

Plants Native to Asia, South America and Europe

Third Grade Social Studies Curriculum

Objective:

Students will be able to identify a variety of plants native to the region they are studying. Students will learn historical and cultural facts about the plants from the region they are studying.

Materials:

- ❖ Asia:
 - Rice to plant
 - Ginger root to plant and candied ginger to taste
 - Yard long beans to plant
 - Mangoes, peaches and kiwis to taste

- ❖ Europe:
 - Potato seeds to plant, potato grow bag and soil
 - Beet seeds to plant and raw beets to taste (bring peeler)
 - Strawberry plants to look at and strawberries to eat

- ❖ South America:
 - Pineapple to eat then plant (big knife and cutting board, pot with soil for planting)
 - Cherry tomatoes to eat and tomato seedlings to plant
 - Black beans to plant

Procedure:

10 minute Intro

Look at a map of the world and identify the countries in the region being studied. List some of the important plants native to that region and discuss historical and cultural facts associated with those plants.

30 minute Planting Activities

Students divide into two groups and plant the vegetables native to the countries they are studying.

Asia

Plants native to Asia:

Mango	South Asia (India)
Kiwi	China
Peach	China
Rice	China
Ginger	South Asia (India)
Yard Long Beans	South Asia, Southeast Asia, and Southern China

Rice is the third most produced crop in the world after corn and wheat, but it is the most important grain with regard to human nutrition and caloric intake, providing more than one-fifth of the calories consumed worldwide by humans.^[2] Rice may be even more important than corn as a food crop, since corn is used for other purposes outside consumption.

Chinese legends attribute the domestication of rice to Shennong, the legendary emperor of China and inventor of Chinese agriculture.^[4] Genetic evidence has shown that rice originates from a single domestication 8,200–13,500 years ago^[5] in the Pearl River valley region of China.^[6] Archaeological evidence had suggested that rice was domesticated in the Yangtze River valley region in China.^[5]

For more than half of humanity, rice is life. It is the grain that has shaped the history, culture, diet, and economy of billions of people of Asia. Many of them sleep on rice straw, drink rice liquor and offer rice to their gods. The growth stage of the rice crop marks the passage of time and season. In the languages of China, Japan and many others, the day begins with "morning rice" and ends with "evening rice." In this part of the world, rice is not just a cereal; it is the root of civilization.

In Thailand, rice is the essence of life. It permeates all aspects of the life of people from all walks of life. Rice is in music, particularly folk songs. It is in various forms of the arts – from poems to paintings to sculptures. It is in tradition, folklore, ritual and even language. For Asian people, life without rice is simply unthinkable.

Ginger was exported to Europe via India in the first century AD as a result of the lucrative spice trade and was used extensively by the Romans.^[1]

Ginger is a **rhizome** meaning "mass of roots",^[1] often sending out roots and shoots from its nodes. If a rhizome is separated into pieces, each piece may be able to give rise to a new plant. Like a bulb, the plant uses the rhizome to store starches, proteins, and other nutrients. These nutrients become useful for the plant when new shoots must be formed or when the plant dies back for the winter.^[3] This is a process known as vegetative reproduction and is used by farmers and gardeners to propagate certain plants. Examples of plants that are propagated this way include hops, asparagus, ginger, irises, Lily of the Valley. Some rhizomes which are used directly in cooking include ginger, turmeric.

Ginger produces a hot, fragrant kitchen spice.^[9] Young ginger rhizomes are juicy and fleshy with a very mild taste. They are often pickled in vinegar or sherry as a snack or cooked as an ingredient in many dishes. They can be steeped in boiling water to make ginger tisane, to which honey is often added; sliced orange or lemon fruit may be added.

Ginger has a very long history of use in various forms of traditional/alternative medicine. It has been used to help digestion, reduce nausea and help fight the flu and common cold.

The juice from ginger roots is often used as a seasoning in Indian recipes and is a common ingredient of Chinese, Korean, Japanese, Vietnamese, and many South Asian cuisines for flavoring dishes such as seafood, meat, and vegetarian dishes. Candied ginger, or crystallized ginger, is the root cooked in sugar until soft, and is a type of confectionery.

Ginger stimulates the production of saliva, which makes swallowing easier.^[21]

Ginger has analgesic, sedative, and antibacterial properties. In limited studies, ginger was found to be more effective than placebo for treating nausea caused by seasickness,

Yard Long Beans are of a different genus from the common bean. It is a vigorous climbing annual vine. The plant is subtropical/tropical and most widely grown in the warmer parts of South Asia, Southeast Asia, and southern China. A variety of the cowpea or black-eyed pea, it is grown primarily for its strikingly long (35- to 75-cm) immature pods and has uses very similar to that of the green bean. The many varieties of yard Long beans are usually distinguished by the different colors of their mature seeds. The plant attracts many pollinators, specifically various types of yellow jackets and ants.

They are best for vegetable use if picked before they reach full maturity; however, overlooked pods can be used like dry beans in soups. The plants produce beans until frost.

Popular in India, Philippines, China, Thailand, Malaysia

Mangoes are native to South Asia, from where it has been distributed worldwide to become one of the most cultivated fruits in the tropics. It is the national fruit of India, Pakistan, and the Philippines, and the national tree of Bangladesh.

Mangoes have been cultivated in South Asia for thousands of years and reached East Asia between the fifth and fourth centuries BC. By the 10th century AD, cultivation had begun in East Africa. Portuguese explorers brought the fruit to Brazil, and later it was cultivated in the West Indies, and Mexico.

When mangoes were first imported to the American colonies in the 17th century, they had to be pickled because of lack of refrigeration. Other fruits were also pickled and so these pickled fruits came to be known as "mangoes," especially bell peppers. By the 18th century, the word "mango" became a verb meaning "to pickle"

Peach (*Prunus persica*) is a deciduous tree native to the region of Northwest China where it was first domesticated and cultivated around 2,000 BC. They were the favored fruit of kings and emperors. The scientific name, *Prunus persica*, literally means "Persian plum", as it is closely related to the plum. The scientific name *persica*, derives from an early European belief that peaches were native to Persia, present day Iran. The Ancient Romans referred to the peach as *malum persicum* "Persian apple."

The peach was brought to India and Western Asia in ancient times. Peach cultivation also went from China, through Persia, and reached Greece by 300 BC. Alexander the Great introduced the fruit into Europe after he conquered the Persians. The peach was brought to the Americas by Spanish explorers in the 16th century, and eventually made it to England and France in the 17th century, where it was a prized and expensive treat.

Kiwifruit is native to north-central and eastern China. Cultivation of the fuzzy kiwifruit spread from China in the early 20th century to New Zealand, where the first commercial plantings occurred. Although kiwifruit is a national fruit of China, until recently, China was not a major producing country of kiwifruit, as it was traditionally collected from the wild.

The fruit became popular with American servicemen stationed in New Zealand during World War II and was later exported to California using the name "Chinese gooseberry." In 1962, New Zealand growers began calling it "kiwifruit" to give it more market appeal, and a California-based importer subsequently used that name when introducing the fruit to the American market.

South America

Plants native to South America

Tomatoes
Peppers
Pineapples
Beans
Potatoes
Sweet potatoes
Nasturtium
Hibiscus
Vanilla

The **Pineapple** plant is indigenous to South America and is said to originate from the area between Southern Brazil and Paraguay. The **pineapple** (*Ananas comosus*) is a tropical plant with edible multiple fruit consisting of coalesced berries. It is in the Bromeliad family. One characteristic of the bromeliads is that they are able to store water in a structure formed by their tightly-overlapping leaf bases.

When English explorers discovered this tropical fruit in South America, they called them "pineapples" (first referenced in 1664 for its resemblance to the pine cone).

The Indigenous people of southern Brazil and Paraguay spread the pineapple throughout South America, and it eventually reached the Caribbean, Central America and Mexico, where it was cultivated by the Mayas and the Aztecs. Columbus encountered the pineapple in 1493 on the island of Guadeloupe. The Spanish introduced it into the Philippines and Hawaii.

Pineapples may be cultivated from a crown cutting of the fruit,^{[2][5]} possibly flowering in 20–24 months and fruiting in the following six months.

Potatoes were originally cultivated in Peru between 3000 and 2000 BC. There are close to 4000 different varieties of potatoes. Some of the most well known are: russets, reds, whites, yellows (also called Yukons) blues and purples.

The Spanish explorers introduced the potato to Europe in the 1500's. By the end of 17th century the potato had become an important crop in Ireland.

Tomatoes

Wild tomatoes grew in the Andes mountains of Peru long before the first Spanish explorers arrived in the New World. The Aztecs of Mexico domesticated and cultivated them as early as 500 BCE. Spanish explorers took these early tomatoes back to Europe, but people were afraid that tomatoes were poisonous, as they are members of the nightshade family which contains several poisonous species.

The wild tomatoes were small and yellow and sometimes called golden apples. They were first used as ornamental plants. It wasn't until the 17th Century that the tomato became popular in Spain and eventually became a staple in the Mediterranean diet.

Black beans, botanically-known as *Phaseolus vulgaris*, are native to the Americas. One of over 500 varieties of kidney beans, black beans are also known as *turtle beans*. These beans date back at least 7,000 years, when they were a staple food in the diets of Central and South Americans.

Black beans and rice are a staple in the Brazilian diet. They call it Feijao e arroz. The rice was brought to Brazil from China by the Portuguese explorers.

Most beans contain at least 20% protein and are high in carbohydrates which provides long lasting energy. In addition, beans provide essential B Vitamins and Iron.

Vanilla is the seed pod or fruit of an orchid native to Mexico.

Europe

Plants native to Europe

Northern:

Cabbage

Brussels Sprouts

Beets

Southern, Mediterranean

Strawberries

Strawberries

The first recorded appearance of a strawberry was the small wild strawberry in Rome more than 2,000 years ago. But different varieties of wild strawberries grow in many parts of the world including North and South America.

European explorers found a variety of wild strawberries in North America in 1588 when they landed on the shores of Virginia. Early settlers in Massachusetts enjoyed eating strawberries grown by Native Americans and cultivated them as early as 1643.

Native American Indians called strawberries "heart- seed berries" and pounded them into their traditional corn-meal bread.

Potatoes originally cultivated in Peru between 3000 and 2000 BC. The Spanish explorers introduced the potato to Europe in the 1500's. By the end of 17th century the potato had become an important crop in Ireland.

The **Great Famine** was a period of mass starvation, disease, and emigration in Ireland between 1845 and 1852. It is sometimes referred to, mostly outside Ireland, as the **Irish Potato Famine**, because about two-fifths of the population was solely reliant on this cheap crop as a staple in their diet. During the famine, approximately 1 million people died and a million more emigrated from Ireland, causing the island's population to fall by almost a quarter.

The cause of the famine was a potato disease commonly known as **potato blight**, which ravaged potato crops throughout Europe during the 1840s. However, the impact in Ireland was disproportionate, as one third of the population was dependent on the potato.

Furthermore, the potatoes grown in Ireland were mostly of a single variety, the Irish Lumper. The large dependency on this single crop, and the lack of genetic diversity among the potato plants in Ireland, were two of the reasons why the potato blight had such devastating effects in Ireland and less severe effects elsewhere in Europe.

Beets have been around since ancient times. They originated in Southern Europe or the Mediterranean. They were an important plant for both the ancient Greeks and Romans. Beets of this period were white or black rather than red. At first, the Greeks used just the leaves of the plant, both medicinally and as a culinary herb. The Romans used the leaves as a culinary

herb and as a medicine, and they also used the beetroot as medicine. By the 3rd century AD, the Romans had begun using the beetroot as food rather than just medicine.

Napoleon was so fond of beets that he often drank a glass of warm beet soup as a “pick-me-up” at noon.

Borscht is an Eastern European soup made from beets that has been an important winter staple in countries like Russia and Poland since the 14th century.

Cabbage

It is difficult to trace the exact history of cabbage, but it was most likely domesticated from the wild cabbage somewhere in Europe before 1000 BC. Brussels Sprouts are derived from the wild cabbage of Northern Europe.

Using The Potato Grow Bag

Fill the bag with the moistened soil mixture until it's about 4" deep. Place the seed potatoes on the soil surface, spaced evenly. Cover with another 3" of soil.

Once the plants have grown to about 8", it's time to add more soil. It's OK if some of the foliage gets buried. Unfold the edge of the bag and add about 4" of the soil mixture and water thoroughly. Allow the plants to grow, adding soil after they've grown another 8". Repeat the process until all the soil mixture is used and the bag is full.

This unusual technique encourages the plants to make lots of potatoes, which form along the buried portions of stem.

The porous fabric allows the Potato Bag to breathe, which prevents overheating and overwatering. However, it's important to monitor the moisture level in the bag because it can dry out quickly. The soil should feel moist, not soggy. In the hottest part of the summer, it might be necessary to water every day.

Watch for pests: Colorado potato beetles are the most common pest. Inspect your plants regularly, looking under the leaves for the clusters of yellow eggs. If you see them, rub them off with your finger. Adult beetles are easy to identify — and control: Just pick them off with your hands and toss them into a bucket of soapy water. The beetles might bother your plants for a few weeks; just keep monitoring and hand-picking and your plants will be fine..

Look for the signs: Pay attention to watering and your plant will flower and grow vigorously through the summer. Toward the end of the season, however, the leaves will start yellowing and the stems will wilt. At this point, stop watering and wait a week or two. After that, the potatoes are ready to harvest.

Dump the bag: Empty the bag — plants, soil and all — into a wheelbarrow. Dig through the soil and pull out the potatoes. You can expect to harvest about 7 lbs. of potatoes, although you could get as much as 13 lbs. in a good year. Add the old soil to your garden or compost pile. Clean out the bag and save it for next year.