

PRIMARY Story: Biogas

Mai lives on a farm in China with her mother and father. They raise pigs on their farm. They grow corn to feed the pigs.

Every morning, Mai helps her mother feed the pigs. Every evening after school, Mai helps her father feed the pigs.

On Saturday, they pick out the biggest pig and butcher it.

On Sunday, they go to the outdoor market in the village. They sell the meat. They buy things they need.

Mai's farm is in the country. There is no electricity in her house. But Mai's house has lights and a stove. They run on a special kind of gas, called biogas. Mai's family makes the biogas on their farm.

Every day, Mai and her parents gather corn stalks from the fields. They gather the corn cobs that the pigs don't eat. They collect manure from the pig pens. They save their own waste.

In Mai's back yard, there is a big container. They put all of the waste into it. They are careful not to let in any air.

As the waste decays, it makes biogas. The biogas flows through a pipe into Mai's house. It flows to the lights to keep the house bright. It flows to the stove. Mai's mother uses it to cook food and keep the house warm. The biogas is clean. It doesn't make any smoke.

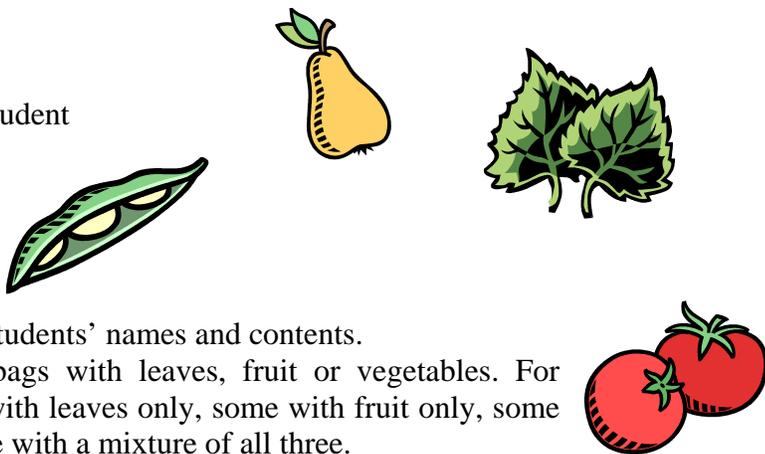
Mai's father empties the container when the waste has decayed. The waste that is left makes good fertilizer. He spreads it on his fields. The corn grows tall to feed the pigs.

PRIMARY Activity: Biogas

Concepts: Plants and food decay.
As organic materials (like food) decay, they produce carbon dioxide and methane gas.

Time: One-two weeks for data collection

Materials: One zip-closure sandwich bag per student
Leaves, fruit or vegetables
Yeast
Water



Procedure:

1. Label all of the bags with the students' names and contents.
2. Have the students fill their bags with leaves, fruit or vegetables. For comparison, have some bags with leaves only, some with fruit only, some with vegetables only, and some with a mixture of all three.
3. Add a pinch of yeast and a little water to each bag.
4. Force out as much air as possible before sealing the bags.
5. Place the bags in a warm place.
6. Observe the bags once a day for one to two weeks.

Conclusions: Ask the students how the leaves, fruit and vegetables changed during the week.
Ask the students which material decayed the most.
Ask the students which bags filled with the most biogas. Remind the students that biogas can be used to heat homes and cook food.