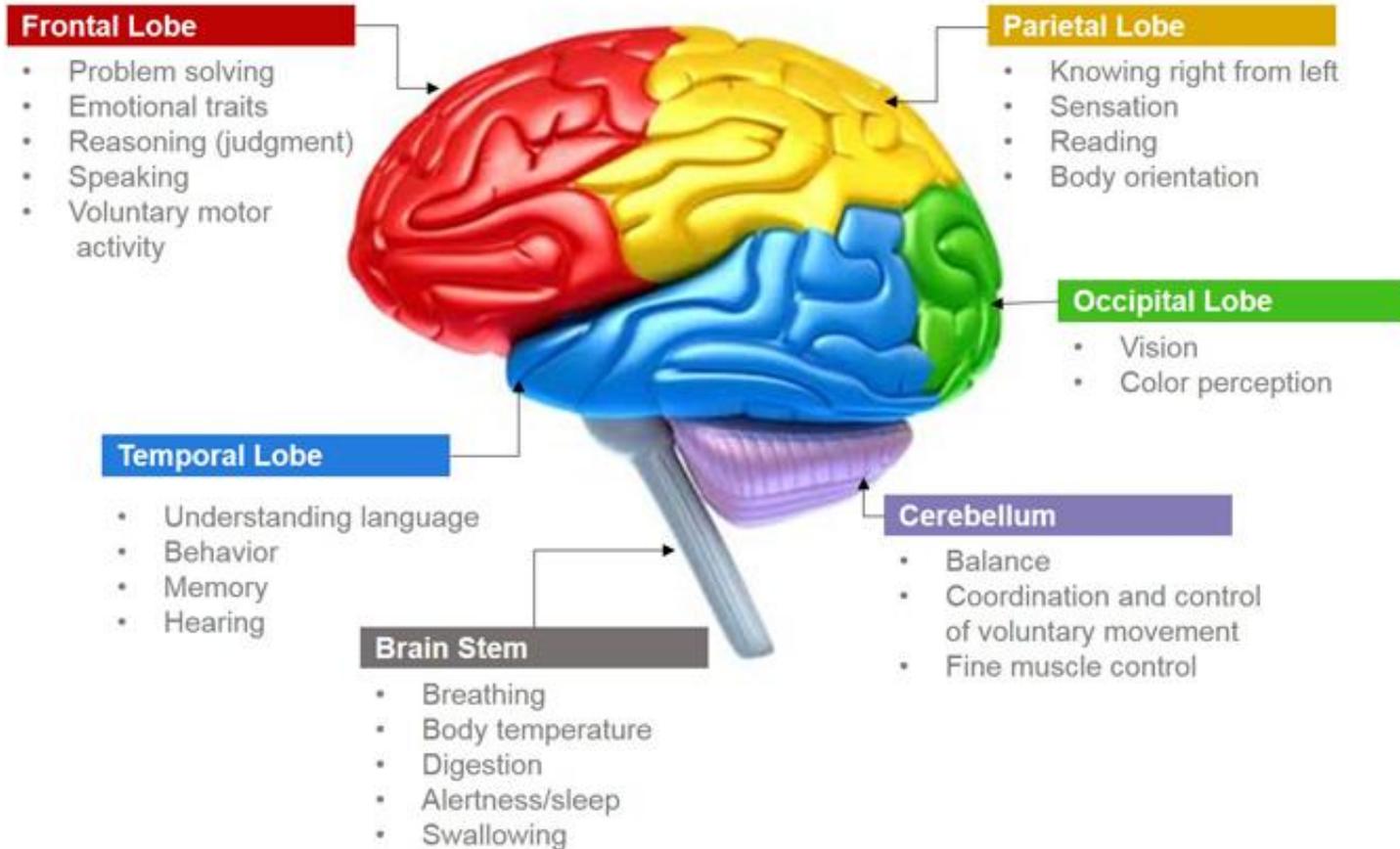




Infectious Brain Disease Lab



What is the coolest thing your brain does for you?



What kinds of things make you sick?

Types of pathogen



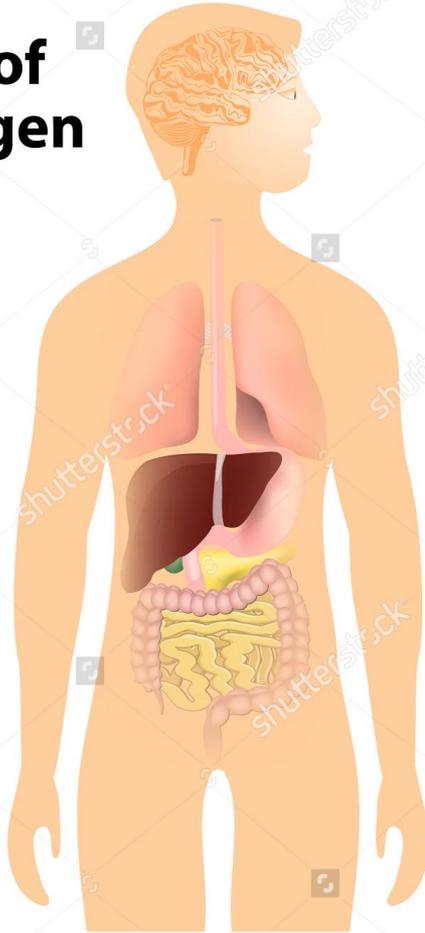
Virus



Bacteria



Prion



Fungus



Helminths



Toxins



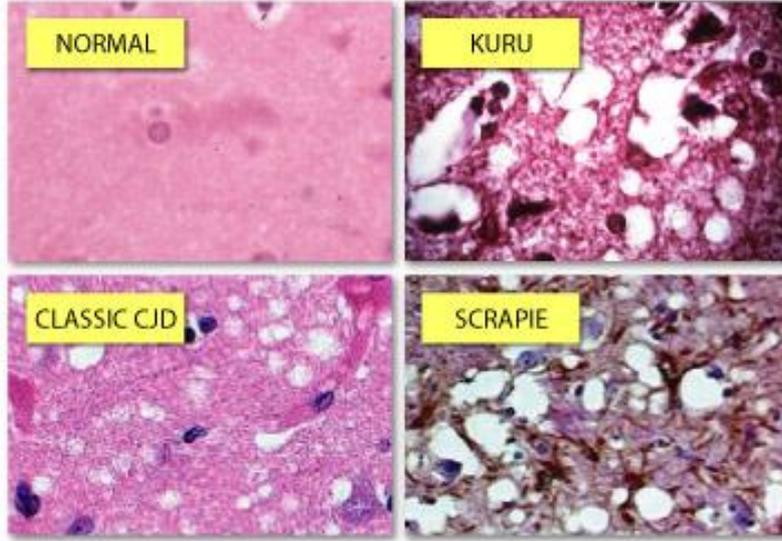
Other parasites

Which pathogens can get into the brain?

Helminths (worms) brain infection



prions



Normal brain

Figure 1



Encephalitis

Figure 2

How are diseases spread from 1 person to another?

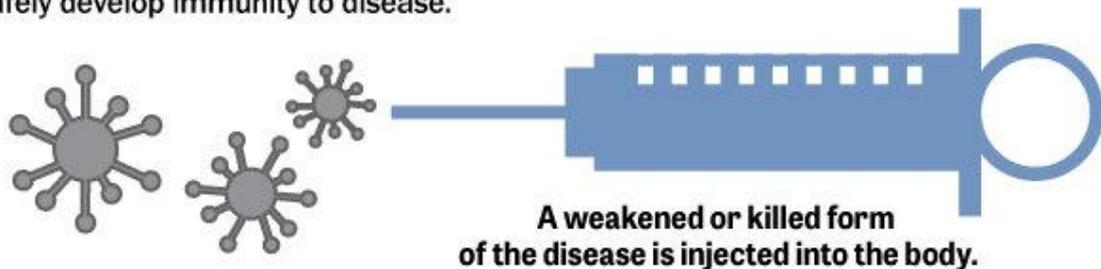


When we go to the doctors, we get shots, why?

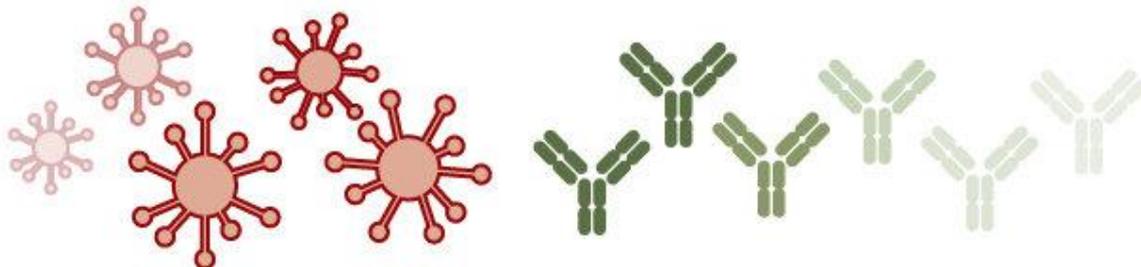
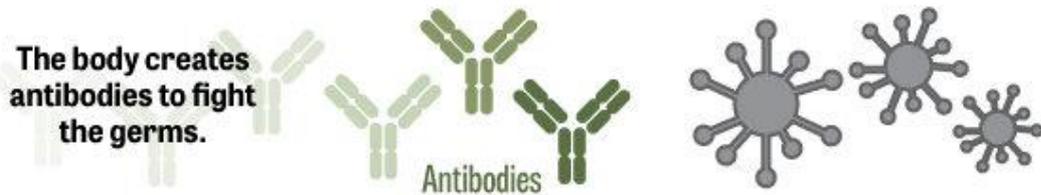


HOW DO VACCINES WORK?

Vaccines reduce the risk of infection by working with the body's natural defenses to safely develop immunity to disease.

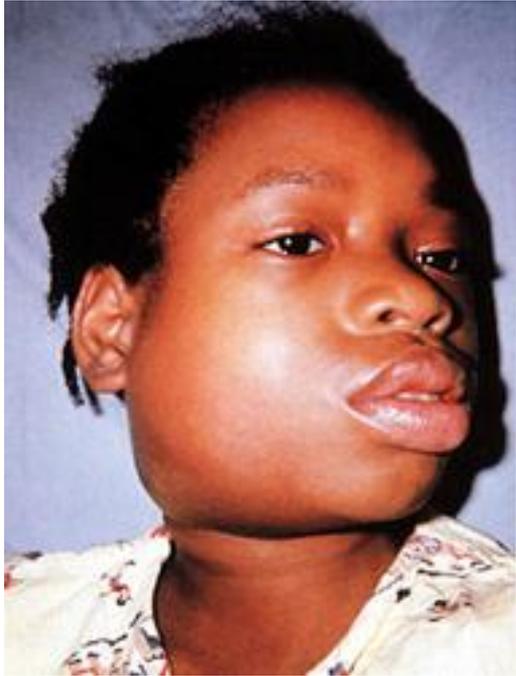


The body creates antibodies to fight the germs.



If the actual disease germs ever attack the body, the antibodies return to destroy them.

To protect us from diseases like these:



Mumps



Measles



Diphtheria

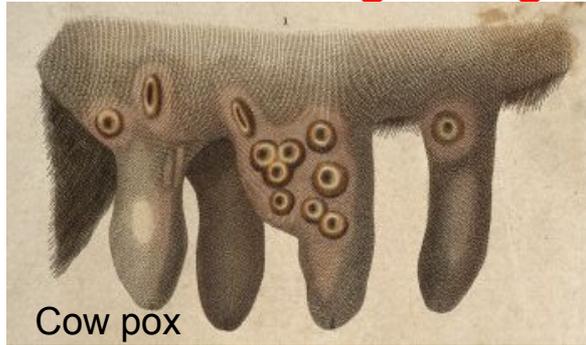


Tetanus

Polio:



Vaccination was discovered by Dr. Jenner in 1700s who observed that milk maids had beautiful skin because they did not get small pox. Instead they got infected with cowpox (much less severe poxs than small pox) which protected them from getting smallpox.



Thanks to vaccination, the world was rid of small pox in 1977.

Which diseases do we get vaccinated for that can affect the brain?

Today, we will share “bodily fluids” and mimic a disease outbreak.

Vote on which brain disease you are spreading

Lots of different jobs with this activity

Epidemiologist: figures out patient 0 and how diseases are spread across populations of people or animals

Virologist, microbiologist, immunologist are all research scientists that study how the virus/bacteria work and how our immune system responds to infection

Health and Safety officers: work at research labs to keep scientists safe and from getting infected with disease they're studying

Public Health: administered vaccines to the public (small pox)

Pediatricians: medical doctors for kids

Medical Technologists: work in labs in hospitals to diagnose disease