

# Black Light- UV-Vis Spectrum

## Using Liquid Tide to Understand the Electromagnetic Spectrum

**Grade Range:** 4<sup>th</sup>-8<sup>th</sup> grade

**Time:** 45 minutes

**Synopsis:** Students get an introduction to Electromagnetic spectrum through a fun activity centered around science. UV-Vis spectrum is not typically seen by the naked eye. This experiment helps the kids understand the unseen portion and allows them to actually see it.

**Materials:**

- Black light
- Liquid tide
- Small bowls
- Nearby hand sink

**Instructions:**

1. Use the slides below to teach the students about the electromagnetic spectrum and UV light.
2. Break into small groups and pour a small amount of Tide into bowls for each group. Carefully have each mentee dip their hands into the liquid tide (check with the teacher and students for any allergy concerns).
3. Wave the black light over the child's hands in order to show the UV light.
4. Fluorescent substances absorb the ultraviolet light and then re-emit it almost instantaneously, which results in the human eye being able to see that part of the spectrum.
5. Help students wash the tide from their hands and clean up their workstations.
6. Close by discussing what other household items may have a similar reaction.

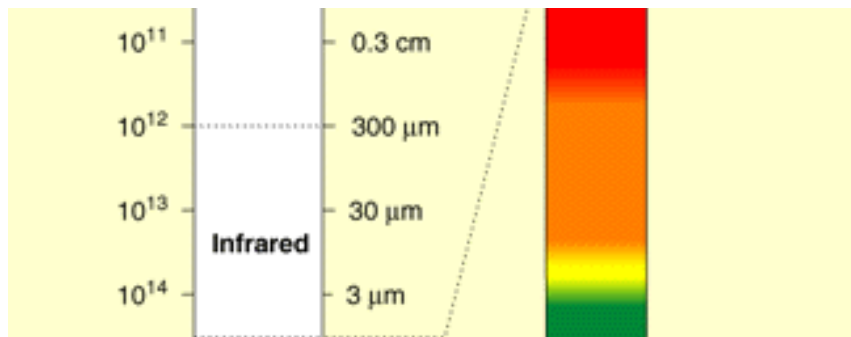
Activity created and submitted by:

 MICHELMAN®

## What is the Electromagnetic Spectrum?

- The electromagnetic spectrum is a big word that simply refers to all the different sized waves of energy traveling outward from the Sun, as well as from many other objects in the Universe.
- To better understand the electromagnetic spectrum, it is separated into three different categories. The shortest waves are called ultraviolet waves. The medium sized waves are called visible light waves, and the longest waves are called infrared waves.

## Electromagnetic spectrum



## The Tide Experiment

Materials:

- Liquid Tide
- Handheld UV Black Light
- Bowl

Each student will dip their hands into the liquid tide, once each student has done this, the Black light will be waved over the student's hands in order to show the UV Light. Fluorescent substances absorb the ultraviolet light and then re-emit it almost instantaneously, which results in the human eye being able to see that part of the spectrum.

## Any Questions?