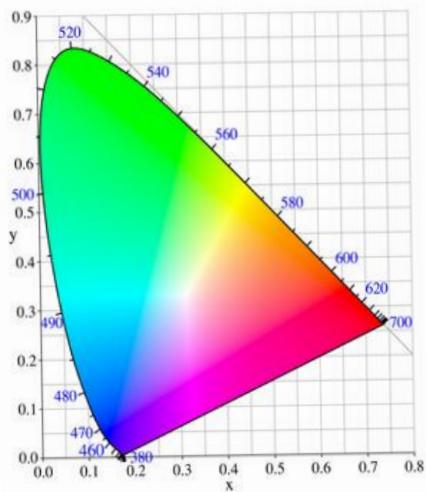
OLHO

COLEÇÃO da LUZ
DETECÇÃO da LUZ : fotosensores



PERCEPÇÃO da COR

Sistema diferencial de detecção
Processamento da visão pelo cérebro

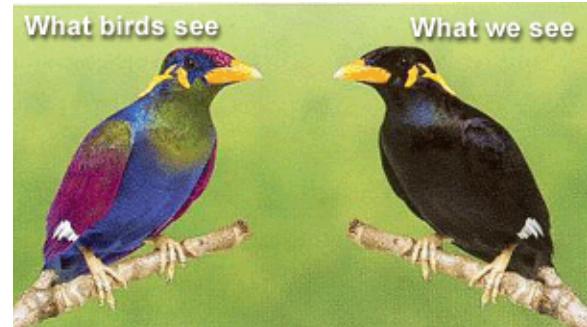
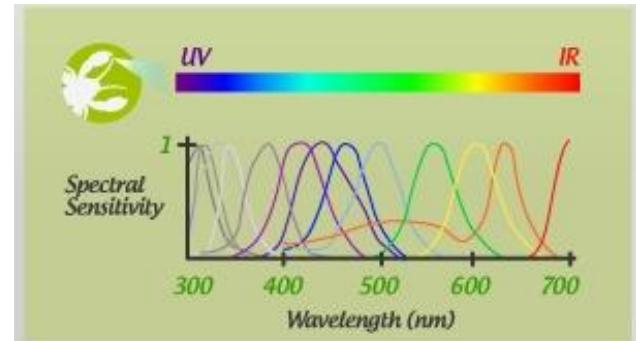
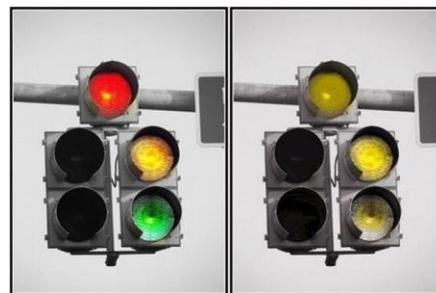
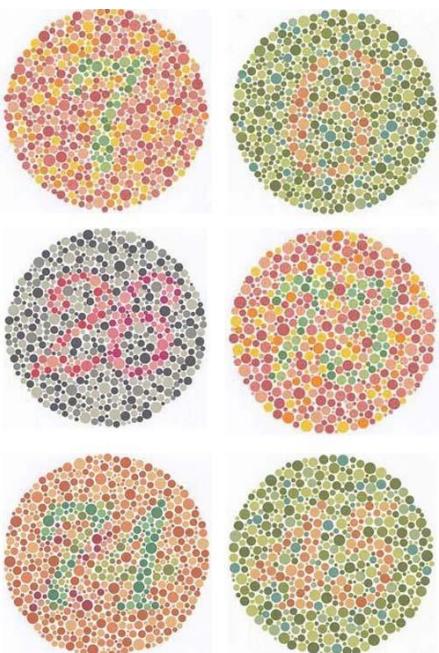
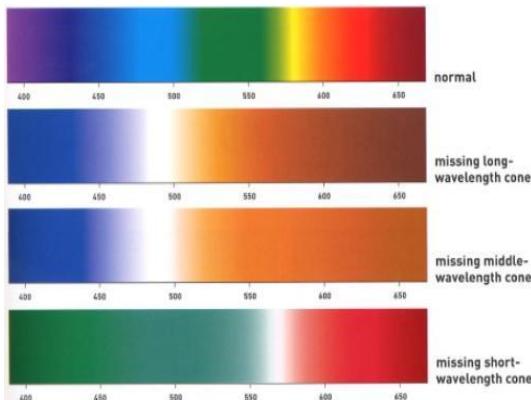


DALTONISMO & VISÃO ANIMAIS

PROTANOPIA

DEUTERANOPIA

TRITANOPIA



GERAÇÃO DE CORES

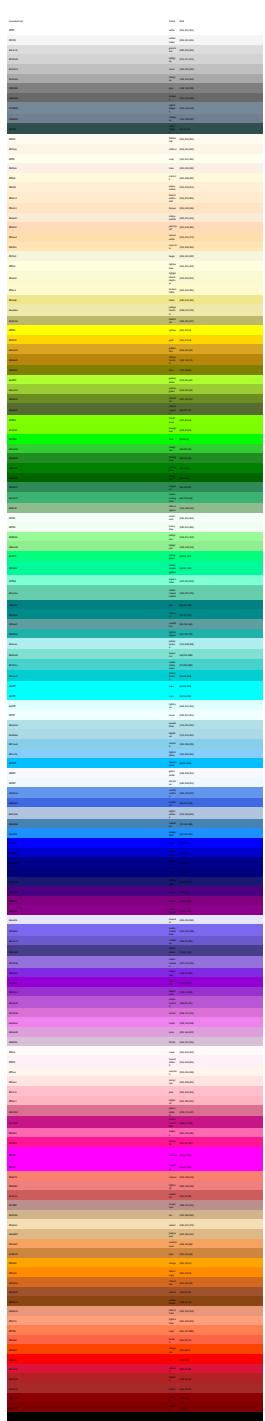
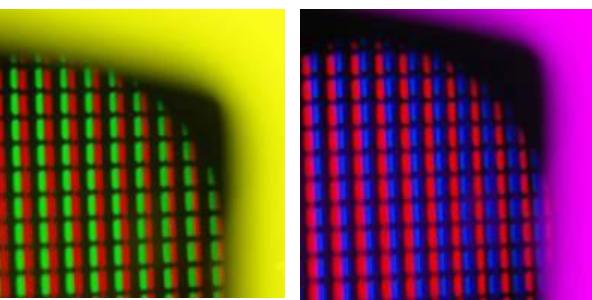
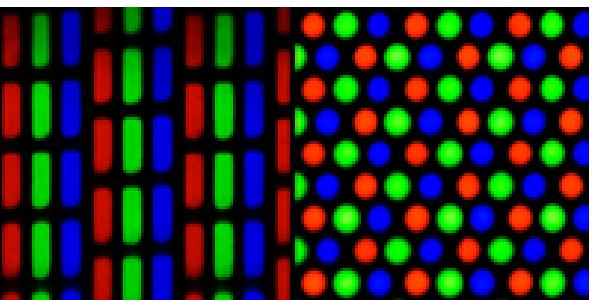
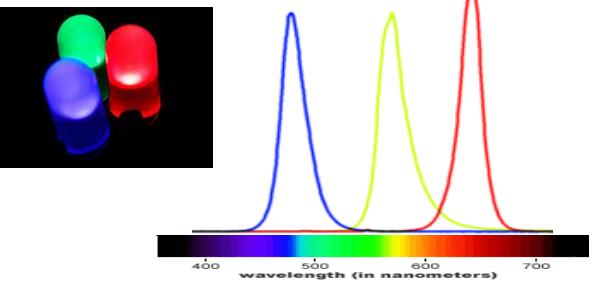


SOMANDO

A blurred, colorful portrait of a person's face, serving as a background. The colors transition from blue on the left to red on the right, with a prominent rainbow gradient across the center. The person has dark hair and appears to be wearing a white shirt.

LUZ

RGB



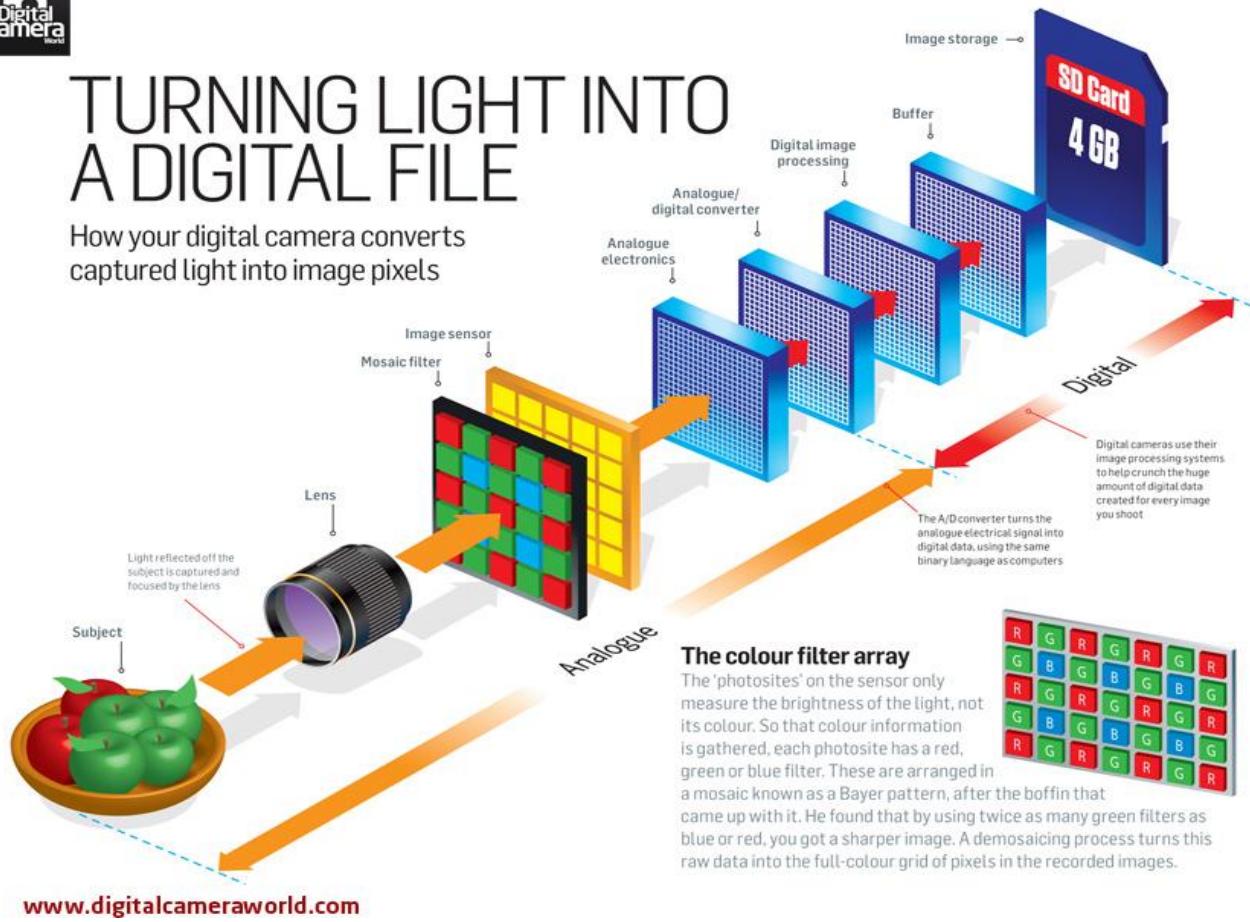
REGISTRO da COR

Máquinas de fotografia



TURNING LIGHT INTO A DIGITAL FILE

How your digital camera converts captured light into image pixels

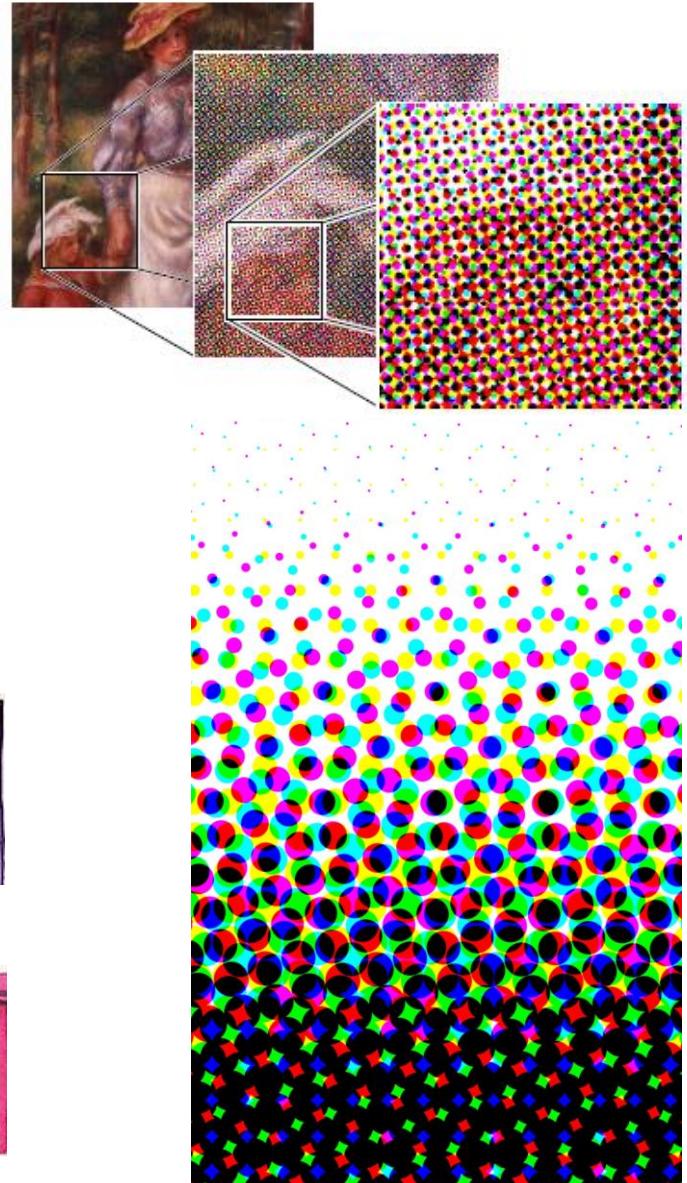


SUBSTRATE AND
ONTOGENY



N
D

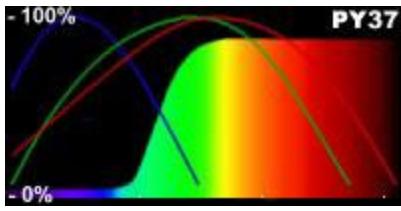
Reflectâncias Sistema aditivo CMYK



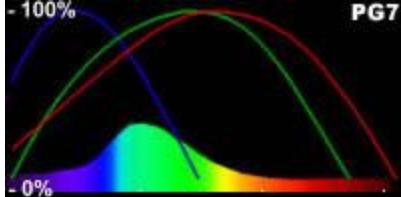
Naphthol AS-D red



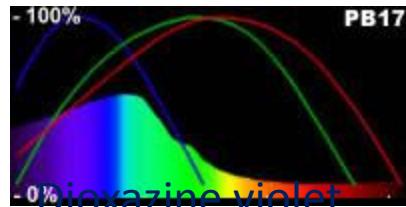
Cadmium yellow



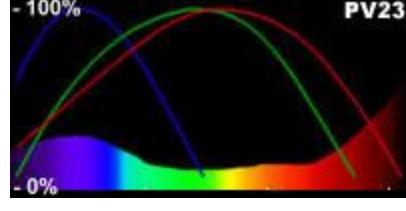
Phthalocyanine green



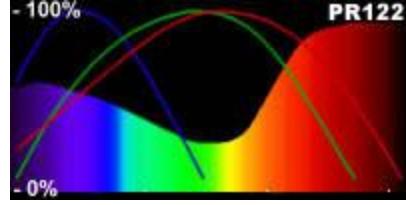
Phthalocyanine cyan



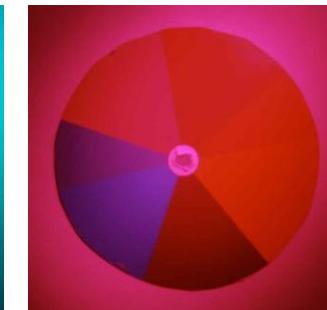
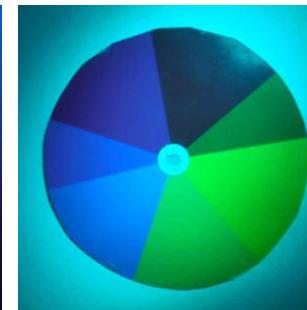
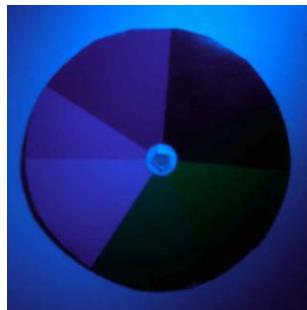
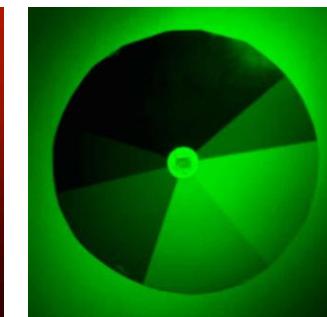
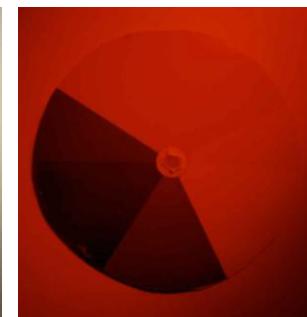
Dioxazine violet



Quinacridone magenta



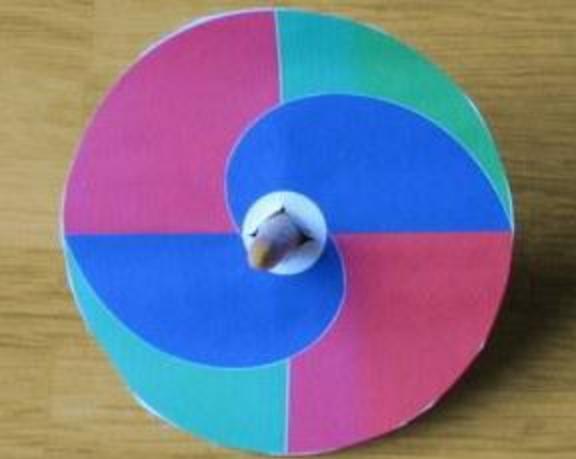
Reflectâncias com iluminação controlada



Carnovsky



Discos de Newton



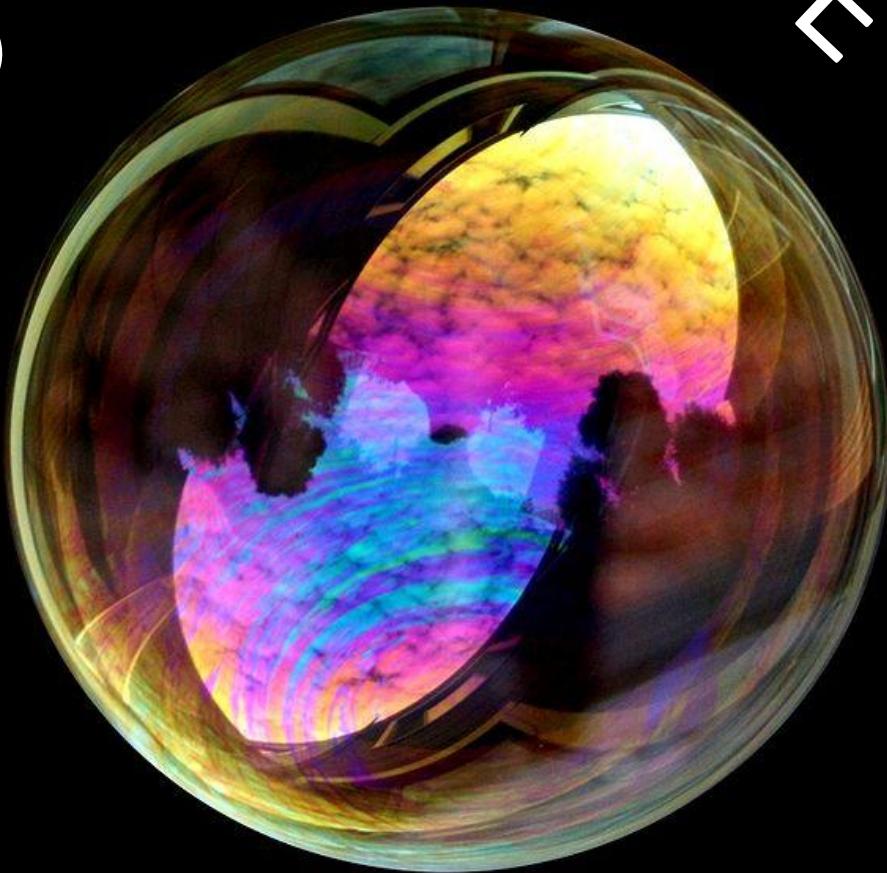
QUÍMICA

Corantes & pigmentos

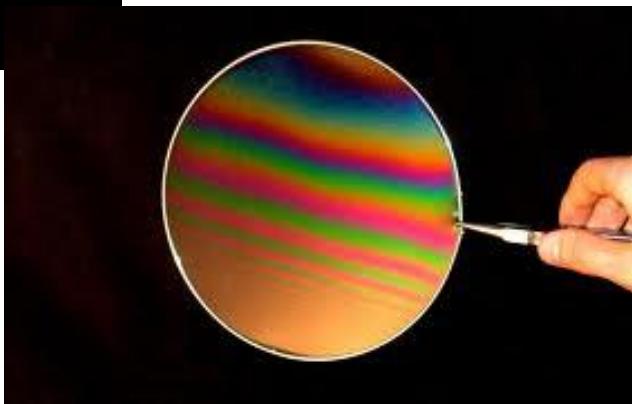
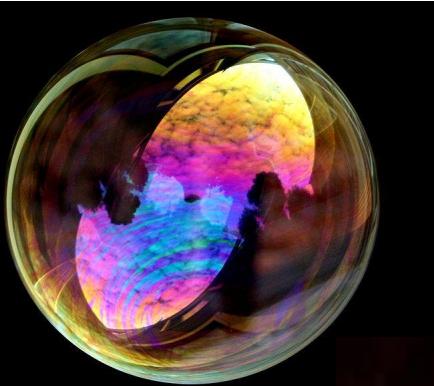
Arte & design



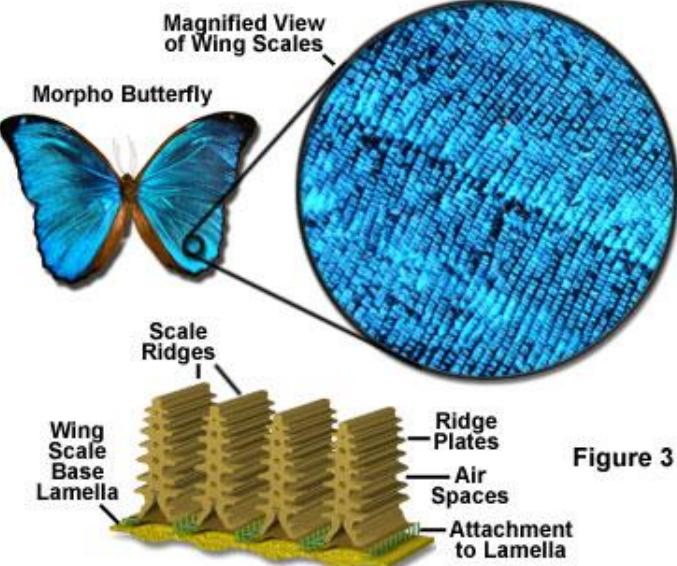
USANDO
EFEITOS
DE
ONDA



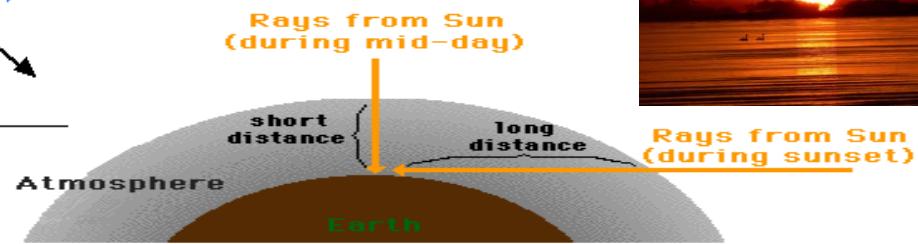
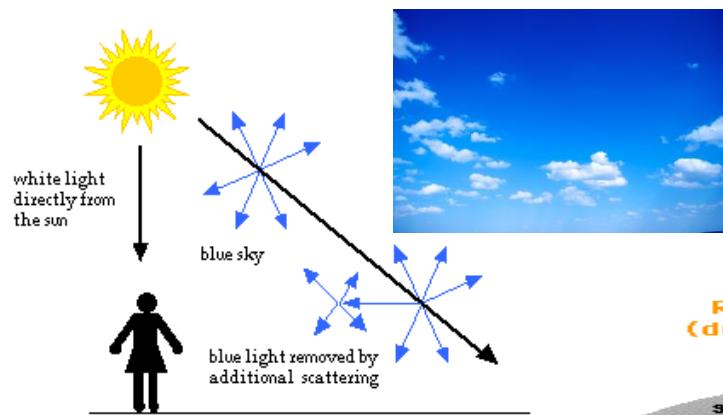
INTERFERÊNCIA



Interference Structures in Butterfly Wings



ESPALHAMENTO



sem atmosfera
sem espalhamento
sem cor

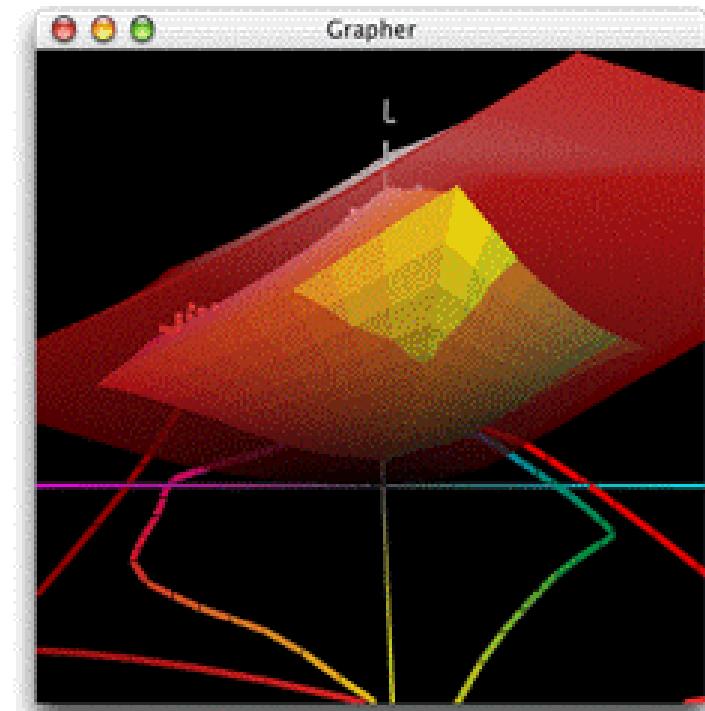


MEDINDO CORES



COLORÍMETROS

ESPAÇOS DE COR



JOGOS & EFEITOS & ILUSÕES



After-image

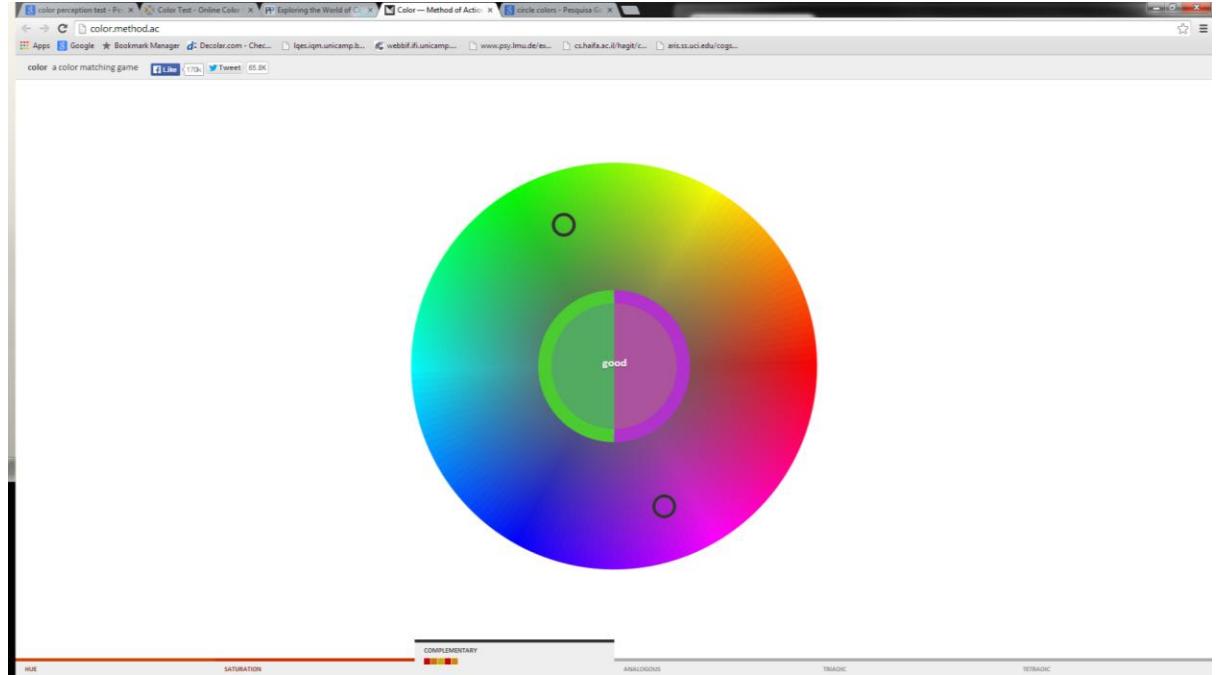
Efeitos
centro-
contorno



Constância
da cor

Jogos de percepção de matizes de cor

Efeitos psicologicos das cores



Online Color Challenge

How well do you see color? FACT: 1 out of 255 women and 1 out of 12 men have some form of color vision deficiency. Take the online color challenge, based on the Farnsworth Munsell 100 Hue Test.

Drag and drop the colors in each row to arrange them by hue order. The first and last color chips are fixed. Click on "Score Test" when done.

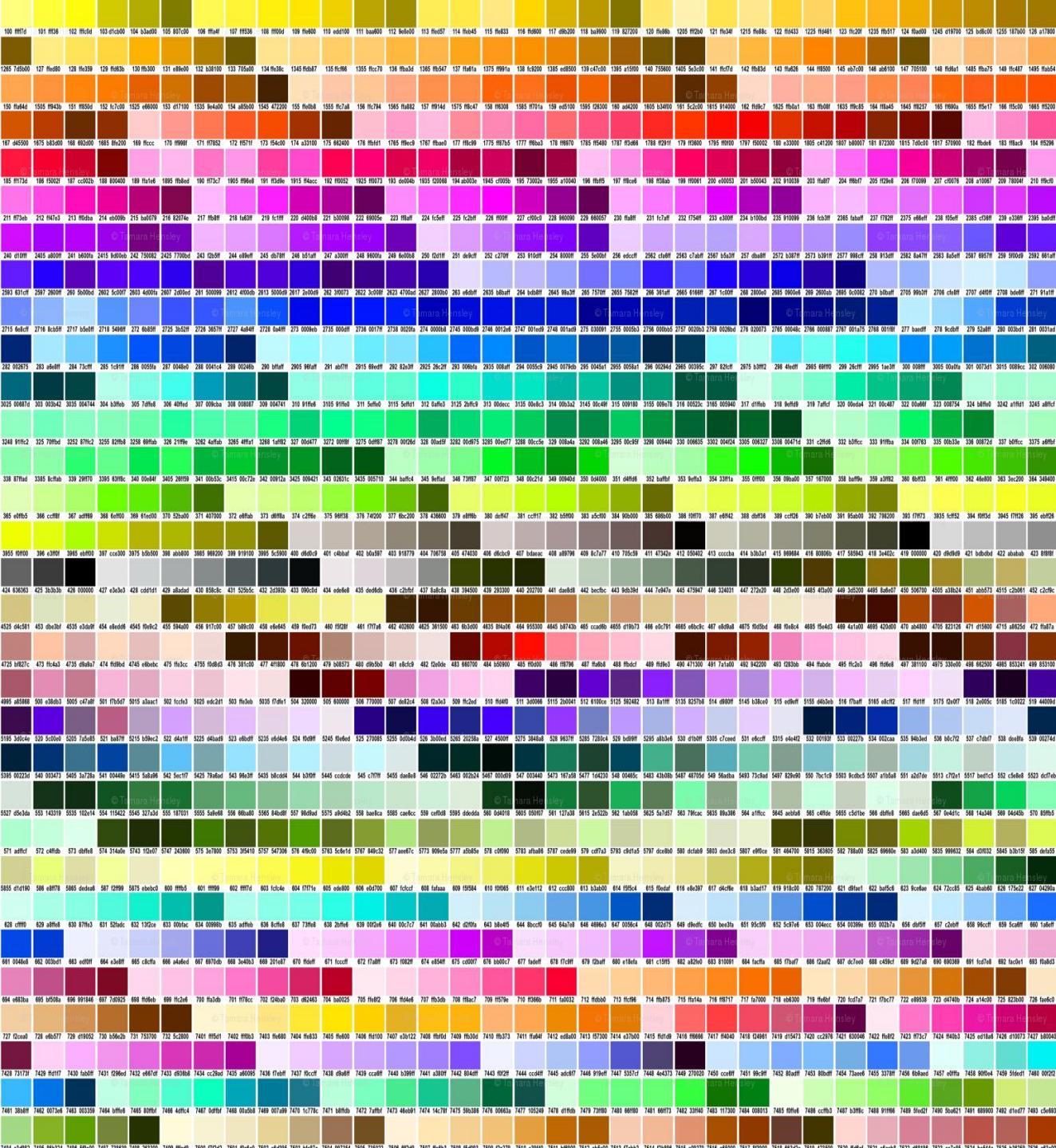
Score Test

Qual é a cor
do céu?

Qual é a cor
de
Campinas?

Qual é a sua
cor?

Qual é a cor
...?





JULHO 2015

