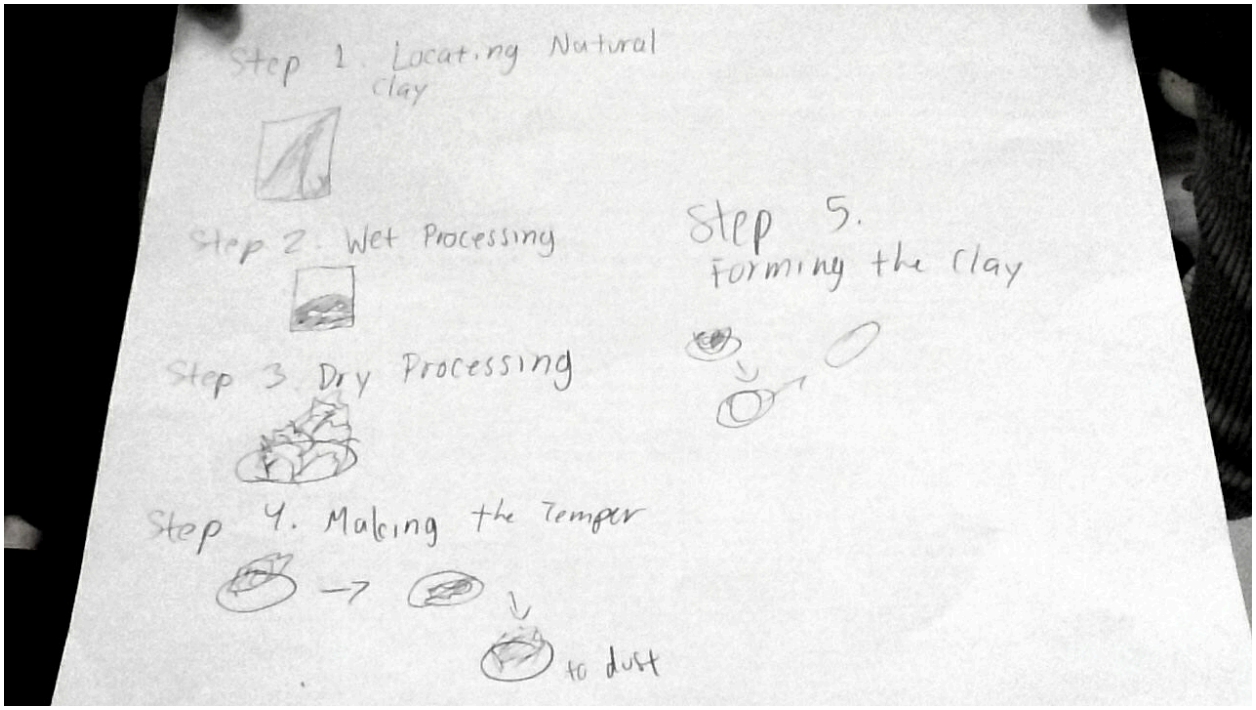
Science Project

Can you make clay from natural Tucson soil that has the same weight as clay you would buy from the store? This is important or relevant to me since I can learn more about the usage of clay and the difference between modern clay that is possibly **manufactured** — which means it was made with machinery — and clay made with natural soil. To develop a hypothesis, I will be researching what clay is, what did native people use it for and how, and how to make clay in modern times and the meaning to modern clay.

First, what even is clay. Clay comes from natural earth materials, it is **loose —** sticky and the material can easily be unattached — and soft. In the article, *What is Clay?,* it states that, "Clay is a soft, loose, earthy material containing particles with a grain size of less than 4 micrometres" (Science Learning Hub, 2). This quote is supporting the fact how clay is made from small particles that are from earthy materials and basically explains what clay comes from. Clay also forms from weathering and erosion, rocks will contain a certain mineral group called **feldspar —** mainly known as the 'mother of clay' — that will form clay over time. In the article, *What is Clay?*, it states that, "During weathering, the feldspar content is altered by hydrolysis (reaction with water) to form clay minerals such as kaolinites (the principal minerals in kaolin clays) and smectites (the principal minerals in bentonite clays)," (Science Learning Hub, 3). This quote explains the process of clay forming from each of the minerals. Clay is made from earthy material, a tribe called **Tohono O'odham —** a native tribe that is known as 'Desert People' occupied Southwestern Arizona — used clay to build houses and structures, or even items used in daily life.

Second, how did a native tribe, Tohono O'odham, make and use clay. The tribe used a strategy that is mainly known as paddle-and-anvil techniques. This method also results in beautiful designs that can show the potter's skill. In the short passage, *Paddle-and-Anvil Construction*, it states that, "adds thick ropes of clay to a hand-formed or molded base and then binds the added clay by hitting the exterior of the vessel with a wooden paddle while holding a flattened stone anvil or a fist against the vessel's interior" (The University of Arizona, 1). This quote explains about the process of the clay sculpture being made and how the method works. The Tohono O'odham used clay for many reasons: cooking, storing water, seeds, etc. In the article, *Kathleen Vance on the Art of Traditional Tohono O'odham Utilitarian Pottery*, it states that, "in Tohono O'odham utilitarian pottery creating clay cooking vessels, water ollas, seed jars, effigy pots, and whistles" (Eisele, 1). This quote explains that traditions from the tribe used clay for certain reasons that are still used today. The Tohono O'odham tribe made clay from their soil; nowadays, we have modern clay that is manufactured.

Third, making clay in modern times and what is the meaning of clay. Clay has very specific meanings in modern times. For example some people use clay for identity, or whenever you make clay it'll be there like a memory. According to the article, *Modern Clay: Exploring Pottery in Contemporary Art,* it states that, "makes it an apt metaphor for the shaping of one's self and indelible marks and memory," (Nielsen, 3). This does support how clay leaves memory since when one does start doing clay they will remember their first project or such and make someone feel **nostalgic —** have a yearning for the past and often revisit old areas or objects to remember the past — about it. Moving on, another thing is how to make modern clay at home with any machinery, one way is to find soil, or natural clay, mix it with water in a bucket, then let it dry for a bit, temper it, and lastly form the clay body. This is one way to make clay at home. In conclusion, modern clay does have special meaning and there is a way to make clay at home.



Based on this research, my hypothesis is that a person is able to make clay at home that is similar to modern clay. I think this because clay is an earthy material that you can find around your neighborhood or area. The Tohono O'odham tribe has done it before so anyone can do it too, and I already found a step by step way to make clay. This is important to my project because this can really benefit my knowledge and help me have prior knowledge before I start doing something I never really knew, or done before.

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