

# Unit 10 Day 3 Parallax

Passed of empty paper towel tubes (two per student)

1. Hold both hands up making a triangle with thumbs at base and tee-pee fingers for sides and look through triangle with both eyes open at something in the distance. Now shut one eye then switch and shut the other eye while opening the first. Whichever eye moved the object in the center the least is your dominant eye.
1. Held tube up to each eye and looked around room, bringing end of tubes together until we saw one image. (cool, like how binoculars work)
2. with both eyes open, held tube to one eye, then held palm of hand with straight fingers (fingers extended together) perpendicular to tube half way down the tube. While looking with both eyes at both simultaneously you should see a hole through the palm of your hand.
3. With tubes held to each ear, you can hear the sounds in the room reflected off the walls stereo. Take a tube away and the stereo goes away.
4. Hold thumb out at arms length and with one eye open, block an object at a distance. Hold head and thumb still as you swap what eye is open and note the object moves the same distance that exist between your eyes. (how far your eyes are apart)

# Parallax & 3D

- You see 3D because your eyes are apart. A one eyed person cannot see 3D. One eye sees everyone from where it is at and the other eye gets a different view of the same object. Your brain puts what each eye sees together to make the 3D image.
- Hold a toothpick (or two pens or fingers, smaller the better) in each hand and bring them together with both eyes open.
- Now try doing it with the dominant eye open only and then with the non-dominant eye open only.

# Parallax & 3D

- Watch a short video on parallax explaining that when you drive down the road and see things close zooming up but things in the distance hardly moving ... is an example of parallax.
- Aristotle thought if the earth went around the sun then the closest stars should move in comparison to the farthest stars (stellar parallax). He did not notice this thus either the earth did not move or stars were an extreme unthinkable distance away.
- He figured stars could not possibly be that far away thus the Earth did not move and the Earth centered solar system stayed for thousands of years.