

A Partnership Approach to STEAM in Youthreach

STEAM Sessions: Exploring Light



Exploring Light - Light and Shadows

Learners will

1. Work collaboratively paying attention to everyone's inputs.
2. Use problem solving to find the best method, using trial and error where appropriate.
3. Describe how light travels through different materials.
4. Show how different colours make up white light and how they can be broken down.
5. Research to understand more and how what you've learned can be used in the real world.

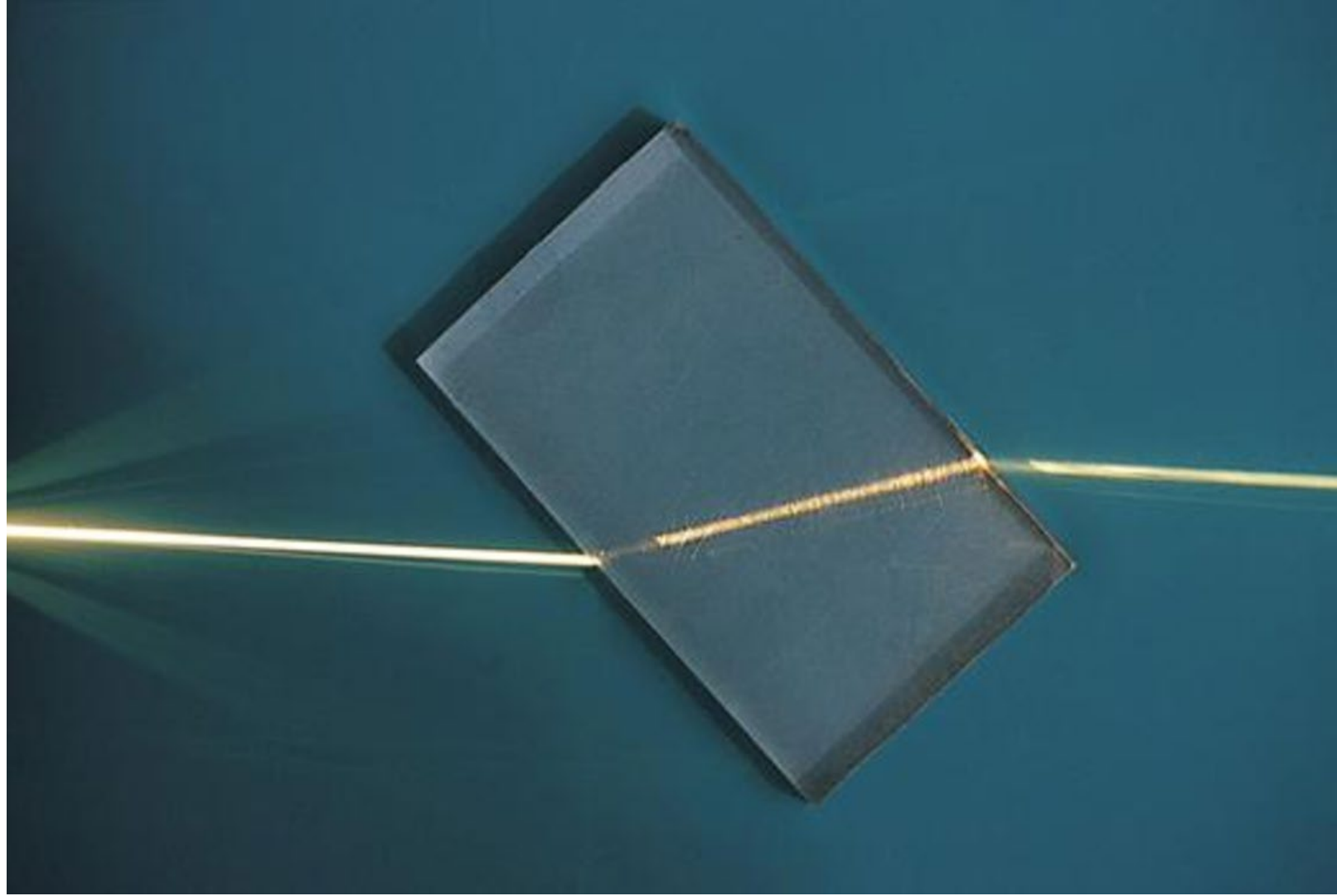
Bending Light

Refraction

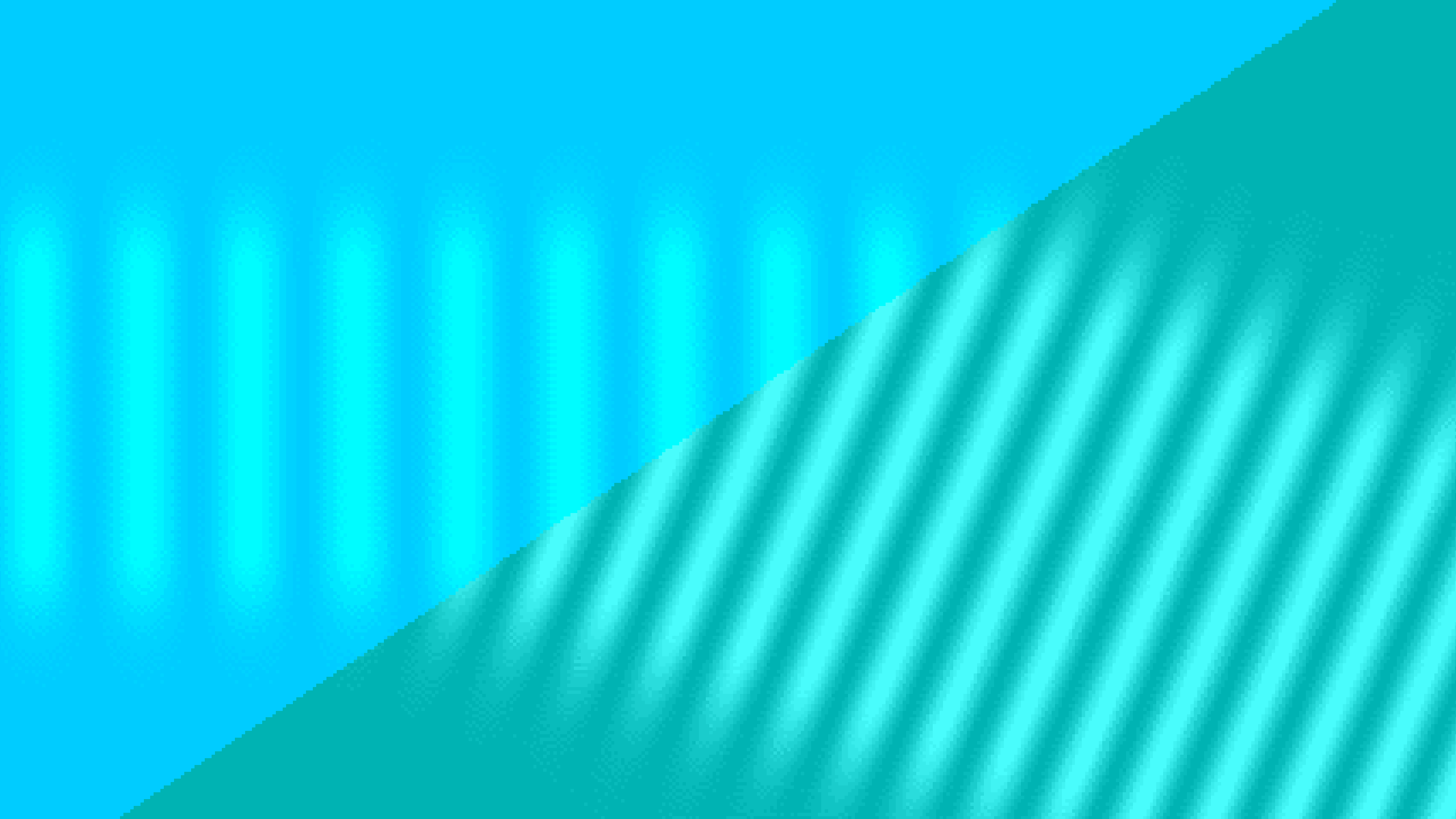


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Refraction examples – change in direction of a ray of light





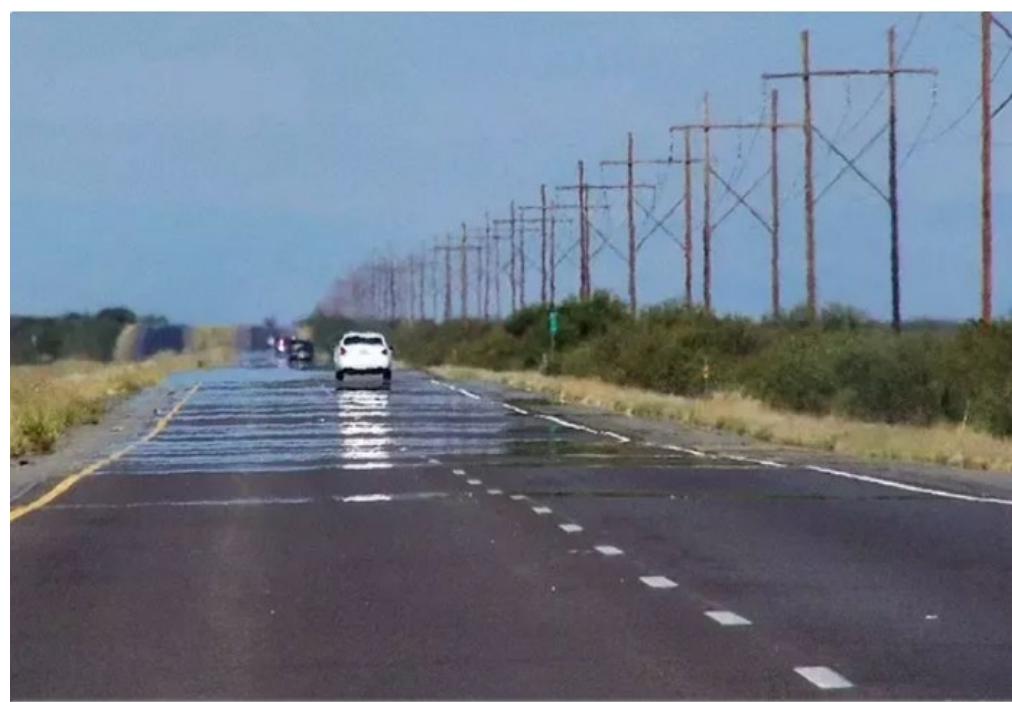




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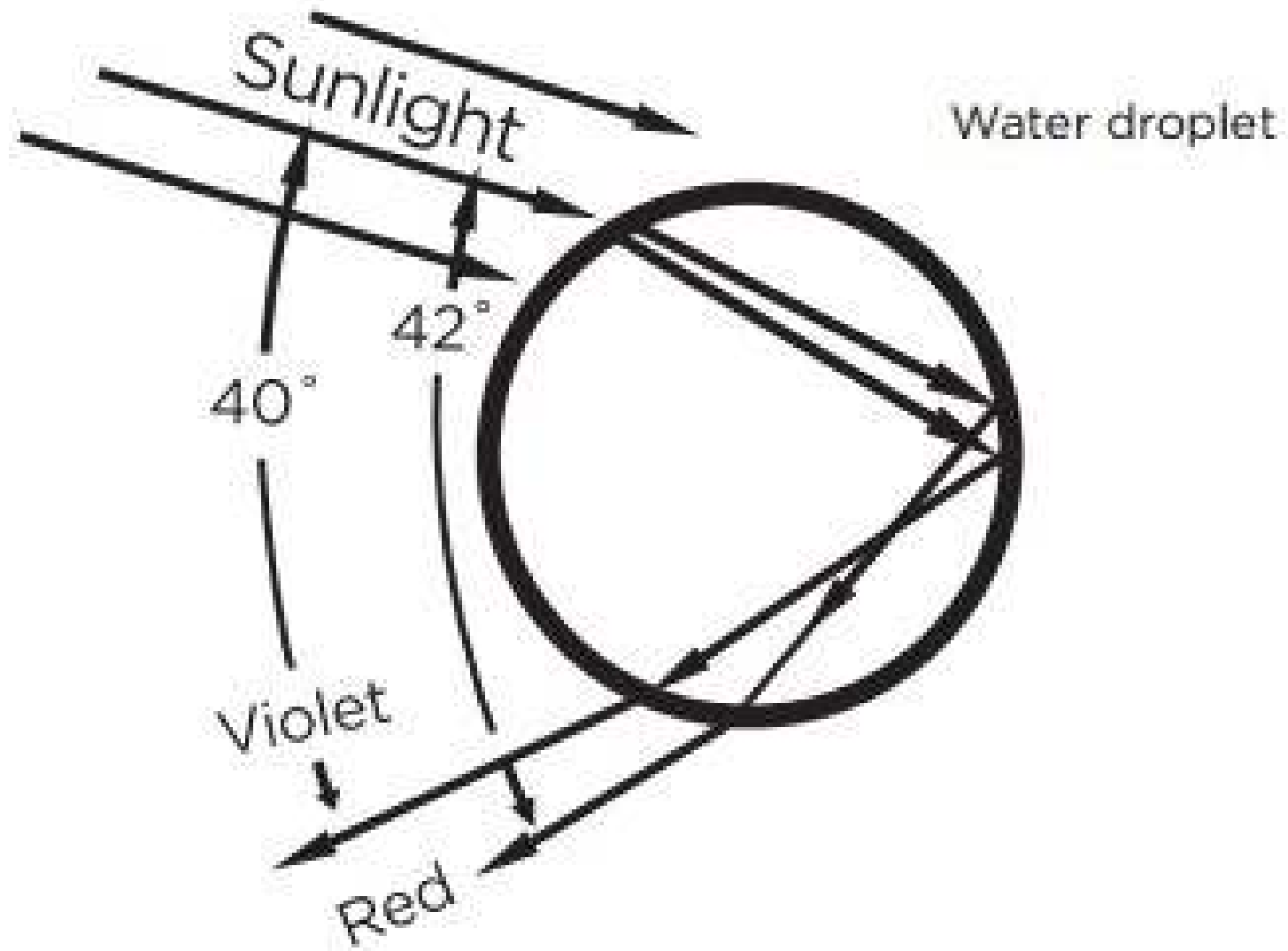


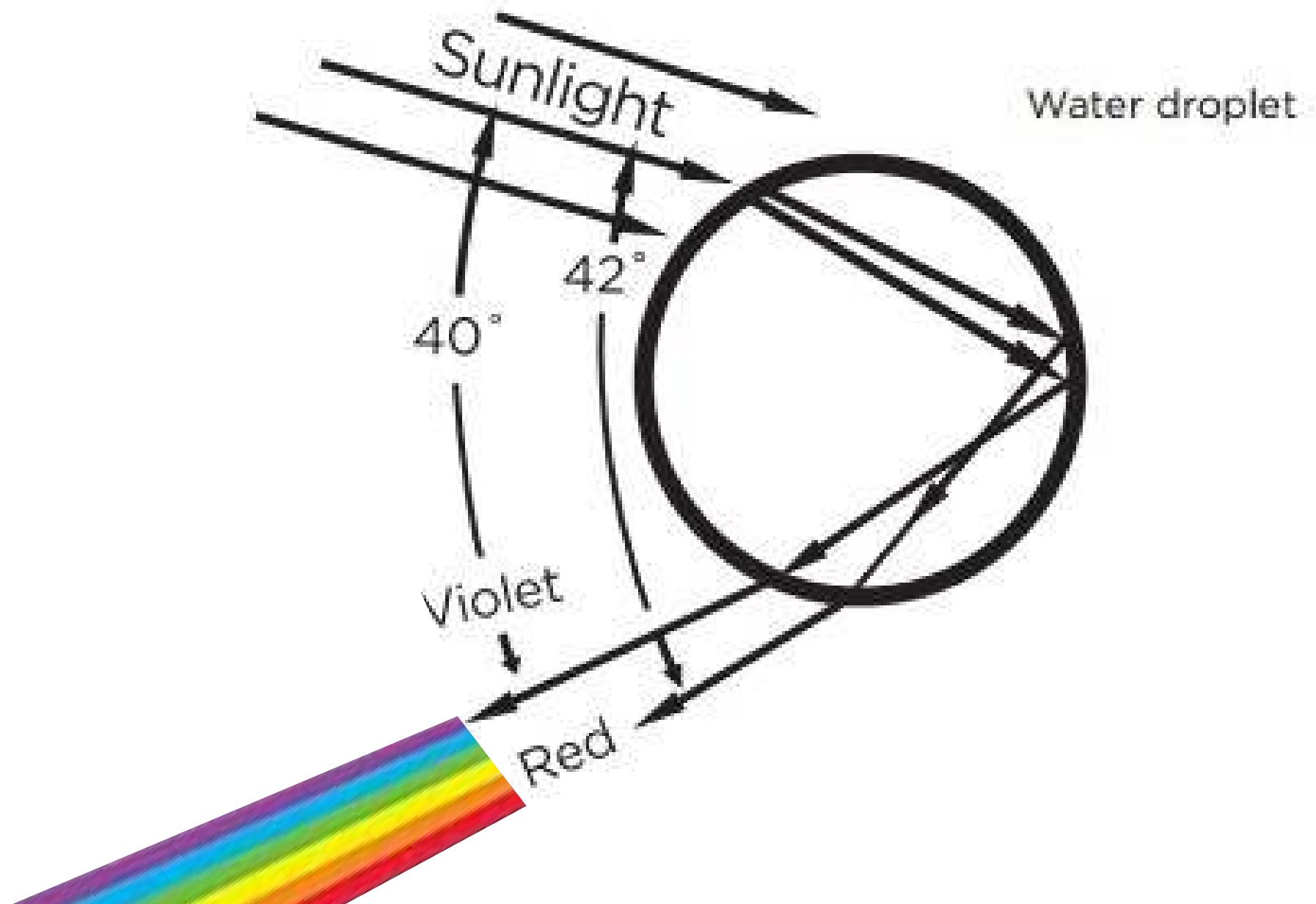
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Splitting Light Dispersion



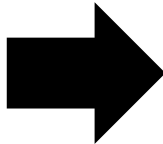


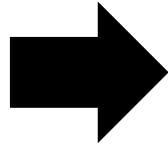
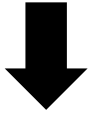




We're going to investigate how light can be split up to form a rainbow by making a **spectroscope.**

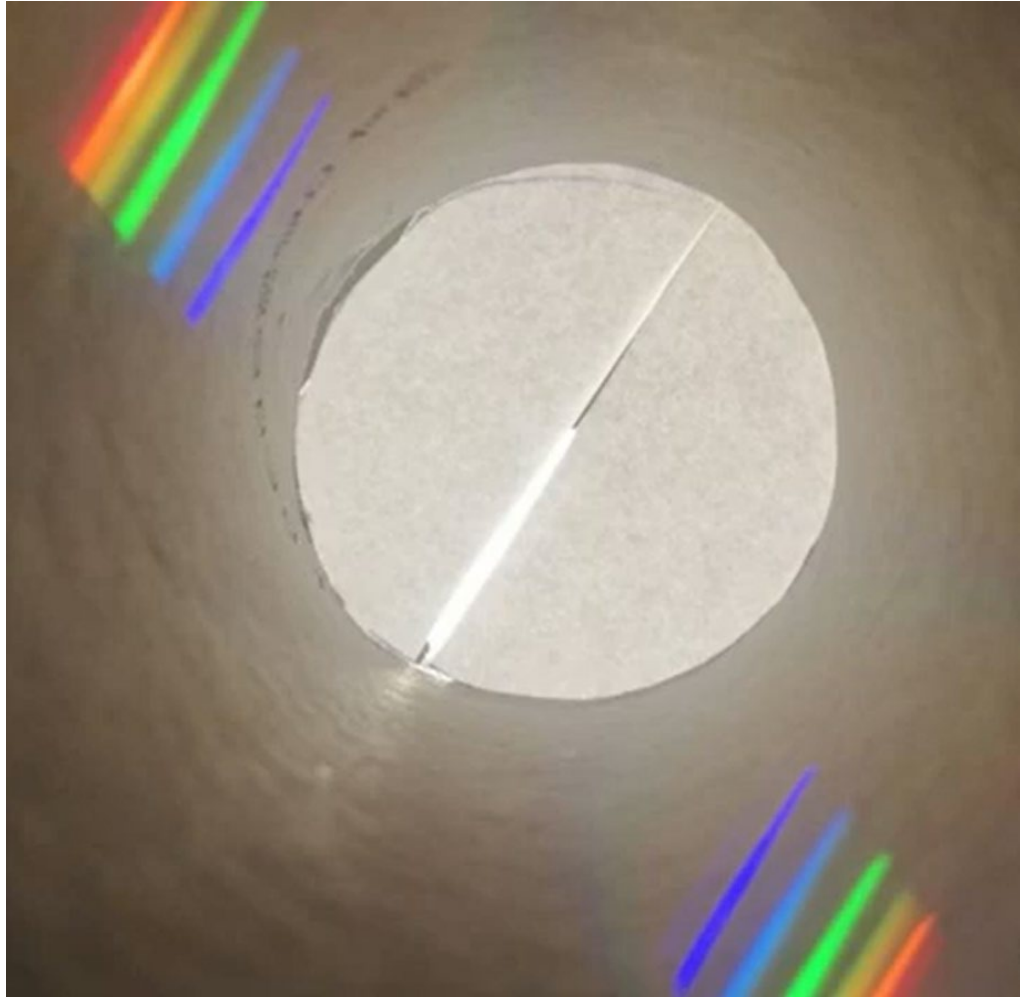




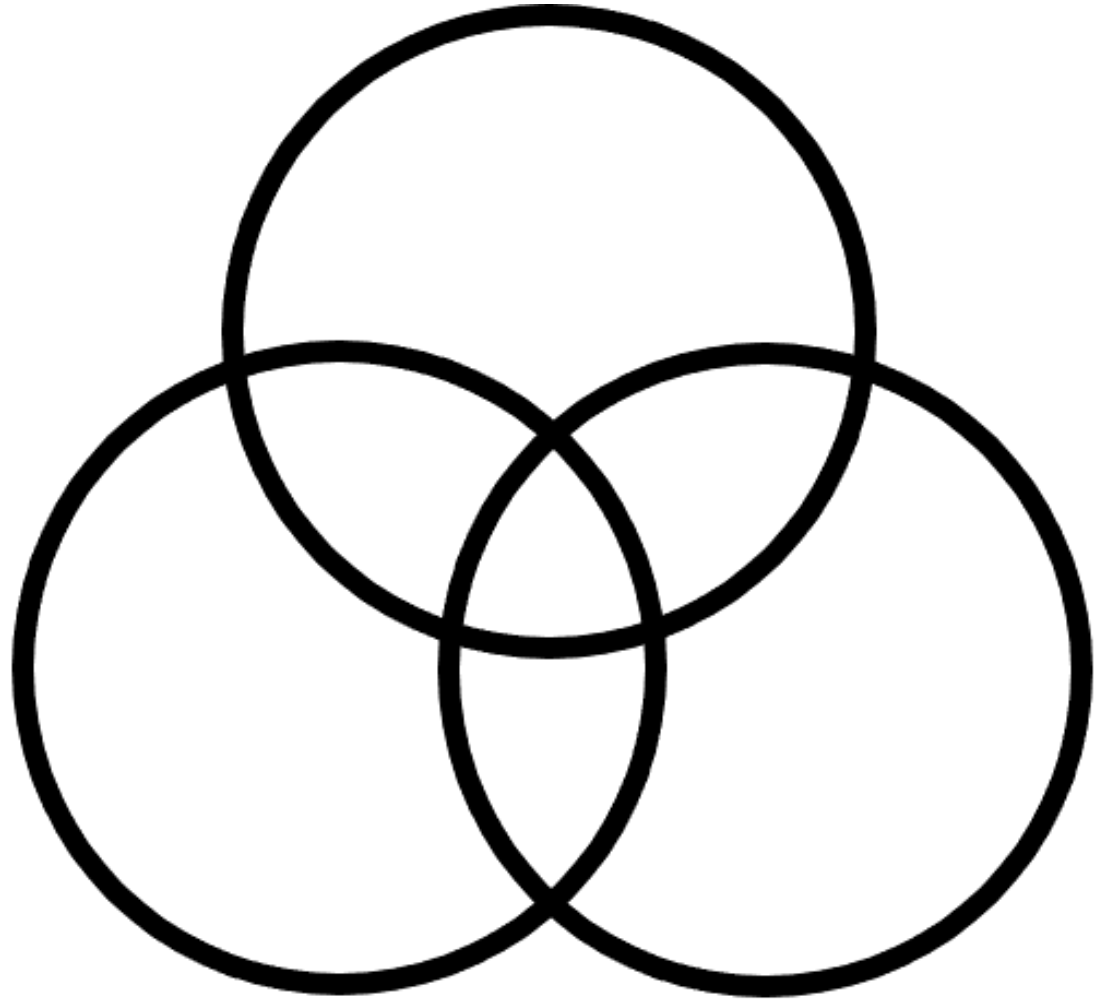




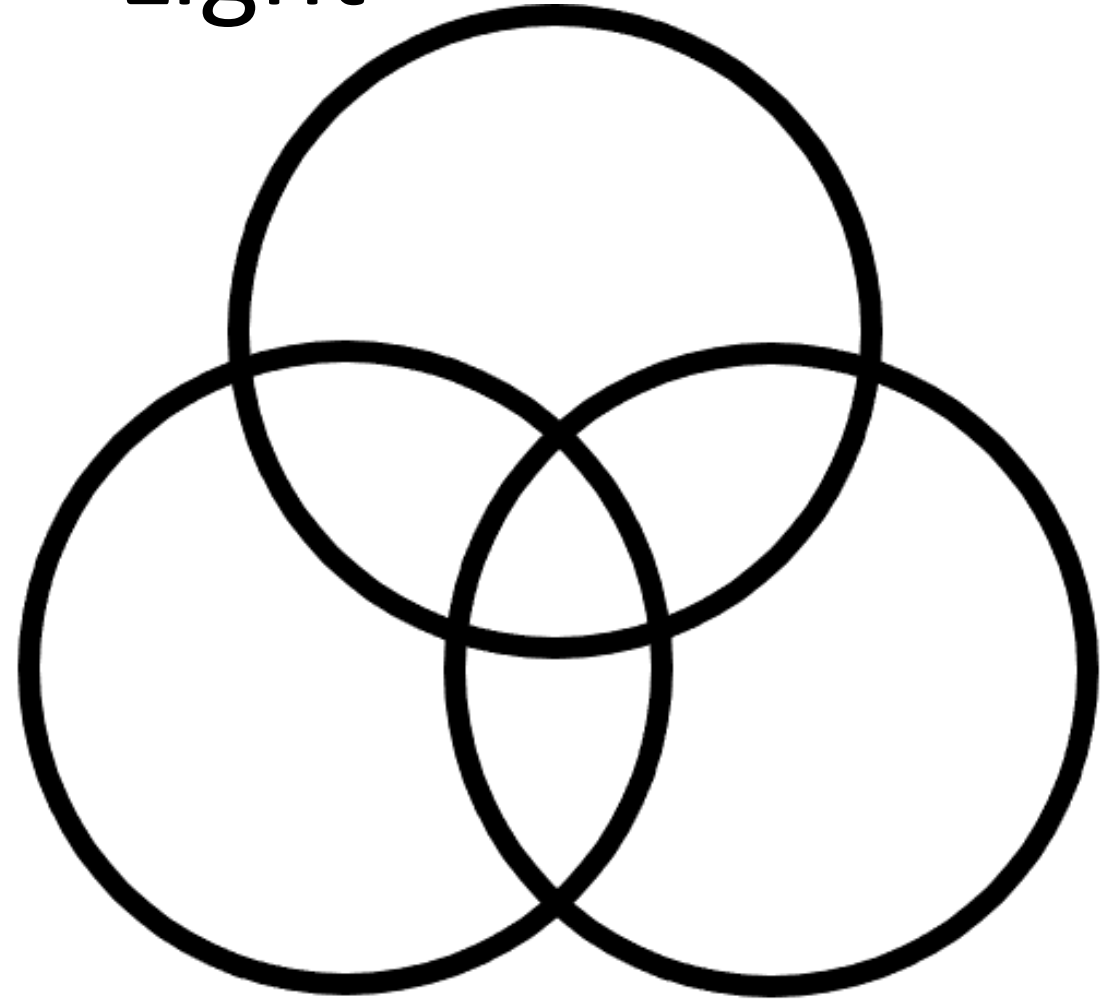
FULL STEAM AHEAD



Paint

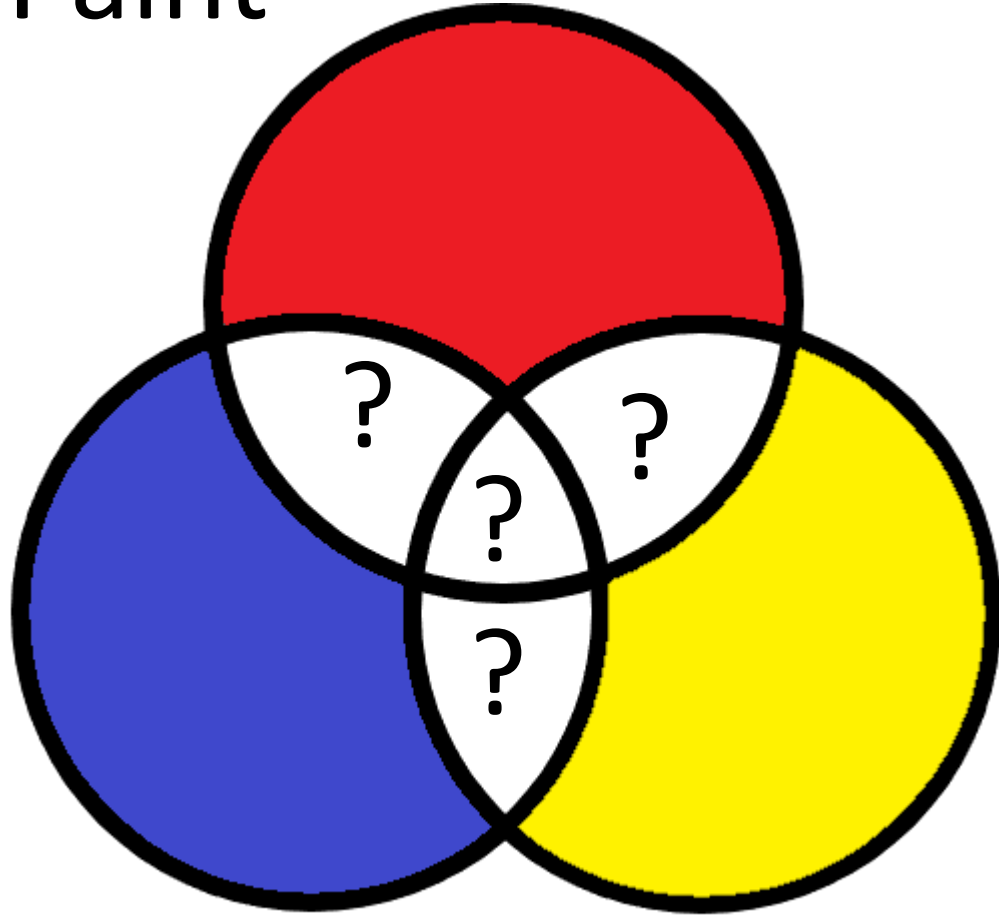


Light

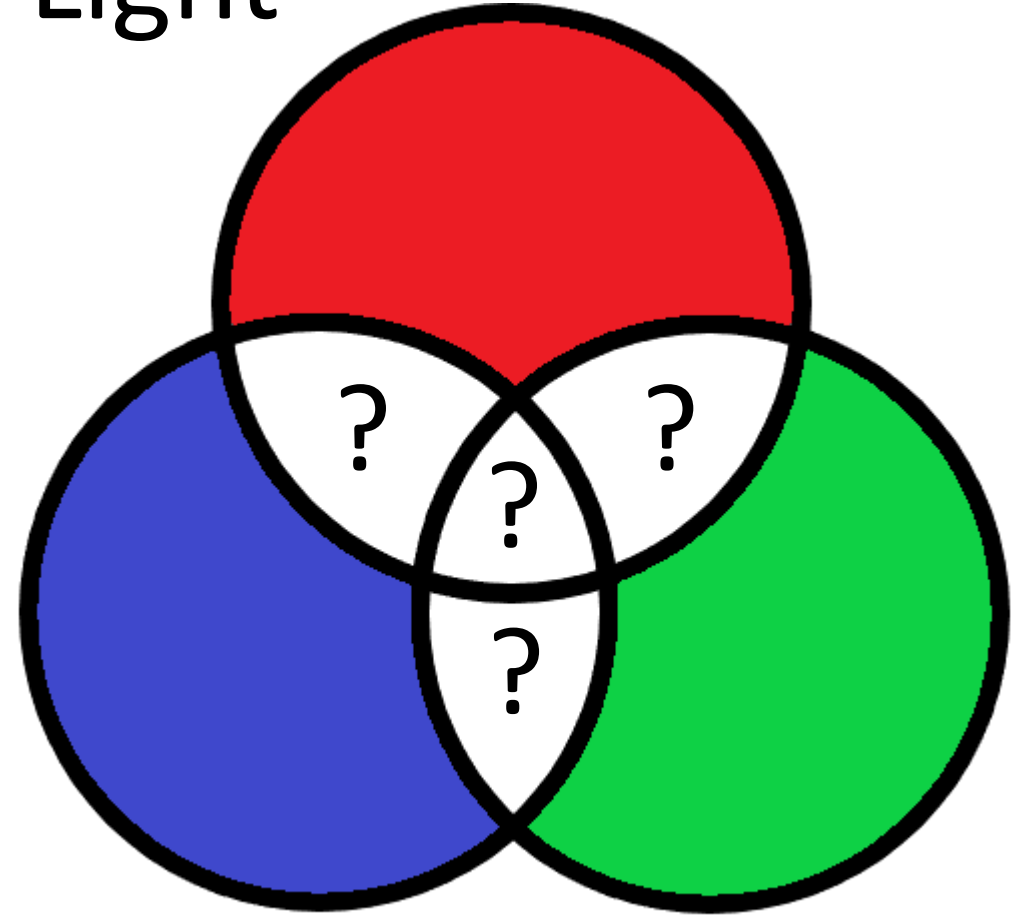




Paint

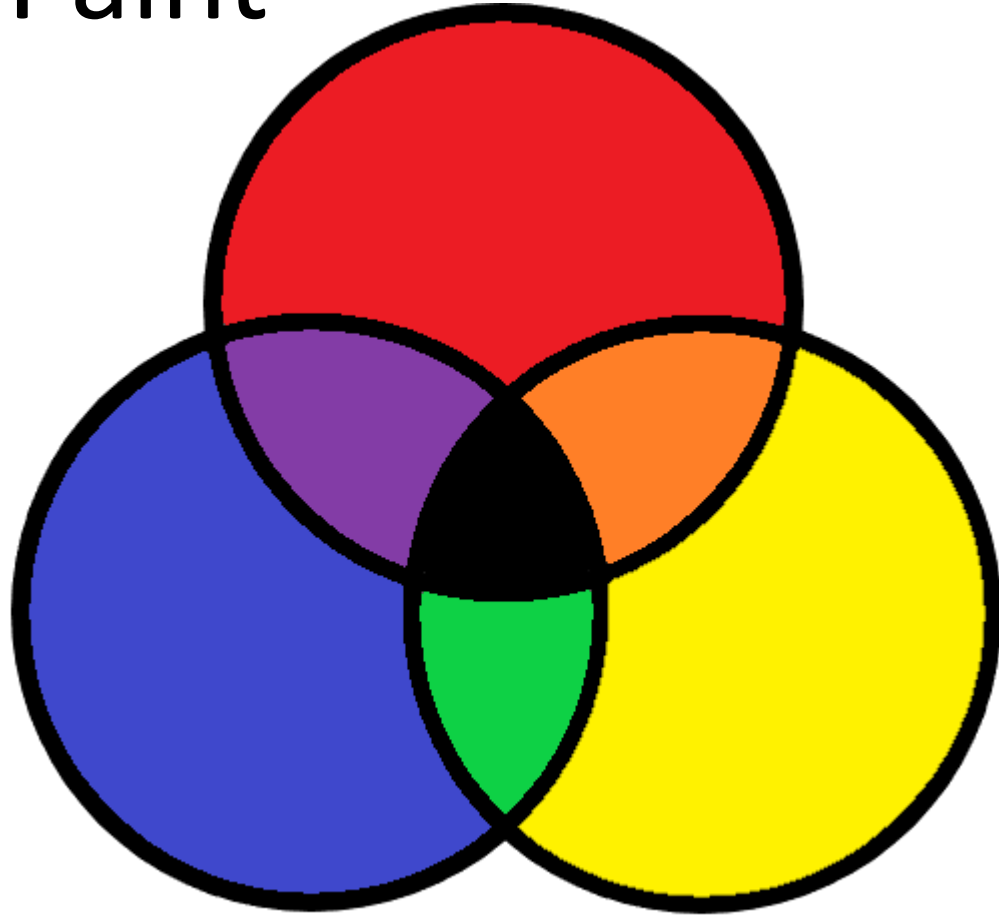


Light

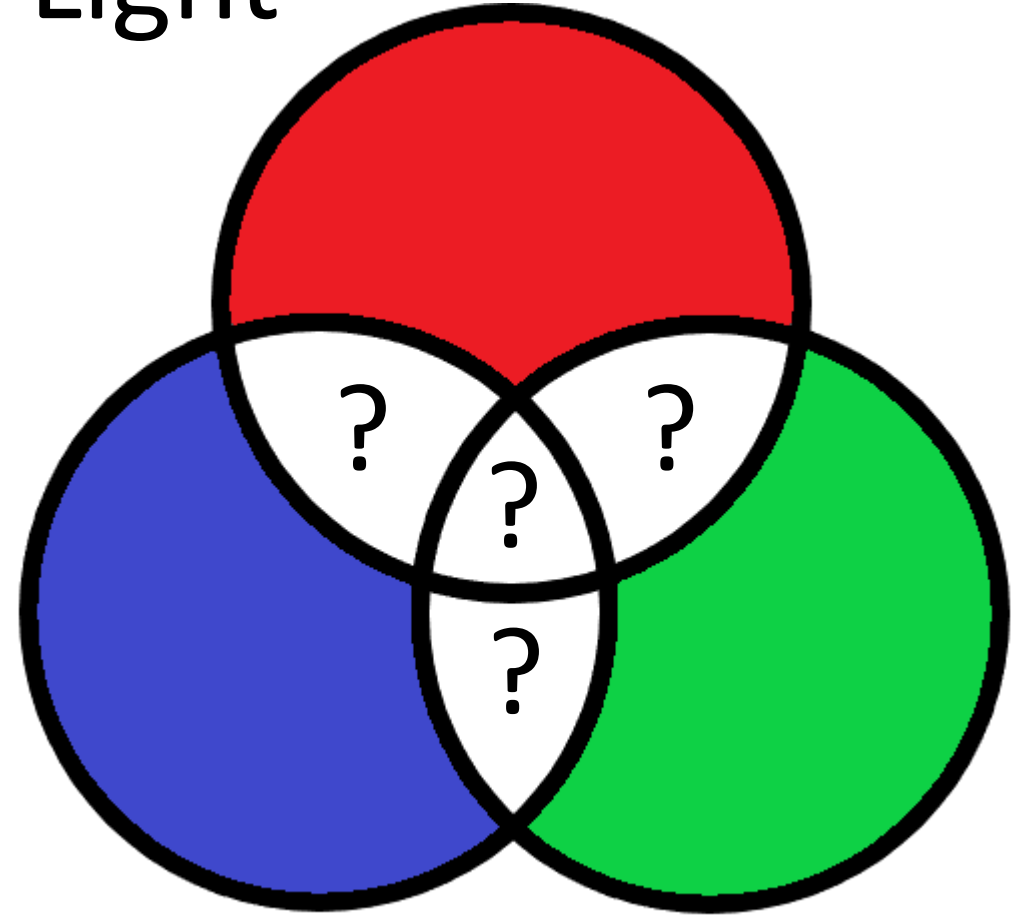


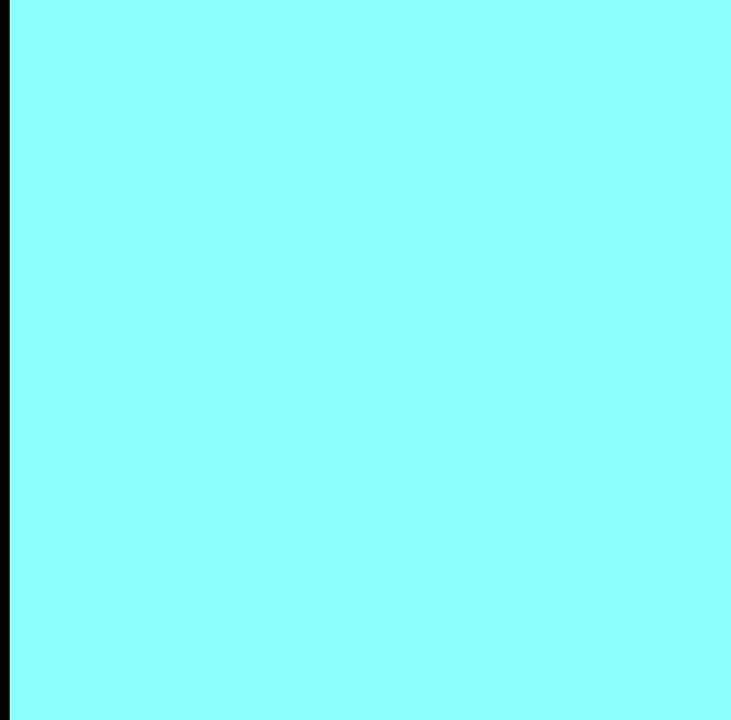
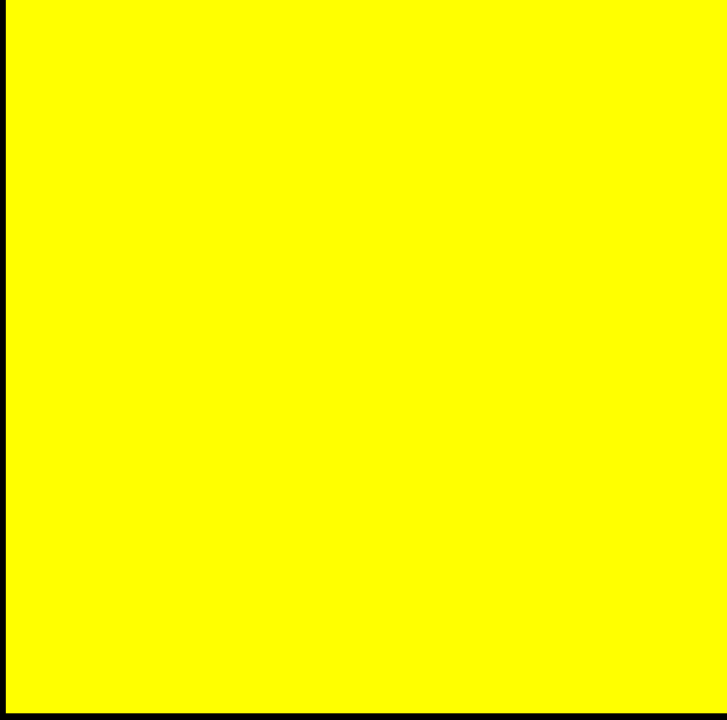
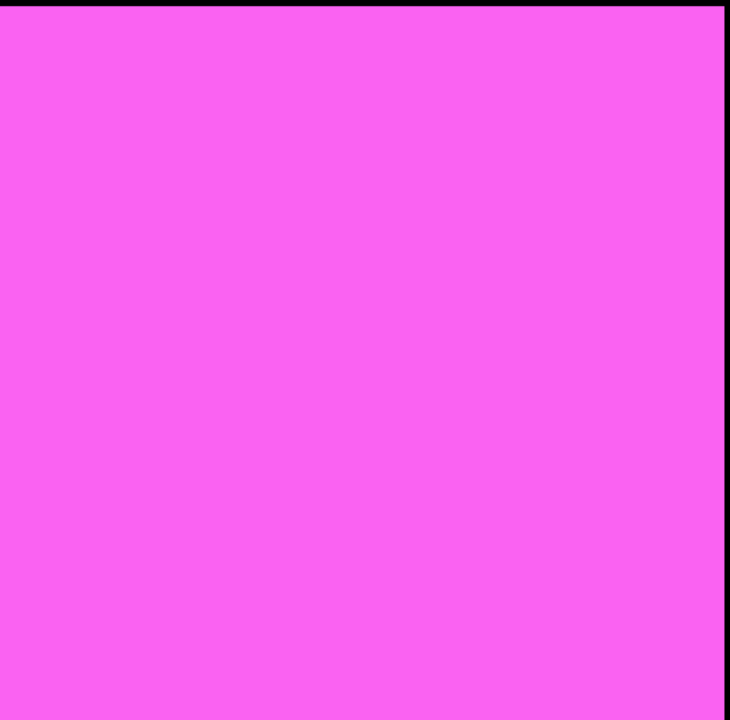
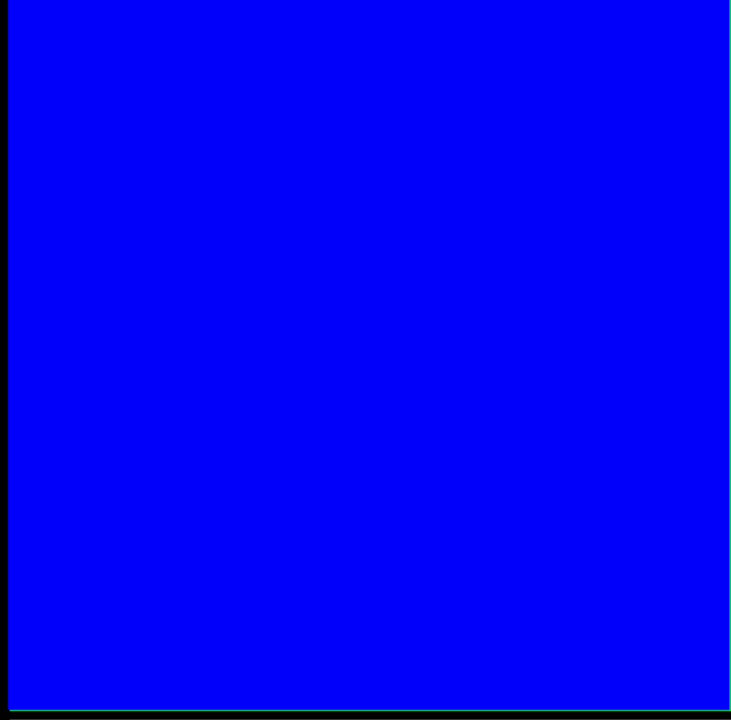
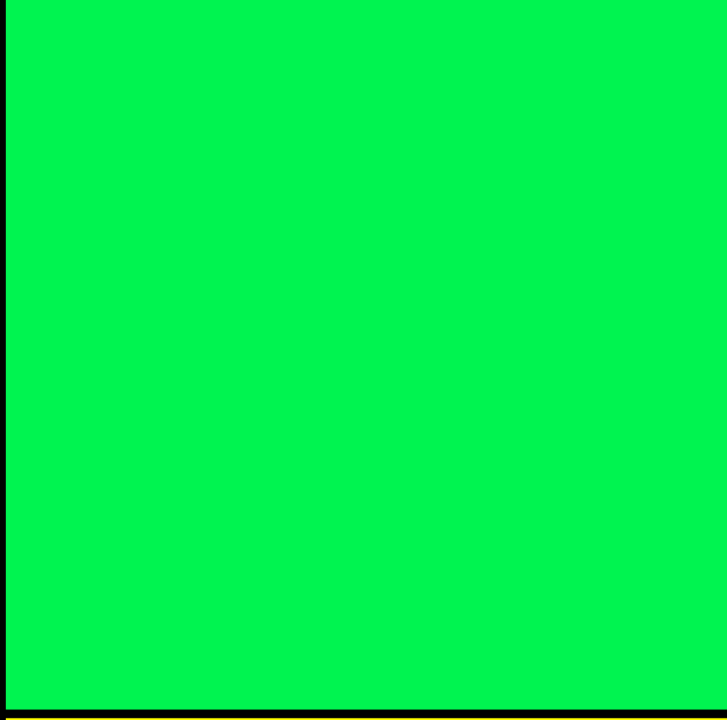
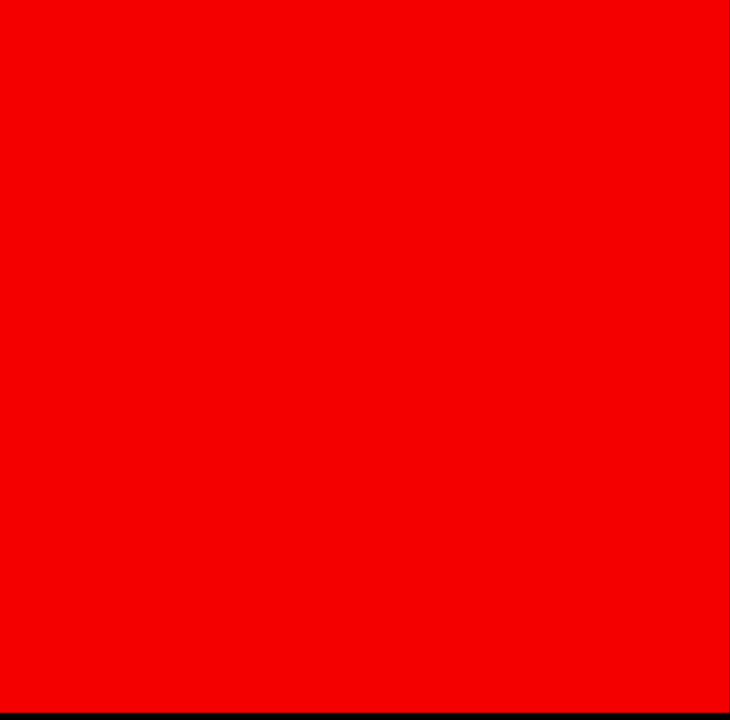


Paint



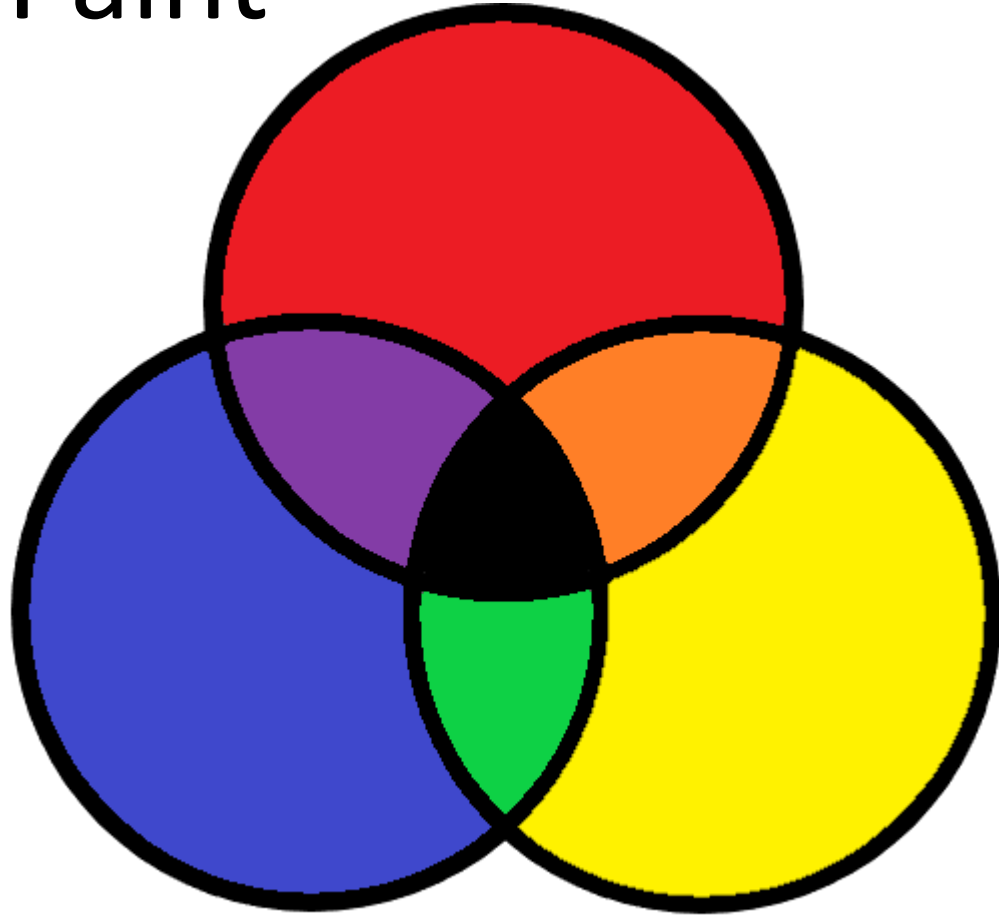
Light



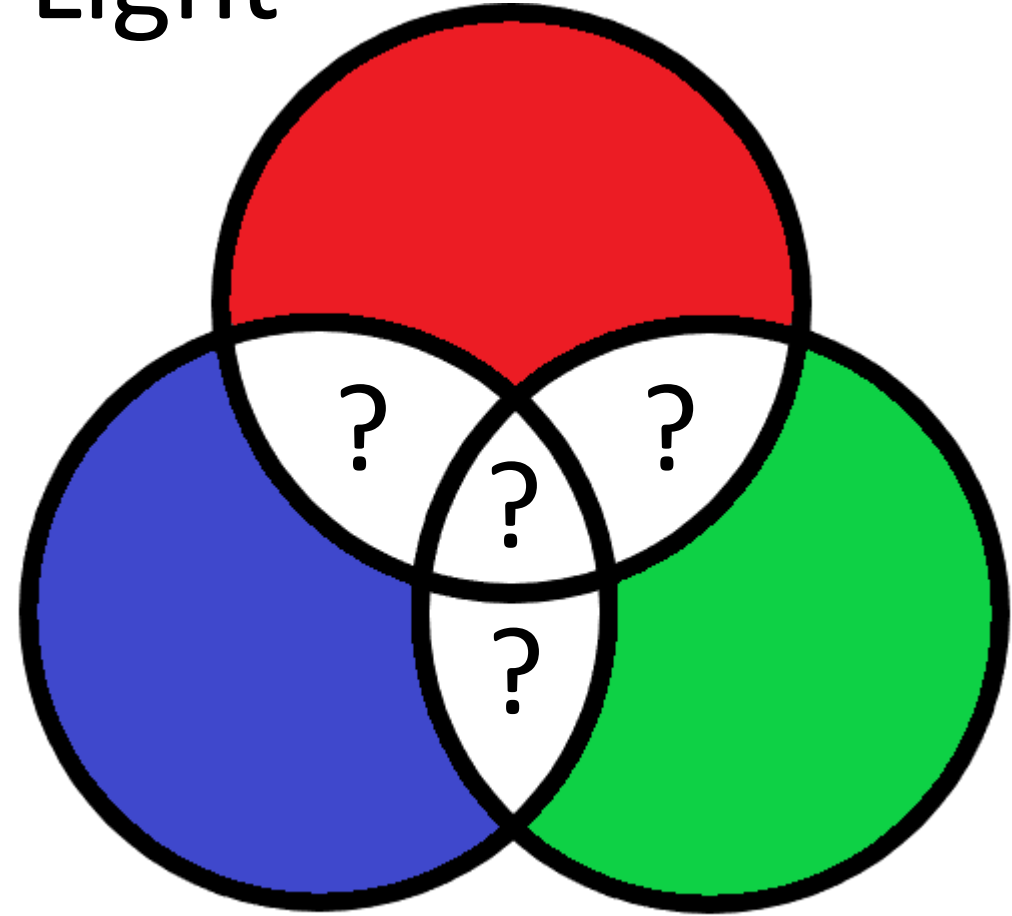




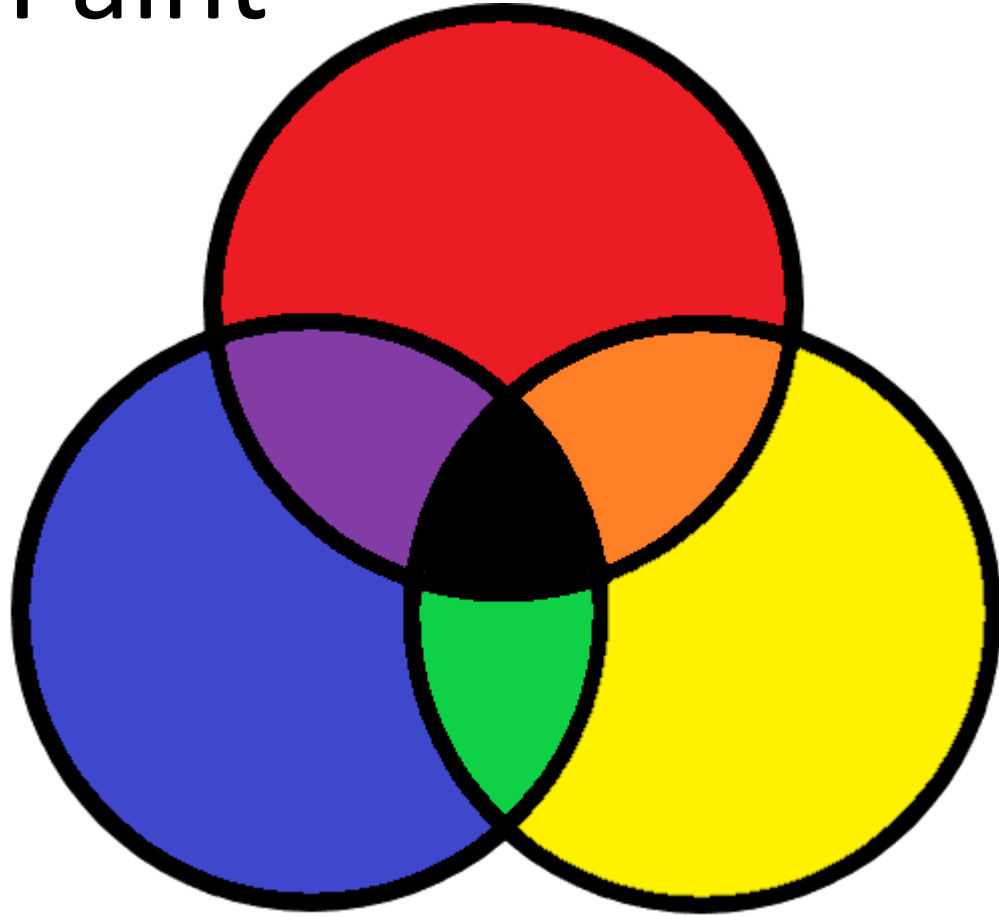
Paint



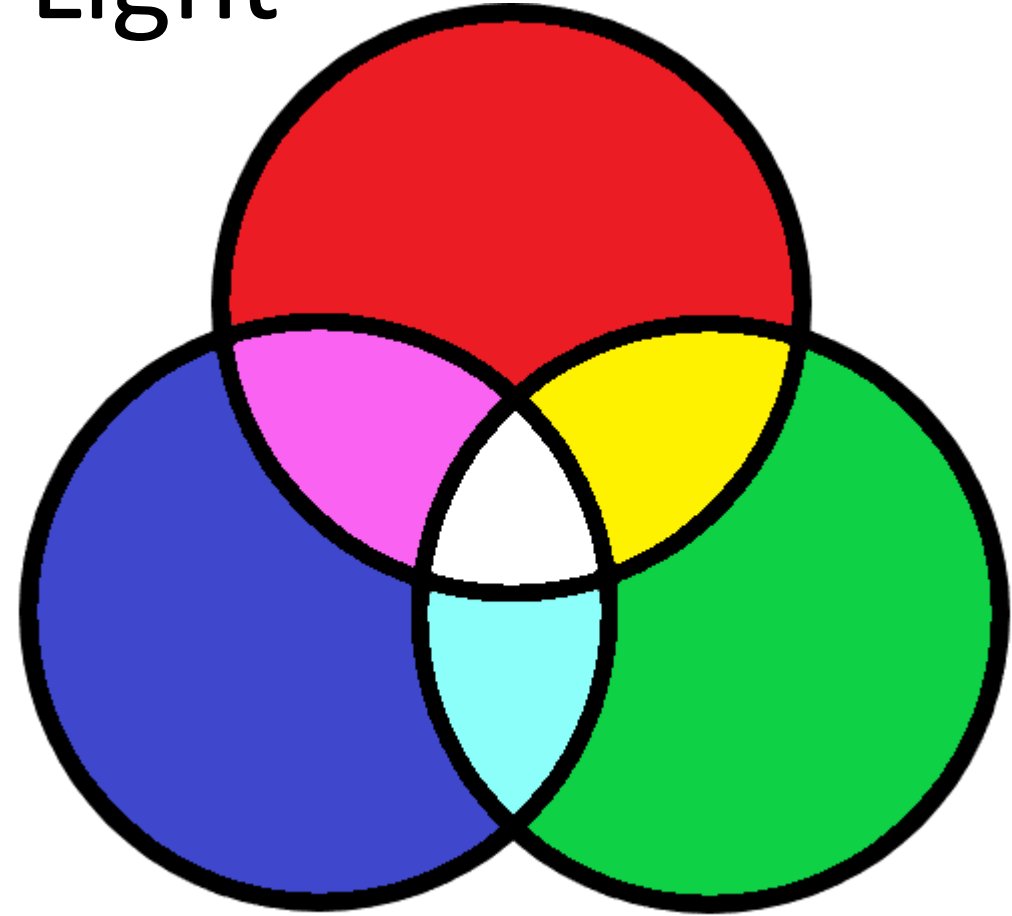
Light

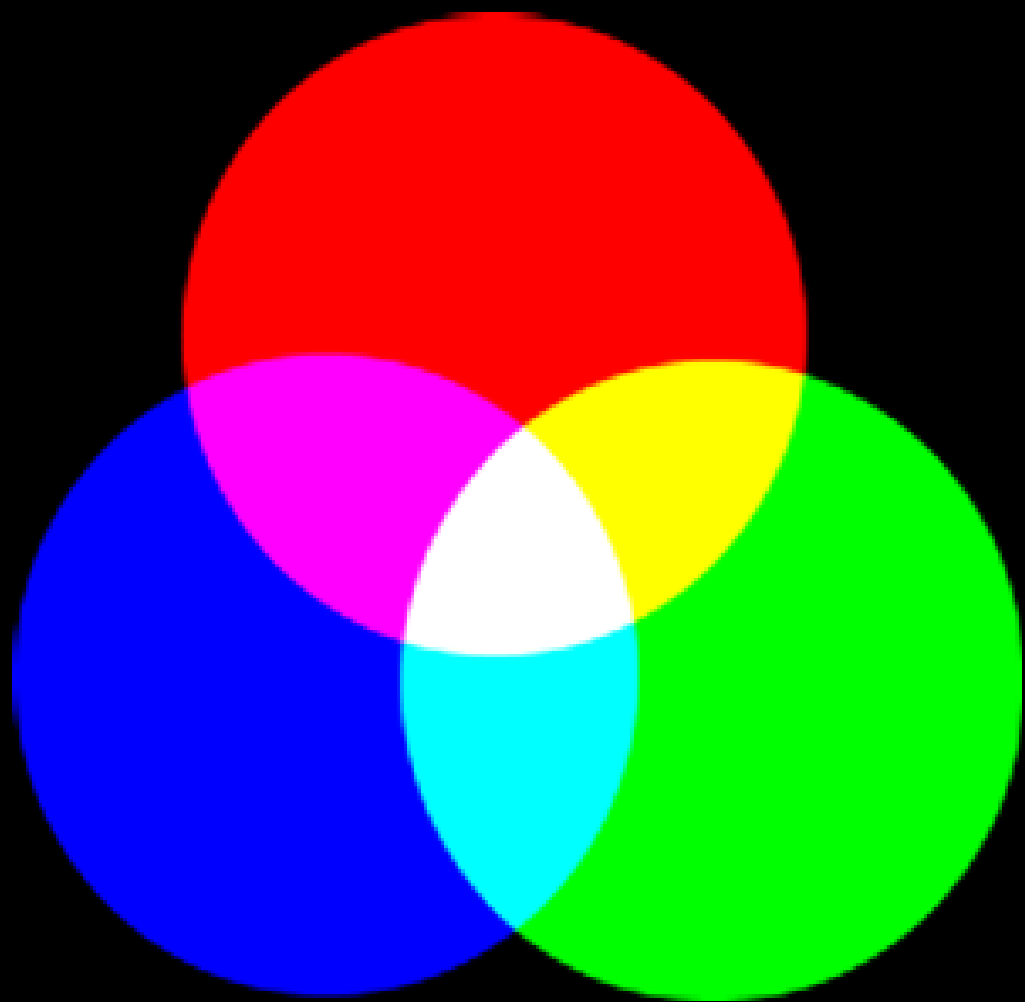
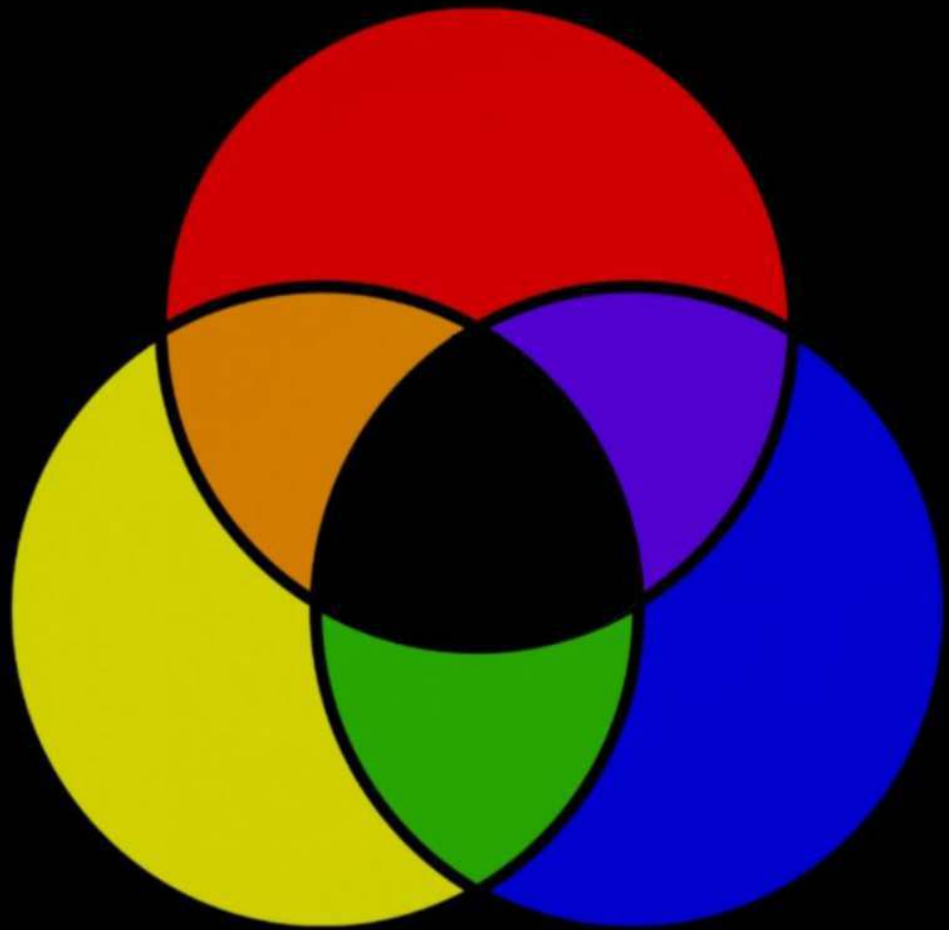


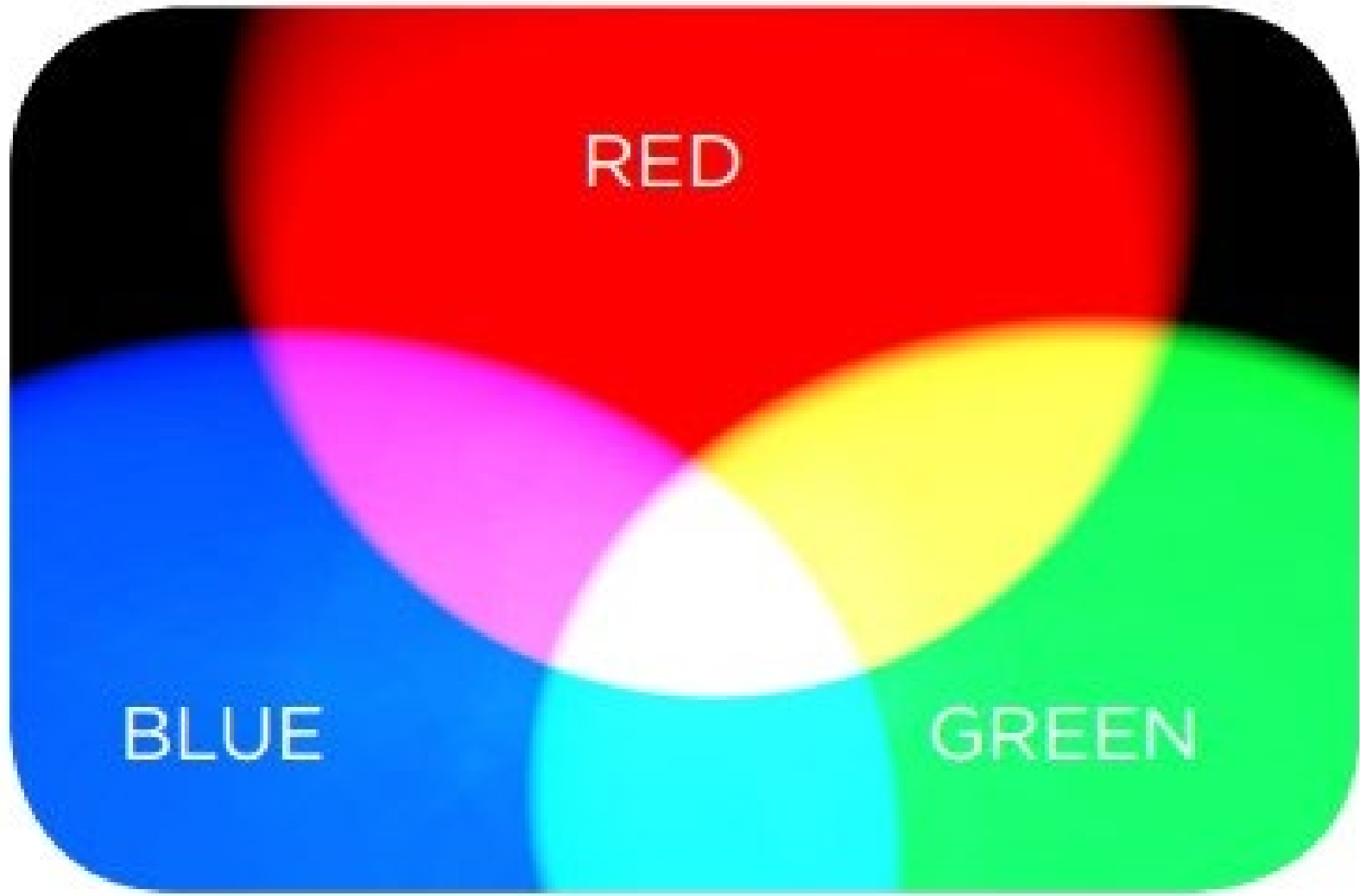
Paint



Light





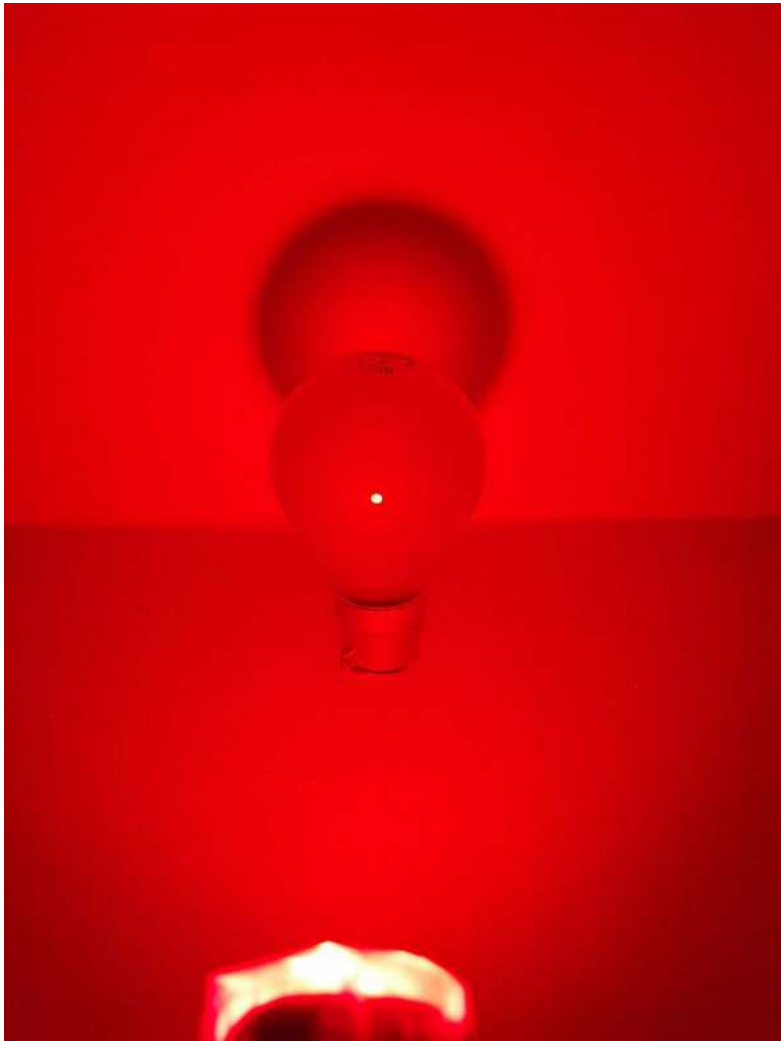




Combining Light



FULL STEAM AHEAD





What colours do you see?

What will happen if we take away one of the torches?

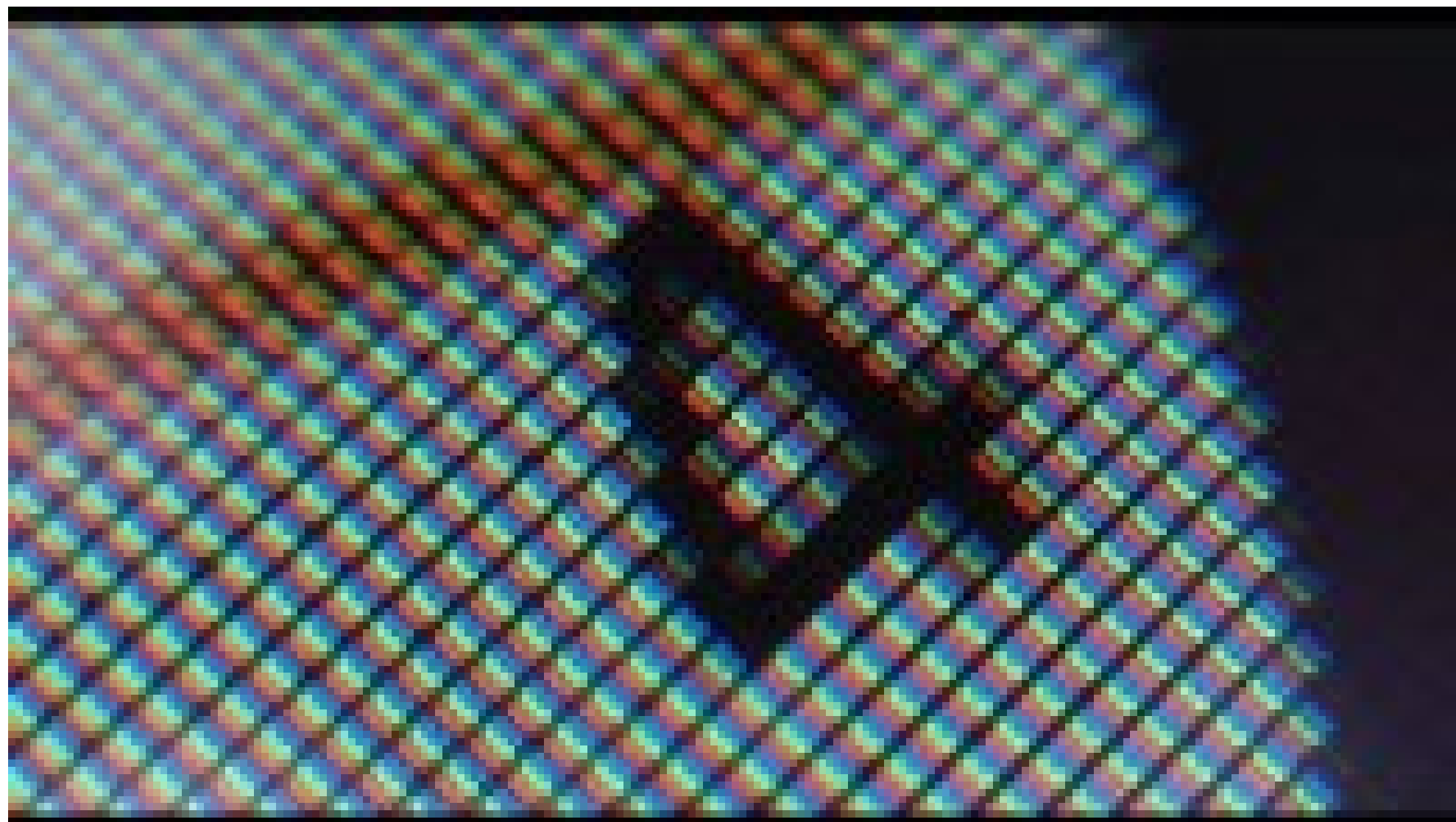


Is there anywhere you see this
happening everyday?



On screens!

Red, Green
and Blue
(RGB)
pixels mix
to give
different
colours...



Probing questions

- What did you learn about how light travels?
- Were you familiar with the colours/colour combinations of light?
- Is it different to what you thought or expected?
- Can you think of other everyday examples where we see this which are relevant to you?
- Can you think of other ways to use this, splitting or combining light?