Hi there!

My name is Lulu and I love learning about Anthropology and exploring the world to see how other cultures live.

Join me on my journey as we travel around the globe and learn from other cultures. Every week, I'll post a post card and envelope full of fun information, facts, and activities.

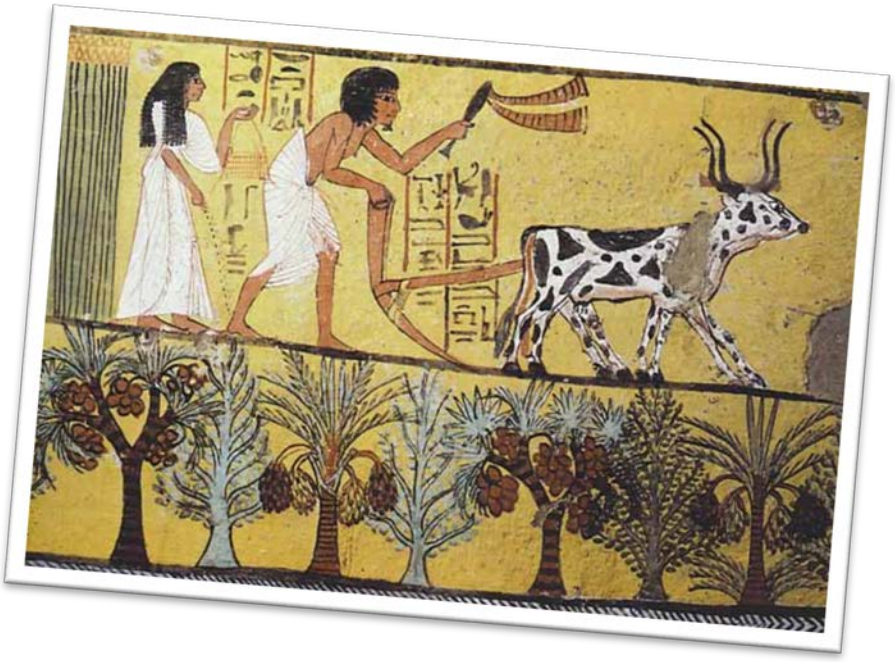
Last week we learned how ancient people got their food, and this week, we'll learn more about where our food comes from and how people continue to get their food through **agriculture**!

Water

Water is an essential part of agriculture. Many villages and settlements among early people are found along rivers or where water was more available. Water is not only a must for humans to hydrate but is also necessary for livestock and plants.

One way people get water to their crops is irrigation. This photo shows an *acequia,* which is a ditch dug to divert some water from a river into fields for farming.

Ancient Egypt is a great example of just how important water is! The Nile is a very big river that sweeps through the area, and ancient Egyptian farming took advantage of this. The Nile flooded seasonally and had a predictable pattern to its water level. Egyptians developed **basin irrigation**, a type of irrigation that creates an area that can continue to hold water even once the river levels lower.



With a steady source of water, they were able to grow staple crops. The Nile brought in fine soil that would fertilize the crops and help their fields grow abundantly.

In southwest North America, people had rivers, but they were not as large as the Nile. Instead, rainwater was a large part of what made a crop successful. To make the most of the rain, the people of Zuni pueblo developed **waffle gardens**. Waffle gardens were made to catch rainwater much like a breakfast waffle catches syrup. The raised sides shade the plant and slow evaporation as well. Instead of soil, sometimes mulch was used for the raised area to let the water flow down to the soil where the plant is.

Sometimes water is scarce and hard to come by. When this happens, it's called a **drought**. Drought can mean food is hard to grow, crops die, and livestock hard to keep healthy which can make for a bad situation for the people dependent on that food.

Plants and Animals

The development of agriculture also brought about **domestication**! When we think of domestication, we might think of dogs or cats, but domestication was also used to adapt many other wild animals and plants more convenient for humans to use. Cows, sheep, pigs and other farm animals provided hides, meat, cheese, and milk. Some animals are domesticated for pulling carts, plows and other tasks too difficult for humans to do on their own.

https://geneticliteracyproject.org/2017/08/09/ancient-corn-genome-unlock-secrets-crop-diversity-

We also domesticated plants for eating. The corn we eat today looks very different from some of the ancient types of corn in terms of size, color, and yield. The image left shows how different the first corn was to the kinds of corn we see in the grocery store today.

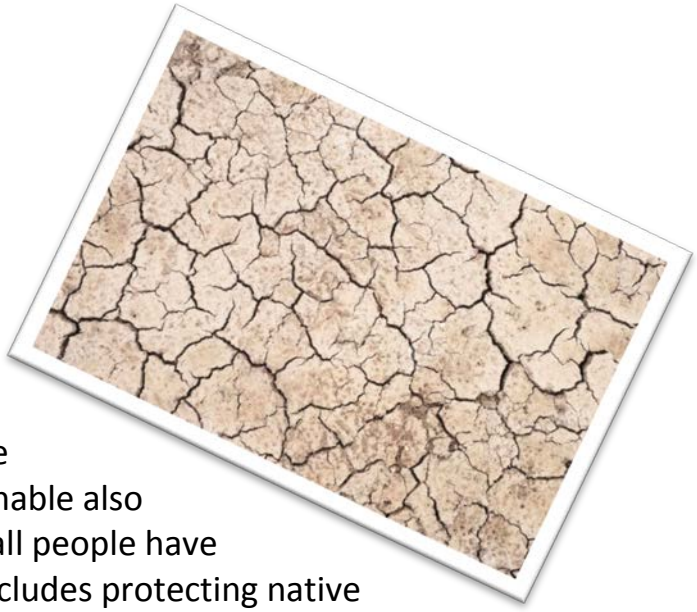
By focusing on growing larger food, people could be sure that when winter came, even if there had been less plants growing to pick at harvest, there would be enough food for everyone who needed it.

Agricultural Science

Early farming could only feed about 6-10 families though nowadays, very large farms feed many more than that. Farming to feed only a small amount of families and leaving little extra for trade is called **subsistence agriculture**. The reason we are able to feed so many more people now is because of advancement in technology.

Old more tedious ways of sowing seeds and harvesting, like by using the plow, have been replaced by larger and faster tractors. Water pumps that used to be manual are often now electric and large milling machinery has replaced many windmills.

Sustainability



Agricultural sustainability is something incredibly important. Many agricultural scientists and experts are looking for ways people can grow their produce with less pesticides and still have a high-yield. Less chemicals means that it is also more affordable to grow and trade produce. Making agriculture more sustainable also means making sure land is cultivated so all people have access to farmable land and food. This includes protecting native plants, water, and limiting toxic industrial practices.

Our limited water supply can only be stretched so far so it has to be used effectively and irrigated properly. When water is irrigating many fields of produce for more and more people, it can cause water levels to lower, rivers to dry and drought to happen. Scientists work to develop plants that require less water or develop ways of growing rain-fed crops and regulated water management.

It is not necessary to have a negative impact on the environment for agriculture. Developing and putting into practice more sustainable methods that protect water, soil, and waste will help make more food for people while not hurting the land it comes from.

Activity: Growing Beans in a Bag

Beans are a traditional southwest food and are native to the Americas. They are often planted in late spring and once harvested can be stored dry for long periods of time. For this activity, we're going to grow our own bean plant.

You will need:
Paper towel Dry bean(s) Ziploc/sandwich bag Paper towel

Instructions:

First, prep your paper towel by making it damp with water but not soaking. Fold the paper towel up so it can be inserted into the sandwich bag.

Next, place your beans in the bag on top of the paper towel and space them out so they're not on top of each other. Keep them towards the center of the bag so there is room for the roots to grow one way and the stem to grow another way.

Close the bag partially but not all the way. Place it in a nearby window where you can check on it and make observations.

You may not need to water it every day but keep the towel moist and in a sunlit window to help it grow big.

Over the course of about 7 days, you may be surprised by how much your plant has grown. It may grow but, can it feed a village? Use the observation sheet below to think like an agricultural scientist.

Date of Observation	Notes (how much water, how much sunlight?)	Drawing