

Kauri Gum

TEACHER: *Do you know what this is? Take a guess!*

STUDENTS: *A sea creature, a glowing rock, a gemstone, a heart, glass, etc.*

What you see in this picture didn't come from outer space...It came from a tree! This is a photo of kauri gum. The kauri is the name of a very special tree that grows on the north island of New Zealand. Kauri trees are some of the tallest, widest, and oldest trees on the planet. They can live for over 2,000 years! When kauri trees are cut, or their branches are broken, a thick liquid drips from the tree. What happens when you get a cut on your skin?

You bleed

We bleed when we get cut, because our body is full of veins and arteries that transport blood underneath our skin. We need blood to live. Trees don't have blood like us, but there is a special name for the liquid that runs through the trees and helps to keep them alive and healthy. Do you know the name of that liquid?

Sap

Sap, like blood, helps to nourish the tree. When small cuts are made into the tree bark, the sap will slowly drip out. If it is a big cut, a lot of sap will come out at once. Not all sap is the same. Different kinds of sap come from different kinds of trees. Some trees, like the kauri, have very special sap. Can you think of other trees you have learned about that have special sap?

Sugar maple trees, rubber trees, etc.

We know that sugar maple trees have a very sweet sap that can be made into syrup. We also learned that rubber trees have a sticky, stretchy sap that turns into rubber. The sap from a kauri tree is famous for being very hard and having a beautiful golden color. The sap from a kauri tree is called "gum." Describe what gum feels like?

It is soft, sticky, chewy, smooth, etc.

The sap from the kauri tree is called gum, because soon after it starts to drip from the tree, it begins to clump and harden. (It is like when you get a cut, and after a few days the blood makes a scab.) If the gum is left on the tree for a long time, it will turn very hard, like glass. But, if you pull some of the sap off before it hardens completely, it feels like gum. In fact, the Maori people of New Zealand used to chew the sap the same way that we chew bubble gum. Do you think the kauri gum in this photo is soft or hard?

Hard

This kauri gum is hard. It is a very large lump of gum that fell from an injured kauri tree thousands of years ago. It is about the size of a basketball! It is rare to find a piece of kauri gum this large. In fact, this piece is kept in a museum. It takes hundreds or even thousands of years for the gum to drip into large clumps and turn hard. Kauri gum is very valuable, and difficult to find today. Why do you think it is so rare?

It takes a long time for the tree to make; people took/used up all of it; etc.

Hundreds of years ago, kauri gum could be easily found in many places in New Zealand. There were large forests of kauri trees covering the land, and the pieces of gum that had fallen off of the trees were lying in the dirt. The Maori were the first humans to discover the unusual sap, and besides being good chewing gum, they started using it for making tattoo ink. The gum is also highly flammable, which means that it catches fire easily and burns for a long time. The Maori would often use it to make torches. It is very beautiful when it hardens, so the Maori carved it into jewelry or decorations for their homes.

People from Europe started living in New Zealand about 200 years ago. They too loved the kauri gum, and found new uses for this amazing material. They made furniture varnish and linoleum with the beautifully colored and durable sap. Collecting and selling the kauri gum became a big business. People called “gum-diggers” would dig in the soils and swamps around the old kauri forests in search of the valuable sap. Both the Maori and the European settlers loved the large, straight trunks of the kauri trees. They made houses, boats and furniture from the prized wood. Sadly, many of the native kauri forests were cut down completely. When the trees disappeared, so did the kauri gum. Today, many people in New Zealand are working to help bring back the native forests, by protecting the land from loggers and harmful grazing animals.

By caring for the remaining forests in New Zealand, the kauri tree and its gum will be a special part of Kiwi culture for years to come.

Kindergarten Standards:

NYS Common Core Kindergarten Social Studies Standards

- K.2.b Cultures include traditions, beliefs, and shared values and ideas generally accepted by a particular group of people.
- K.8.b People and communities adapt to their physical environment in many ways, including building homes, buildings, and transportation systems; accessing food and water; and developing ways to protect themselves from shifting weather patterns
- K.9.a Children, families, and communities of today can be compared with those in the past.

Kindergarten ELA Power NYSCCLS (ICSD Power Standards in Bold)

Reading Standards for Informational Text: Kindergarten

- **Integration and Knowledge of Ideas**
7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

9. With prompting and support, identify basic similarities and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).

Writing Standards: Kindergarten

- **Research to Build and Present Knowledge**
 8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Speaking and Listening Standards: Kindergarten

- **Comprehension and Collaboration**
 1. Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).
 - b. Continue a conversation through multiple exchanges.
 - c. Seek to understand and communicate with individuals from different cultural backgrounds.
 2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
 3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **Presentation of Knowledge and Ideas**
 6. Speak audibly and express thoughts, feelings, and ideas clearly.

Language Standards: Kindergarten

- **Vocabulary Acquisition and Use**
 6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

Next Generation Science Standards for Kindergarten

K-ESS2 Earth's Systems

- ESS2.E: Biogeology
 1. Plants and animals can change their environment. (K-ESS2-2)
- ESS3.C: Human Impacts on Earth Systems
 1. Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2)

K-ESS3 Earth and Human Activity

- ESS3.A: Natural Resources
 1. Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1)