

Dear all

Want to see your work on the school website at MoonHallSTEM?

Please send me your photos / videos / writeups to

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Mr Curran

Head of Careers (including STEM)



Can You Trick Your Eyes with Science?

Visual and optical illusions tease the brain as they attempt to trick us into seeing something that isn't really there or is different than it seems.

Students can experiment with optical illusions with science fair projects and activities like these:

- **[Build a Levitating Water Fountain](#)**: explore the stroboscopic effect to create this optical illusion that makes it look like water is falling *up* instead of down.
- **[Build an Arduino Strobe Light](#)**: for students who want to level up a levitating water fountain experiment, this science project challenges them to use Arduino and an LED strip to program a custom stroboscopic light for use in the illusion.
- **[Design Your Own 3D Printed Optical Illusion](#)**: learn about "anomalous mirror symmetry" and then use MATLAB or Python to design and 3D print your own seemingly impossible shapes. Just for fun, you can 3D print *ready-made* shapes to explore these visual illusions using one of these simple STEM activities:
 - [The Impossible Arrow Illusion](#)
 - [The Ambiguous Cylinder Illusion](#)
- **[Funhouse Mirrors](#)**: turn an old flip-flop into a simple tool to explore reflections and distortion in curved mirrors.
- **[Build an Infinity Mirror](#)**: use a regular mirror, a one-way mirror, and LEDs to make a mirror that looks like a deep tunnel with no end. (Students ready for an extra challenge can experiment with [adding an Arduino and programming color-changing effects](#).)
- **[Discover the Science Behind Afterimages!](#)**: experiment to see what happens when you deliberately fatigue the cone cells in your eyes. What colors will you see in the afterimages that appear?
- **[Chromatic Adaptation](#)**: investigate how quickly our visual perception of color adapts when presented with a constant stimulus.



