

Egg-tastic Fluid

Purpose:

To demonstrate the properties and action of the Cerebrospinal Fluid in the brain, giving insight how the CSF protects and cools the brain. This demonstration will also be good for the children because it will help reinforce the necessity of wearing a bike helmet.

Materials:

Eggs, Zip-lock Bags, H₂O, Salt, Candy/Treat of some sort, Extra poster board
Note cards, Poster showing Brain/Spinal Cord CSF Circulation

Procedure:

With the use of a poster explaining the action of CSF, we will give a quick run down on its properties and action. We will then proceed to play a small trivia game, in which we will challenge the kids to demonstrate if they had learned anything on CSF. Candy/Treats will be awarded based on answers as well as participation. The kids will then be able to visualize the effects CSF has on protecting the brain. The kids will be split into two teams; one team will place raw eggs into zip-lock bags (one egg per bag) and then add water and salt. The other team will put raw eggs in zip-lock bags (one egg per bag), however; they will not add any water or salt. The children will then toss the eggs against a wall, in an attempt to show the action of CSF on protecting the brain. The egg in the zip lock bag with no water will break and the egg in the water medium will be left unbroken.

Issues:

The kids could throw the bags too hard which would make the eggs break no matter what. Also in our extensive research the bags have a tendency of breaking at the seams when thrown or dropped at a height of more than five feet and thus, breaking eggs. More research is going to have to take place to find a sturdier zip-lock bag. It is also a very simplified way of explaining the action of cerebrospinal fluid, and in explaining the properties we must make sure to not confuse the kids to insure that they can come out of the demonstration having learned something. There is also more CSF circulating around the brain and spinal cord. In this experiment the ratio of brain/CSF is well below the ratio of egg/water.