

*Directions: Below are the steps in a typical "rice cycle." Summarize these steps to your students.*

**Rice Overview**

It is impossible to overestimate the importance of rice in the history, culture, economy, and diet of much of the population that makes up the Asian continent. The thousands of varieties of rice are actually forms of grass that must be replanted each year for harvesting. Rice usually grows best in hot, humid climates, where roots can be submerged in water for growth.

**Paddy Preparation**

The field, or paddy, is tilled (loosened up) so that a sturdy root system will develop to support the plant and to give them access to nutrients. The land must be level to ensure water is used efficiently and to help in controlling weeds. A drainage system that allows the fast removal of water is also made at this time. Fertilizer may also be used to prepare the soil.

**Planting**

The rice cycle is generally about three months long, with rice seeds typically planted in early spring. Seeds are often put into seedbeds for germination (sprouting) and early growth. While seeds can be spread directly onto the land, saving labor cost and time, this results in far lower crop yields. As the seeds germinate, the land is flooded in preparation for transplanting.

**Transplanting**

When the seeds have germinated they are transplanted by hand to the wet rice paddies. Depending on the environment and type of rice, this transplantation may occur from 20 to 80 days after planting the seeds. During this process, the fields are drained of excess water to the level of the lowest leaves on the rice plant and carefully monitored. (Please note: This step is unnecessary if the seeds have been cast by hand or dropped from a plane.)

**Growing**

The fields are then irrigated and fertilized until the plants are mature. During the growing phase the plant flowers and begins to develop four or five tillers along its main stem. Each tiller has a head, or panicle, that actually produces the grains of rice.

**Harvesting**

When the rice is ready to be harvested, the paddies must be completely drained and the field allowed to dry. Harvesting has several steps: cutting the plants, moving the crop to another location, threshing (separating the grain from the rest of the plant), cleaning, and storage. While harvesting can be accomplished using machinery, in many areas it is also carried out by hand in the traditional methods that have been used for generations.

**Preparing the Grain**

The rice that we eat is actually a grain that is found inside the seed hull. During milling, the hull, or outside layer is removed, leaving brown rice. White rice is the result of more processing that removes the outer layers of bran until it is a translucent white grain.

**Another Beginning**

When the harvest is over, seeds are also stored for the next crop. Finally, the land is irrigated again in preparation for a new crop. This process also provides a sanctuary and feeding ground for wildlife, including waterfowl.