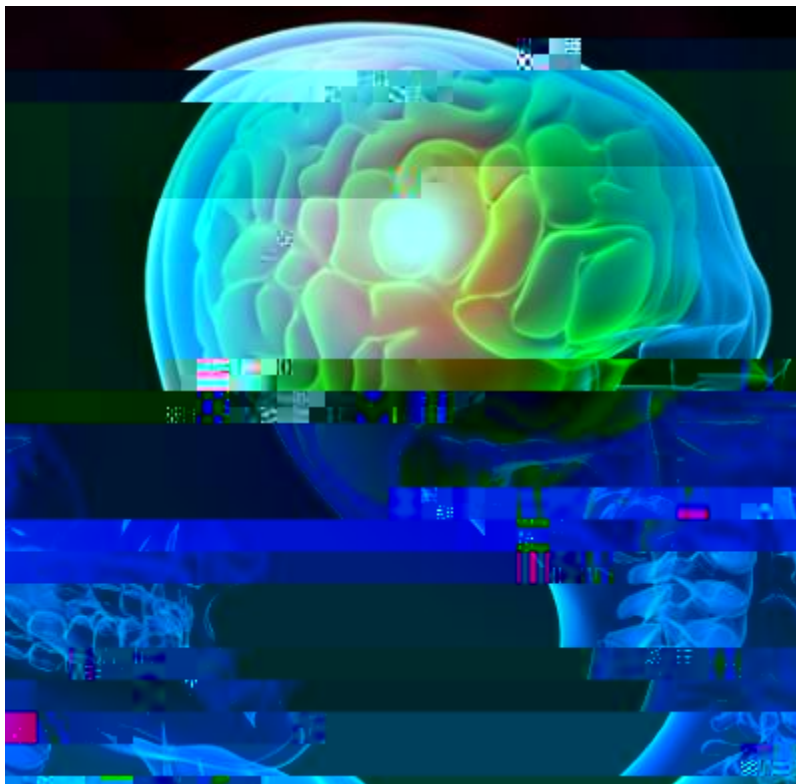


# CEN Outreach Traumatic Brain Injury & Concussion



## Module Demonstrations and Components:

- Egg Drop Cerebral Spinal Fluid (CSF) Simulation
- Melon Drop Brain Safety Simulation
- Helmet Safety Fitting Demonstration
- Post-TBI Cranial Nerve Exam Demonstration

## Learning Goals and Design for Each Module Component

These activities may serve as a guide for instructors to use, feel free to create your own to demonstrate different neurological functions or to better explain these same concepts. These demonstrations can be used as standalone activities but are often presented in succession to better reinforce each concept.

### Egg Drop

Students should be able to understand the connection between the fragile state of the human brain against impact with and without the aid of Cerebral Spinal Fluid (CSF). This will be achieved by dropping an egg (human brain) in a container (human skull) in two trials, one with water in the container (CSF) and one without the aid of the stimulated CSF. The goal of this module is to demonstrate a basic function of the neuroanatomy. Instructors may be able to introduce the effectiveness of helmets during this demonstration as well, depending on the age group of the students.

Melon Drop

# Cranial Nerves

## Post-TBI Cranial Nerve Exam

The overall goal of this activity is to have the students better understand what might happen after a concussion or TBI and what issues someone may experience during such an event. It is important to note that this test is only administered by a trained health professional in actual scenarios where a TBI may

— sensory fibres  
— motor fibres

**Cranial (I)**  
sensory

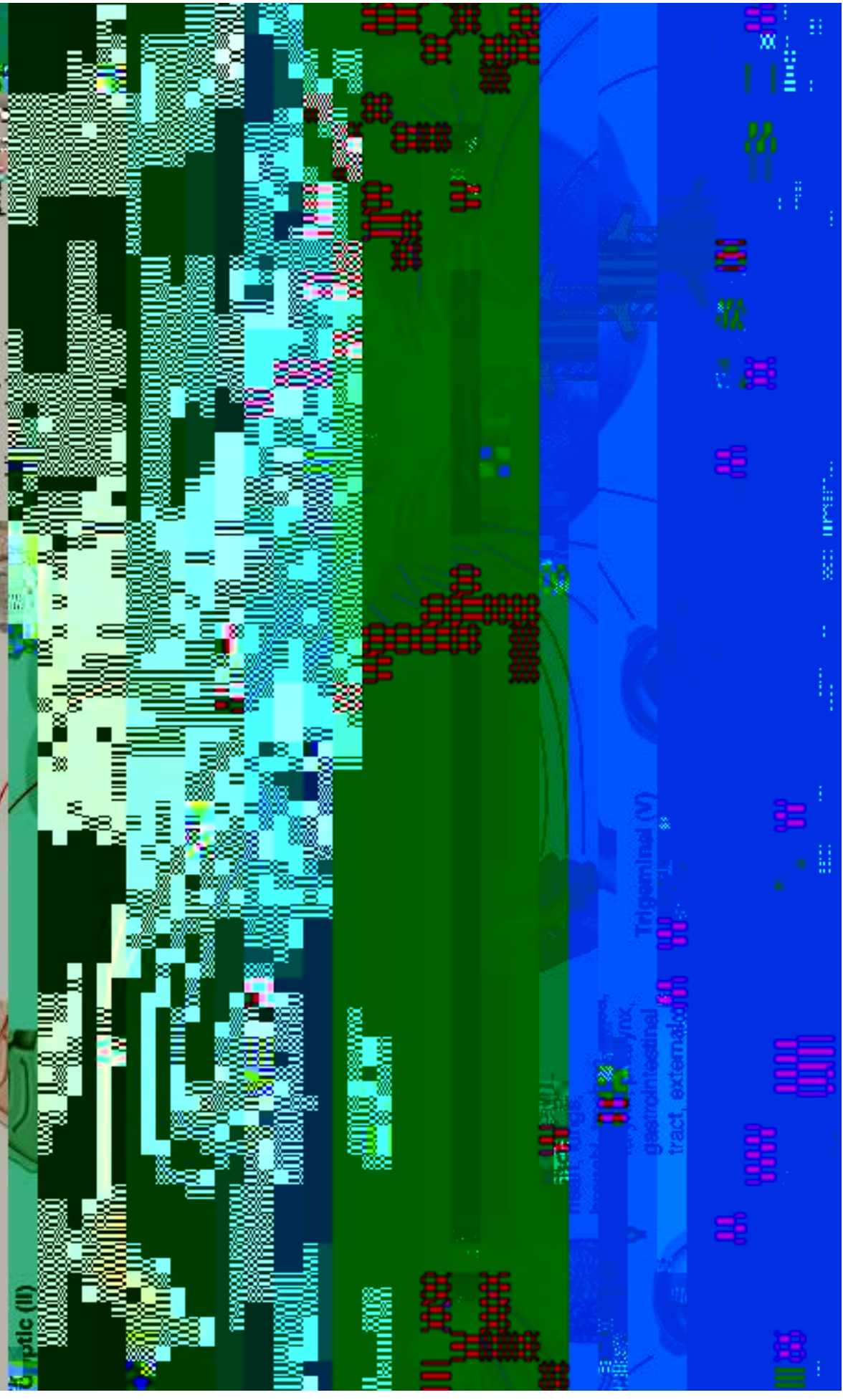
motor

**Intermediate**  
motor:

submaxillary and

**Glossopharyngeal (IX)**  
motor:

pharyngeal



**Olfactory (I)**

**Optic (II)**

**Trigeminal (V)**

**Facial (VII)**

**Glossopharyngeal (IX)**

**Vagus (X)**

gastrointestinal tract, external

pharynx

larynx