I believe the role of a teacher is to create a positive and safe learning environment where students feel comfortable sharing their individual ideas and developing good self evaluation skills. Learning involves students building on and challenging what they know. In an inquiry based classroom students must use what they already know to make predictions and develop their own conclusions. In the process, many students realize their preconceptions aren't complete or are possibly incorrect. This can make students nervous to share their thoughts out of fear of being wrong. However, I believe a classroom should value all input and emphasize personal growth. If a student can demonstrate that they understand a concept in more depth by the end of a unit versus at the beginning, then I believe they and the learning process have been successful.

As a teacher, I will guide students to the correct answers. An effective strategy is using good questioning. I like to ask challenging questions which relate to what students already know in order to guide their thinking in the right direction. I think this works well in an inquiry based classroom. Inquiry based lessons allow students to engage with new ideas from their own perspectives and develop their own hypotheses and conclusions. I believe collaborative group work is important in this process so students are exposed to a variety of perspectives. After students provide their input, my role as a teacher is to refine ideas so their knowledge is the best version it can be. This promotes a constructivist classroom in which students are constantly incorporating new ideas into existing mental schema. Knowledge is constructed and made sense by the students rather than simply being "taught". I develop clear and attainable objectives for students to follow. Students shouldn't have to guess what they need to know or do. Giving students direction allows them to self evaluate their own progress.

Project based learning can be used to place science education into a real world context. Project based units center on a driving question based on a real life situation. Students are tasked with developing ideas and solutions to answer the driving question all culminating in a final project or presentation. Students are allowed to revise their work as their understanding of the concepts change or as they receive feedback from peers. It also provides many opportunities for self evaluation. Giving students the agency to use their knowledge to solve real world problems develops their sense of critical consciousness and their ability to have a meaningful impact in the world.

I believe I am drawn to science education because it can be a multidisciplinary and meaningful learning experience. Although science courses are usually taught as individual subjects, the sciences are all interconnected and intersect with society. My goal is to help students develop their problem solving abilities so they can resolve issues appropriately in all aspects of their lives. Students should come away from class feeling it's okay to make mistakes and that self progress is something to be celebrated. I hope my students are able to leave my class with a great sense of self worth.