



Science Lesson 16: Making Fire

Hawaii DOE Content Standards:

Science Standards: 1, 2, 6, 7

Key concepts:

Matter and Energy

Performance indicators: Students will make fire with two sticks.

Note to the Student:

“When you have completed this activity you will be able to make fire.”

Activity at a glance:

Students will start a fire using friction heat

Time: One class period

Prerequisite skills: None

Skills to be introduced: fire making

Assessment: Journal, photographs, report explaining the fires creation

Vocabulary: combustion, friction, oxygen, carbon, temperature

Materials: Hau wood, coconut frond

Activity Overview

1. Dry two pieces of Hau and collect a dry coconut husk.
2. Rub the hau together by making one stick slightly pointed so that a groove is created and the friction between the sticks increases to the point of creating a smoking ash.
3. Dump the smoking ash into the dry coconut husk and blow until flames are seen.
4. Add wood to husk in a fire pit to create a cooking fire.

Cultural Values

Pono

Correct doing

Malama

Respect, reciprocity, relationships, and responsibility

Laulima

Working together

Kokua

Taking initiative, doing service, clean up, maintenance

Lokahi

Unity, harmony, leadership skills

Adaptations/ Extensions

Hawaiian Mo'olelo of the 'Alae'ula and Maui and other folk tales of obtaining fire. Technological progress related to fire. Chemical transformations in combustion and combustion points for different materials. Physical generation of heat energy through friction based on human muscle energy from plant food or stored solar energy; the difference between a chemical and a nuclear fire, natural sources of fire.

Background, teaching suggestions, resources:

Making fire allowed humans to ascend from a primary ecosystem and adapt to many global environments as well as increase the efficiency of agriculture and shelter.

Connections to other curricula or lessons:

Food preparation

Safety

Fire must be treated with respect and kept in control; don't get burned.

