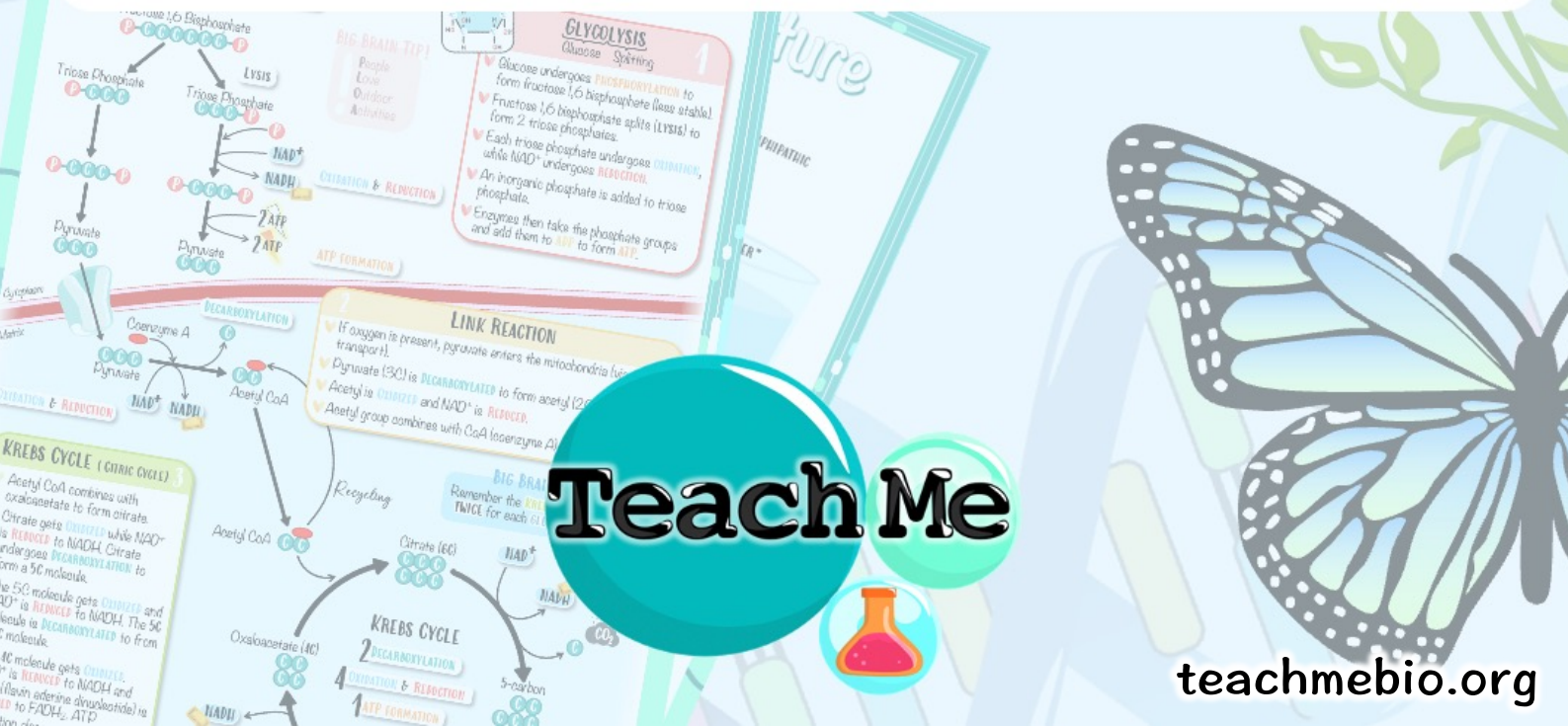


TeachMe

STUDY NOTES

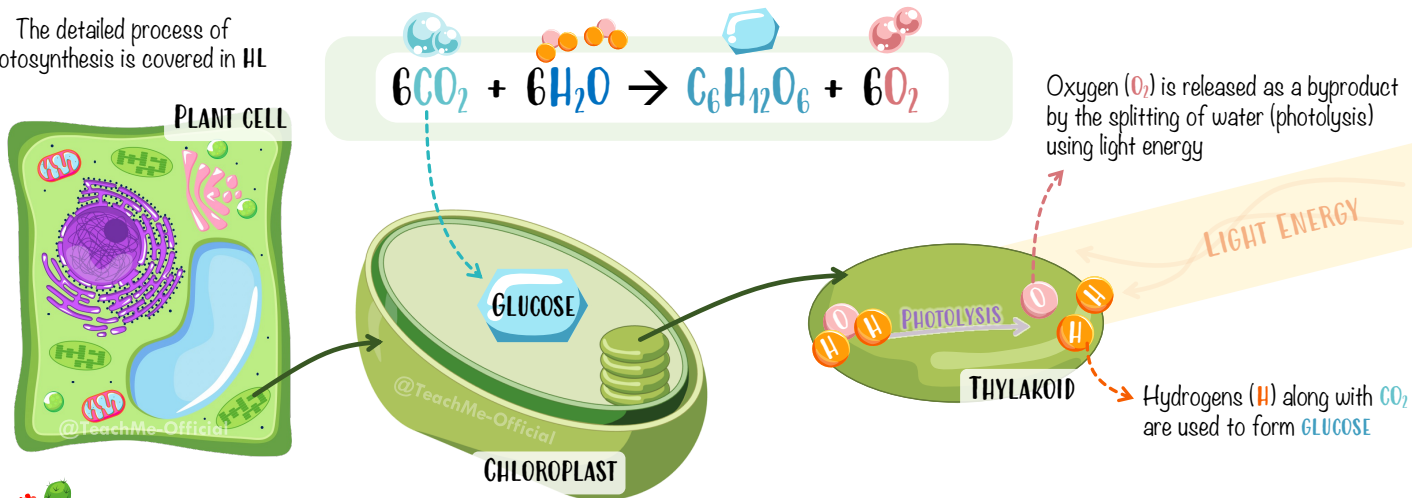
C1.3 PHOTOSYNTHESIS



Photosynthesis

PHOTOSYNTHESIS – Synthesis of organic molecules (e.g. **GLUCOSE**) from inorganic matter (**LIGHT ENERGY** and **CARBON DIOXIDE**).

The detailed process of photosynthesis is covered in HL



AUTOTROPHS

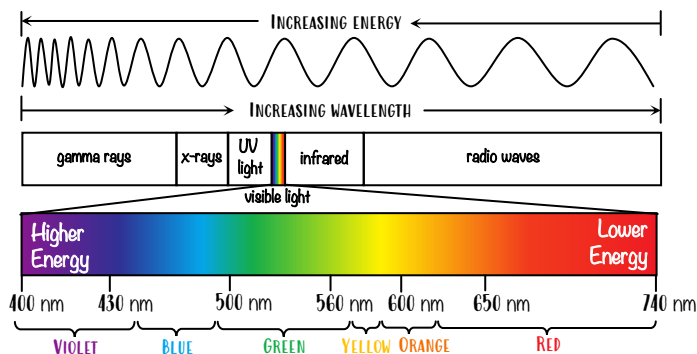
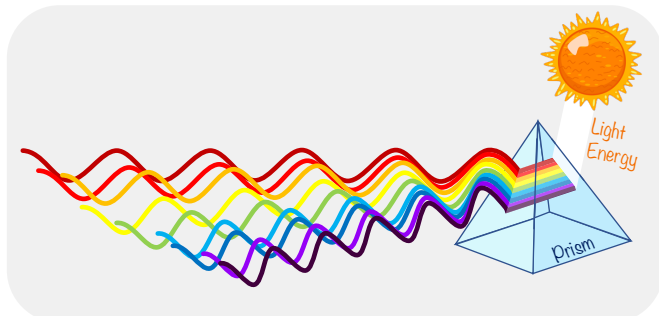
Self Feeding

♥ Organisms that can synthesize organic matter (food) from inorganic matter (seen in B4.2).

♥ If autotrophs use light to make their food: **PHOTOAUTOTROPHS**

What IS LIGHT?

Sunlight is a mixture of different colors of light. Colors can be seen when you let sunlight pass through a prism as it separates the lights which have different wavelengths (colors).



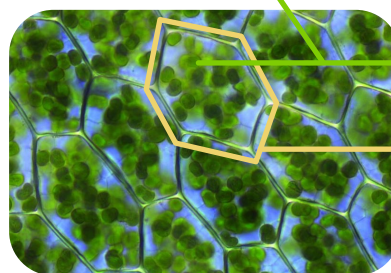
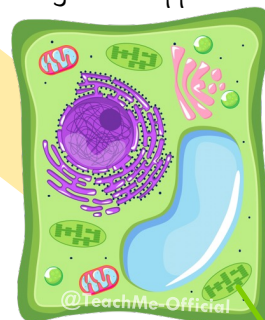
BIG BRAIN TIP!

You need to remember the approximate wavelength (in nm) for each of the colors.



When a **PLANT CELL** is exposed to **LIGHT**, one of two things can happen:

- Absorb that wavelength (energy absorbed and used)
- Reflect that wavelength (energy not absorbed & color seen)



Chloroplast (organelle)

Plant cell

PHOTOSYNTHETIC PIGMENTS found inside plants are responsible for absorbing light. But different pigments will absorb and reflect different wavelengths. Usually, a green plant will contain the pigment called **CHLOROPHYLL** within the chloroplasts – giving its green color.

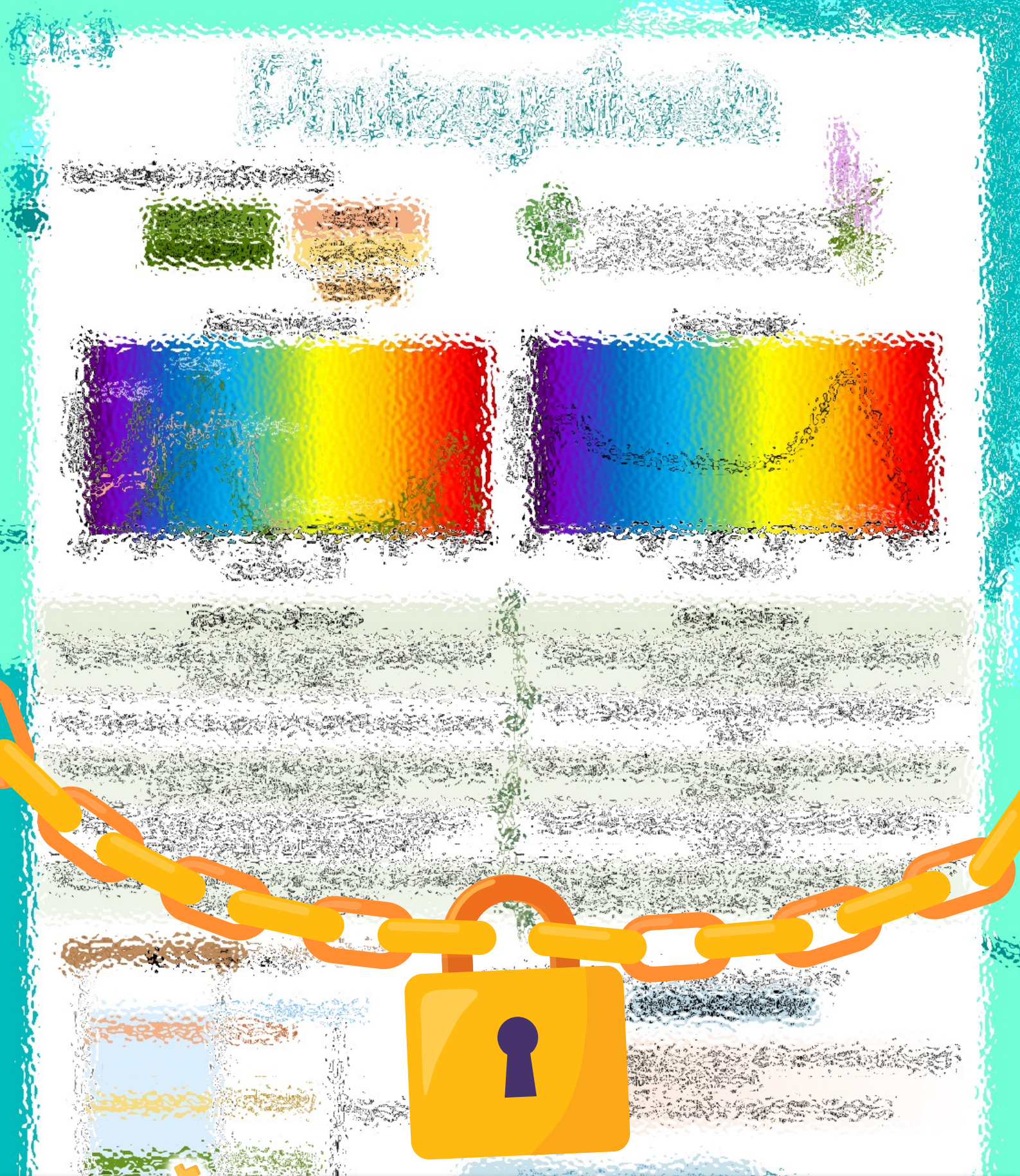
- **RED** & **BLUE** light well absorbed (used)
- **GREEN** light is reflected (not used, gives color)

TRY FOR YOURSELF!

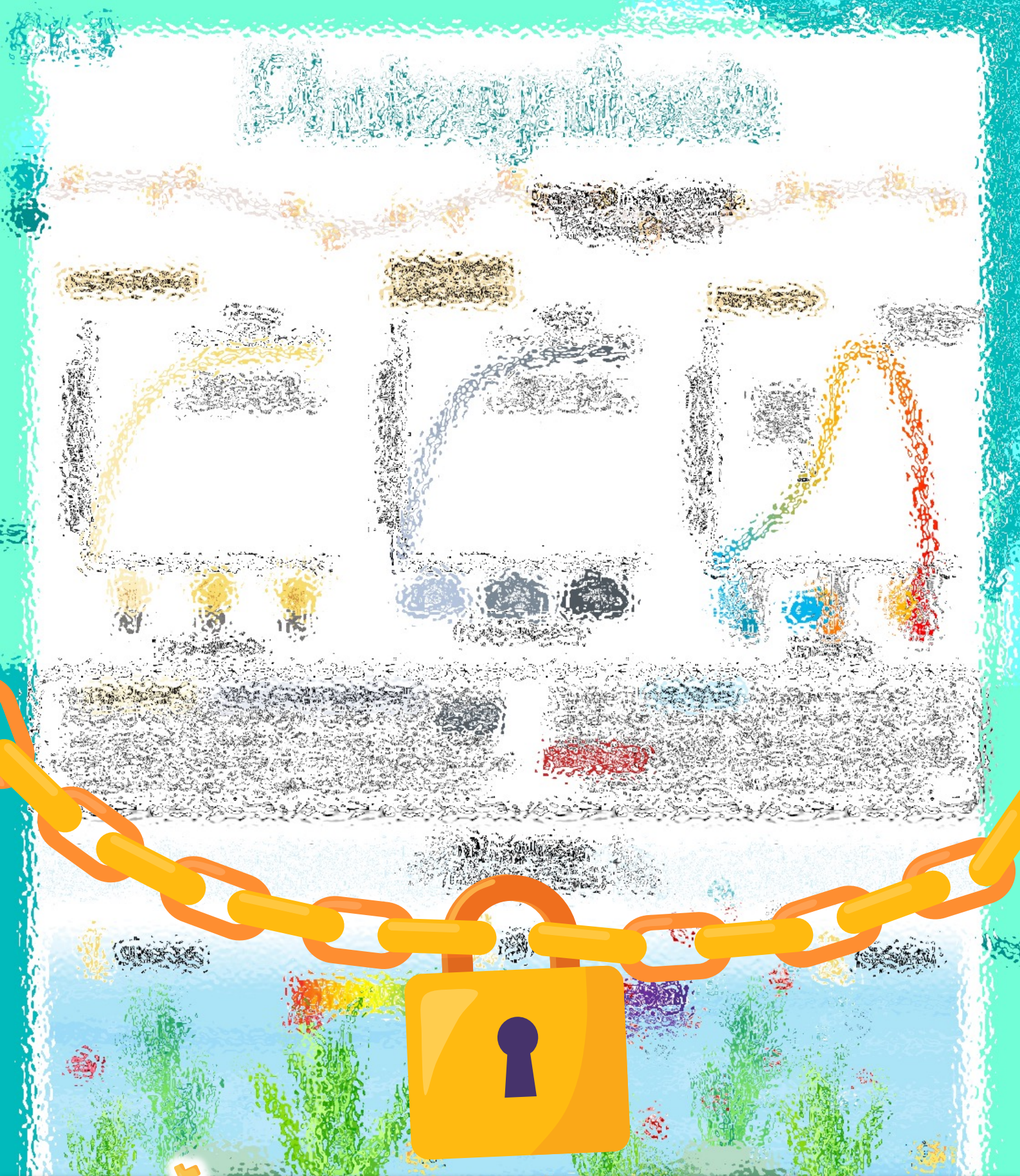
Which colors are best absorbed, and which is reflected in a carrot?



Try for yourself answer: Carrots absorb BLUE and VIOLET light and reflect ORANGE light. The pigment causing this color is carotene.



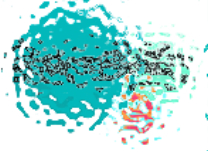
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