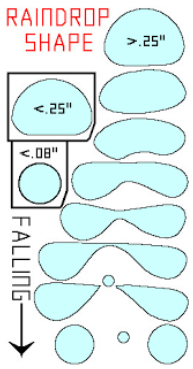
Script:
Beginning: Introduce topic and question: Will the shape/size of a raindrop affect the shape of a rainbow?
BASIC INTRODUCTION:
In some sort of library
sitting down in front of ipad
Pop culture depicts the shape of a raindrop to look like this. *draw raindrop* But in reality, raindrops do not actually look like this. Just like hearts do not look like this. *draw heart* And stars do not look like this *draw a star*
*smooth transition to



in front of a white board *with that picture drawn*
Well, what is the actual shape of a raindrop? The shapes of raindrops actually depend on the amount of water they hold. If a raindrop were to have a small amount of water, < .5 mm in radius, the surface tension is strong enough to hold the water into the perfect shape of a sphere. However, once it gets bigger then .5, the shape undergoes a series of transformations. A water droplet between the size of .5mm radius to 2.25 mm in radius, the air resistance pushes up against the water droplet, giving it a hamburger bun shape. Air flow on the bottom of the water drop is greater than the airflow at the top. At the top, small air circulation disturbances create less air pressure. The surface tension at the top allows the raindrop to remain more spherical while the bottom gets more flattened out.
Any size bigger than 2.25 mm radius will break off because the air resistance causes the hamburger bun crevice to grow, eventually splitting the raindrop.

*ANIMATION??*STOPMOTION drawing idk??*
Well, what do raindrops have to do with rainbows… Someone in elementary school may ask. After all, who are we to know who is watching this video?
When light passes through a raindrop, the light wave is bent, (refraction) due to the difference in material, (or refraction index) from air to water. The bending of light separates out into different wavelengths that are visible to us (aka visible color spectrum), and then this refracted light reflects off the inner surface of the water droplet, causing it to be further refracted and separated again. The outgoing ray then comes out as a spectrum of colors. To see the rainbow, you have to be positioned in between the sun and the raindrops, where the sun is behind you and you are observing the rain drops.

Now that we know the basics, lets see a rainbow in the wild
goes outside well its cloudy out so i dont think were going to find a rainbow here
If its sunny maybe we can go to a self service car wash and try to find/make a rainbow there
or go to grocery store???
its not raining and we don't have a garden hose, so this is the best were going to get. Were here in the produce section waiting for the misters to turn on. Lets pretend that this lightblub is the sun. Due to these tiny spherical water droplets, the “sun” reflects “light bulb” its light into the water, causing refraction, and exiting out of the water as visible light.
hopefully we see it in action
You may ask yourself, you guys live right by the beach. Why didnt you use the mist from the ocean water to find a rainbow.
Go to beach
We can, but the rainbow will not be the same as the rainbow in the grocery store. Due to the ocean water being salt water instead of fresh water, this changes the refraction index. meaning The medium that the light enters is denser then freshwater. How does this change the rainbow? The higher refractive index of the sea spray will create a rainbow with a radius smaller then the one in the grocery store. (1.333 index compared to 1.339)

*When i was reading it it was around 3 minutes
OKAY now that we wasted some time on the background information we can get to the real stuff*
lead into shape of raindrop/size, how that effects rainbow