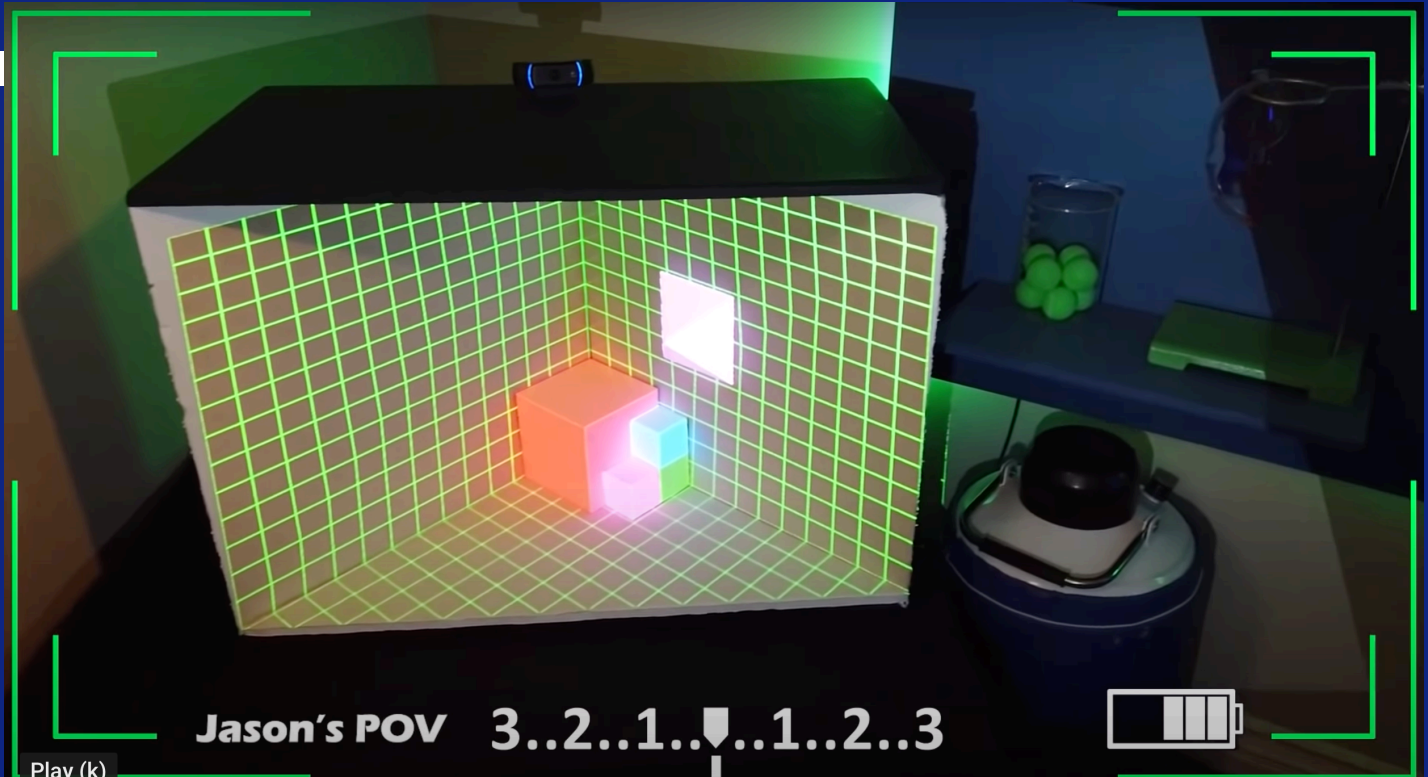


# Projection Mapping Invisibility



IMPOSSIBLE  
SCIENCE

**Objective:** Students will be able to use projection mapping to demonstrate how moving the background to the foreground can make objects appear invisible from one angle.



## Procedure

1. **Hook:** Show students [Impossible Science video](#) to 0:26.
2. **Explain:** We see objects because light reflects off their surface and bounces back to our eyes. The secret to making an object invisible is really about seeing the background.
3. **Explain** terms above. Show examples of [projection mapping](#) and [anamorphic projection art](#) to help students

## Materials:

- Projectors and transparency paper with a variety of patterns or SmartBoard projector in classroom.

see the relationship between bringing the background to the foreground, perspective, and optical illusion.

4. **Show** the remainder of the [Impossible Science video](#).
5. **Explain** to students that although we don't have the same technology Jason created in the video, we can use projection mapping to create our own optical camouflage.
6. With partners, students should choose images to **project** onto objects (or onto their partners standing in front of the screen/projection) to show how projecting the background onto the foreground can cause an object or person to seem to disappear.

## Assessment

Students should work in groups to create a music video that uses projection mapping to make people or subjects blend into the background. They should include a slide or voice over at the end that explains the process using the terms background, foreground, optical camouflage, projection mapping, perspective, and invisibility.

\*Students without access to projectors can create their own illusion by physically moving the background to the foreground as Jason did in his paper cut out example at the beginning of the video, or they could paint or color the object (or person) to match the background.



Watch the companion video here:

**Safety Note:**  
Adult Supervision Recommended



Lesson Plan by Whitney Gallagher based on the "Impossible Science" series.

Find more at [impossiblescience.com](http://impossiblescience.com)

