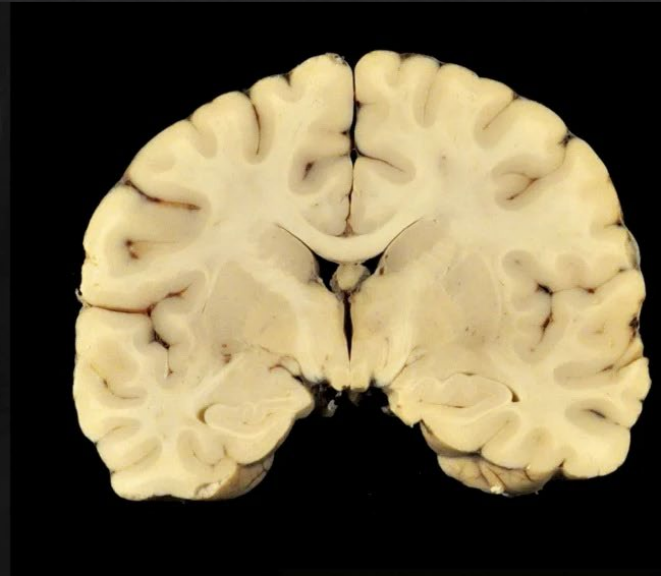


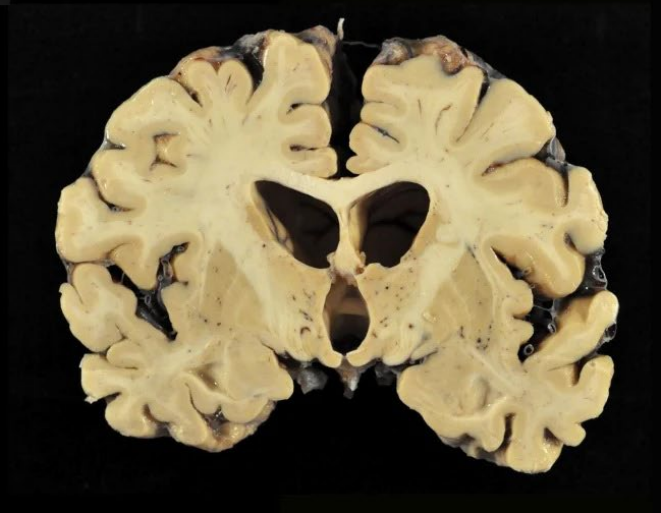
# Throw Things Down the Stairs and Call It Science

A Design-Build Concussion Project

Healthy Brain



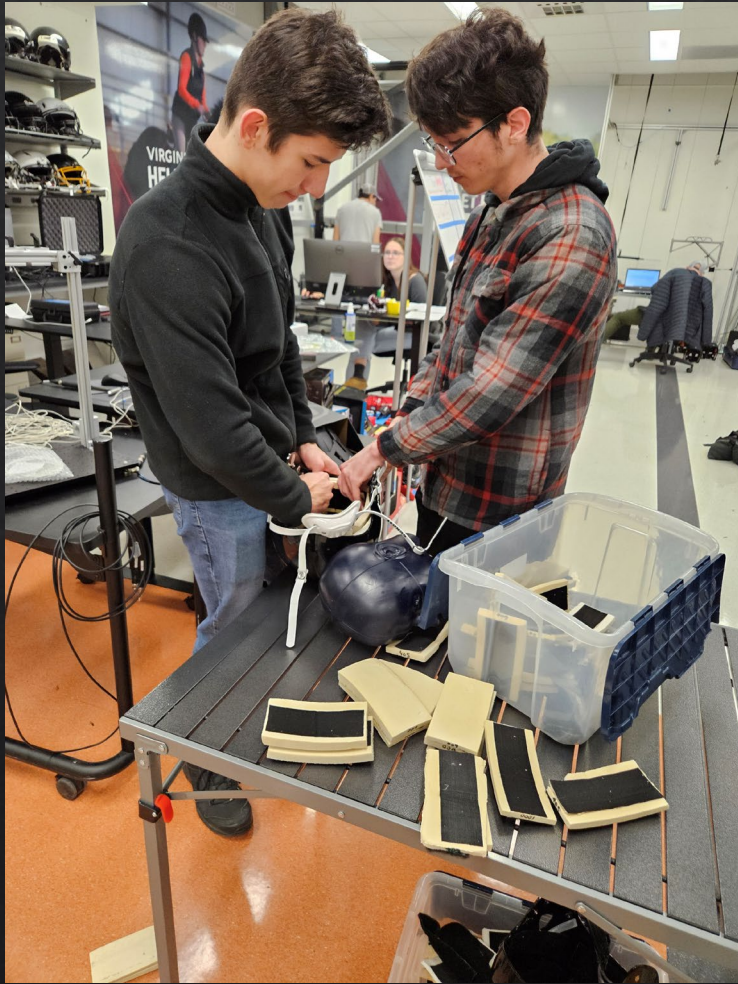
Brain with Severe  
Chronic Traumatic  
Encephalopathy



# Impulse





$$\vec{J} = \int \vec{F} dt = \Delta \vec{p} = m\vec{v} - m\vec{v}_0$$

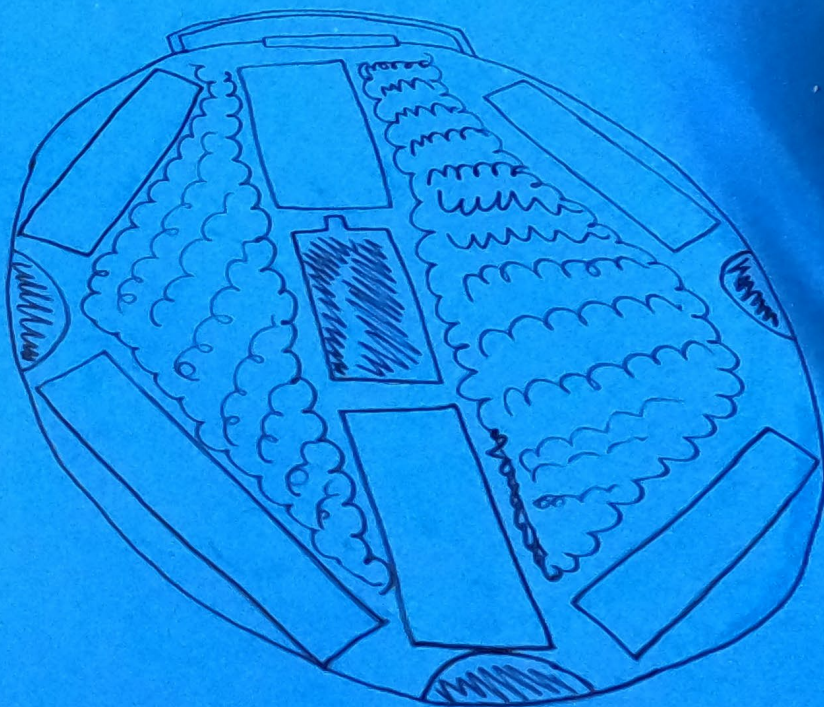
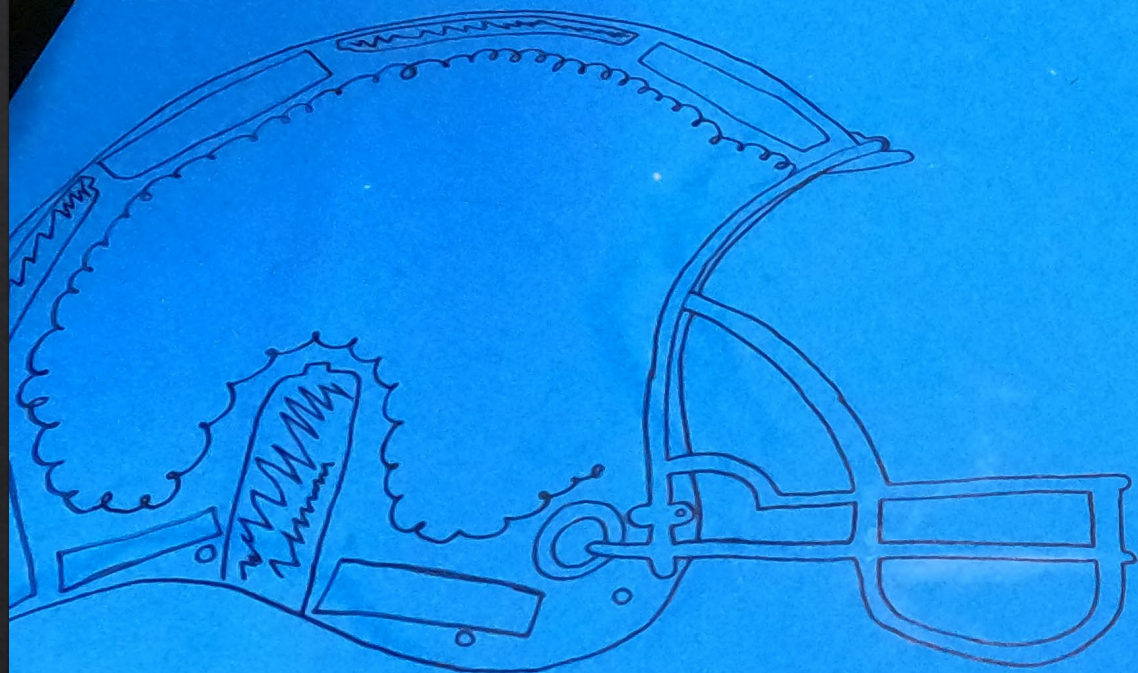
# Virginia Tech Helmet Lab Field Trip




All students and their legal guardians signed media releases.

### KEY:

-  = Bubble wrap
-  = Plastic Bag with bubble wrap in it
-  = Water Bottle with styrofoam in it
-  = Water Bottle with styrofoam in it

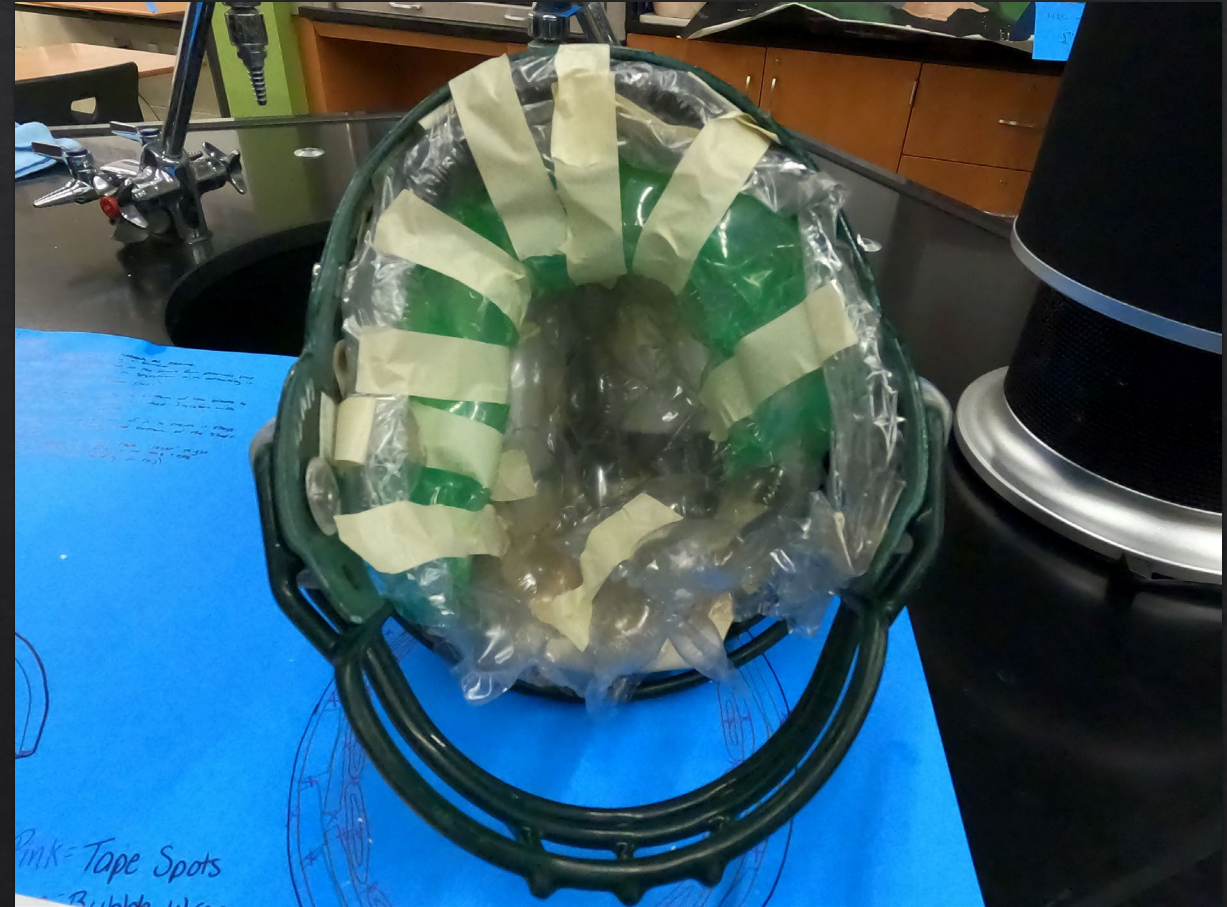


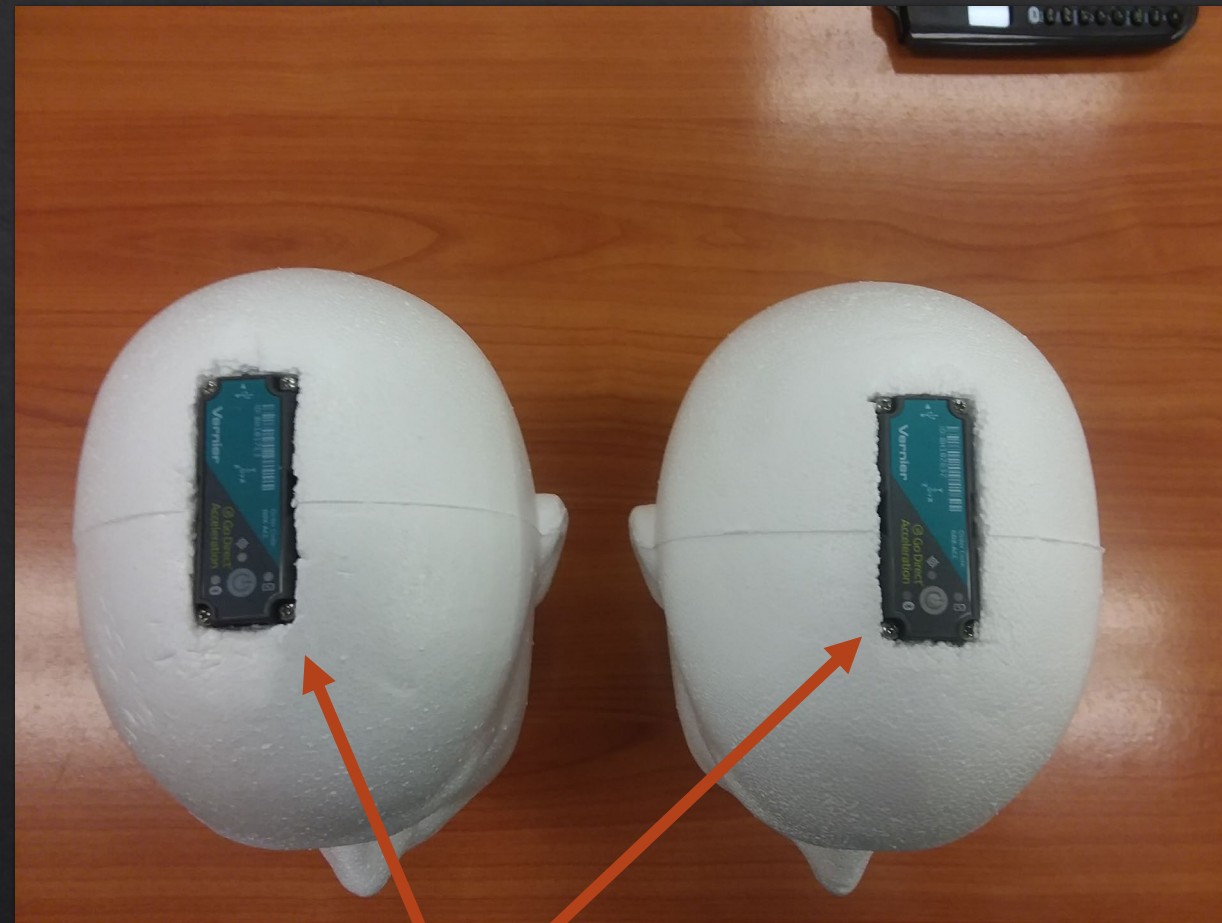
in half length wise.   
foam to fit in the water bottle halves. (Around  $1 \text{ inch} \times 2 \text{ inches} \times 7 \text{ inches}$ )  
foam into the water bottle halves.  
with bubble wrap.

### Materials

- 1 Helmet
- tape
- 2 Water bottles
- Scissors

# 2020-2021 Project Year





Vernier GoDirect Acceleration Sensors

