# Experiment 2

## Description

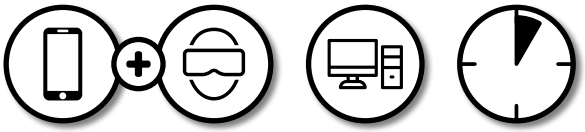
You have seen, that lighting can have an enormous effect on the way the human eye sees colors. Our perception of colors is affected very much by light.

The effect on the dress was already clearly visible. But there are changes which may be more subtle or more drastic.

Use a comuter or your smartphone (with a VR headset if possible) and enter the second experiment.

1. Use the buttons to experiment with the different effects.
2. Try different combinations and watch the consequences on the scene and the objects.

## What do you need?



smartphone VR headset computer 5 minutes

## Online ressources

Link to VR setting 2:
Tomato, apple and orange in VR with RGB light sources with can be triggered on/off

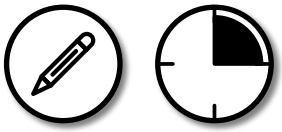
Advanced setup (?)
Tomato, apple and orange in VR with RGB light sources with can be adjusted by sliders

# Exercise 2

## Tasks

1. What did you see? Make a list of all objects in the scene. Do a sketch of the VR setting.
2. What are the basic colors of light in this experiment?
3. How is this method of color mixing called?

## What do you need?



pencil 15 minutes

## Further reading

detailed information on Wikipedia additive color mixing / RGB

https://en.wikipedia.org/wiki/Additive_color

Objects in the scene:

- Element 1: Tomato
- Element 2:
- 
- 
- 
- 
- 

4. Create a list of objects, different lighting combinations and the results.

| Element 1: Tomato | | | |
|---|---|---|---|
| R | G | B | appears |
| ☐ | ☐ | ☐ | black |
| ☒ | ☐ | ☐ | red |
| ☐ | ☒ | ☐ | black |
| ☐ | ☐ | ☒ | black |
| ☒ | ☒ | ☐ | red |
| ☒ | ☒ | ☒ | red |

| Element 2: | | | |
|---|---|---|---|
| R | G | B | appears |
| ☐ | ☐ | ☐ | black |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |

| Element 3: | | | |
|---|---|---|---|
| R | G | B | appears |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |
| ☐ | ☐ | ☐ | |

**Conclusion**

The element appears in its natural colors, if either red, green AND blue light sources are switched on OR the light sources contain just the elements' the basic color(s)