

There are some basic requirements of plant growth that need to be provided in order for agricultural pursuits to be successful. They are:

1. **Good supply of high quality water** — both surface water (streams, creeks and rivers) as well as large supplies of groundwater.
2. **High quality soil** — light, well-drained (warms up faster and allows for optimum root development.) Also has some areas where the soil is heavy, highly organic, with a lot of clay. The variety of soil types allows for a variety of crops — each with specific soil requirements.
3. **Temperature fluctuations are moderated** (the proximity to the ocean and bay provides a buffer to extreme temperature changes) Called “heat of fusion,” it can be simply demonstrated by comparing the temperature changes between a cup of wet soil and a cup of dry soil, both in heat and freezing ambient air temperatures.
4. **The Hardiness Zone** — determines the first frost and the last frost which, in turn indicates the optimum growing season. Cumberland County has the same hardiness zone designated as North Carolina, and therefore has an extended growing season.
5. **Large expanses of undeveloped, open space for cultivation and agricultural production.**

6. **Market potential for produce** — the region Down Jersey is uniquely situated in a central location for transporting produce to both northern and southern urban markets. It is said that one in five people in the United States live between Boston and Washington. The southern portion of New Jersey is roughly in the center of this market potential.
7. **Shipping options** — the accessibility of transportation options for the produce to bring it to the market is provided by roadways (truck farming), railroads, and shipping ports and extensive waterways.
8. **Preserved foods** have a much longer shelf life and, therefore, a much greater profit is available to the farmer. Canning factories made it possible to have many crops locally processed and preserved for shipping. Freezing techniques were also developed in the region and provided another way to preserve fruits and vegetables for markets.



■ Procedure

Warm Up

Begin this activity by personalizing the discussion about agriculture to have students realize its role in their lives and the importance of fruits and vegetables to their diets.

Option One

Ask students to list the agricultural products that they have utilized and/or consumed so far today. (Even if it is early morning, chances are that your students have consumed cereal, milk and probably some sort of fruit juice.) Explain that all of these items are grown on farms and that they are very important part of our diet. Have students brainstorm a list of things needed to grow plants (or summarize for them from above background information).

Option Two

Ask students if any of them live on a farm. What crops do they grow? Does anyone in their family work on a farm? Did any of them pass a farm on their way to school? Do they know where there are any farms?

The Activity

1. Have small groups of students look through the local phone book for agriculture-related businesses. Farms, nurseries, and orchards, dairy farms, markets, also, canning factories, equipment suppliers, pesticide and herbicide distributors, etc. Have them tally the number of businesses that are locally connected to agriculture and record the different types of