

Katherine and Hiba's Science Logbook

#1 December 17th 2024-

We are introduced to the project and begin to brainstorm our ideas. We start by deciding what field of science we want our project to revolve around. We narrowed it down to biology, psychology and forensic sciences.

#2 Dec 18th-

We decided on the field of psychology because we were most interested in how the brain works. Next we had to figure out our exact project when the topic mental illnesses came up. Overall we came to the conclusion that we will be researching how mental illnesses affect the brain.

#3 Jan 6th-

We chose the exact mental illness we wanted to work on as well. Schizophrenia, PTSD, Depression, Bipolar disease.

Jan 27th-

I started to learn about the basics of this disease. I wanted to start to understand how this illness works and what these patients have to face.

Feb 1st- Decided on what our problem or main question would be which is "We are trying to figure out more about how different mental disorders affect the brain. Some background information on them and how they evolve and affect the people's daily lives." Also worked on

Feb 2nd-

Katherine's research for schizophrenia begins- What it is: Schizophrenia is a chronic mental disorder that affects the way the people feel things, see things, and hear noises. It can create hallucinations and delusions of things that other people can not view.

Hiba's research of depression begins- **What it is:** Depression, also known as major depressive disorder, is a common mental disorder. It causes a persistent feeling of sadness. Depression can also make people feel a loss of interest in activities. Depression can lead to a variety of emotional and physical issues which can affect a person in the long run. Depression can cause suicidal thoughts, body dysmorphia and other severe side effects. It may require long term treatment.

Feb 4th- we began researching the different structures of the brain. We learned about the frontal lobe and what it is made up of. Gray matter was also a topic of discussion.

Feb 6th- We researched about CAT scans and what the different colours on the photos of them signify. These scans can help our doctors and research a lot as it provides very crucial information about the brain's condition.

Feb 7th- We begin extending our research on how depression and schizophrenia affect the structures of the brain.

Feb 10th- Today we learned about what causes schizophrenia. There are a multitude of different reasons such as genetic links which are highly common. Environmental factors as well such as different drugs. Everyone is differently affected by these factors.

Feb 12th-Worked on the depression basics starting with what it is and what are the potential causes.

Feb17th- Looked into Bipolar disease. It is a mental health condition that causes extreme mood swings and emotional highs. Hypomania is a part of it and is when the person shows a lot of extra energy, more happy, more irritable, lower self-esteem, easily distractible, many ideas and more.

Feb 20th- Looked into the basics of PTSD. Starting with what it is. Also what it is caused by which of course is an extremely traumatizing experience which has lingering affects on one's life causing PTSD. There are many symptoms that are closely related to certain parts of the brain. Some symptoms include severe flashbacks, anxiety, nightmares, and uncontrollable thoughts about the event.

Feb 23th-

Started working on the data section for schizophrenia. I made sure to relate the different symptoms to the different parts of the brain and what was happening to the different parts. I also added scans of brains with schizophrenia and "normal" ones.

March 4th- Worked on the data portion for depression. I learned that it is a mix of chemical differences and physical. The amygdala plays a huge role in depression as it is in control of emotions.

March 9th- Learned about the different parts of the brain affected for someone experiencing Bipolar disease.

March 12th- I deeply learned about the different parts of the brain that are affected by PTSD. The amygdala, prefrontal cortex, and hippocampus are mainly affected and change the way your brain perceives fear and how it constantly thinks about the event. It really showed me more about PTSD and how it actually works which is really cool.