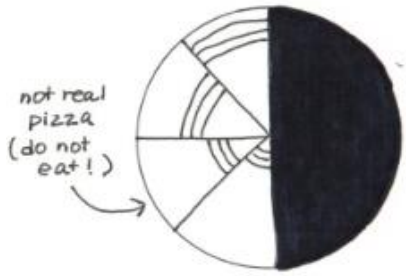
The Benham Top

Objective	Learn about the visible light spectrum.
Supplies	One pencil. One pin. One paper plate.[1] A black marker.
Directions	1. Draw a straight line down the center of the paper plate. Color half of the paper plate black with your marker. 2. On the other half of the paper plate, draw three lines as if you were dividing it into four pieces of pizza. 3. Now on each slice of pizza draw three arcs.[2] Your paper plate should something look like this:  4. Now put the pin through the center of the circle and attach to the pencil eraser. This is your Benham Top 5. Spin the top quickly, trying both directions. 6. Look at the arcs on the outside. What do you see?
Outcome	You might see that the arcs look red on the outside and blue on the inside when you spin the top clockwise. And when you spin it counter clockwise, the colors reverse.
How does it work?	Why do the arcs seem red or blue, when you only used a black marker? In white light, all colors of the spectrum are present. When you spin the disk, light from the colors of the spectrum meet the eye, but are only visible for a very short time before you see the black part of the disk. Your eyes are only able to register the part of the color spectrum: blue has the shortest rays and red has the longest.

[1] You could also use a piece of thick paper, like a manila folder or a piece of cardboard, but a paper plate is easier because it is already shaped like a circle.

[2] You understand that these are not really slices of pizza right?