



Unit I - Relating to Science Videos

Science of Sport - 3.5 mins

Purpose: Explore concept that science is a part of sports while watching three sports in action

Questions

- What science might be used in hang gliding, in paddling, and surfing?
- Is science used in other sports? If so what?
- Is science a part of our everyday life?
- How is Science a part of our every day life?

Hanging with Joe - 2.5 mins

Hang gliding protocol

Purpose: To show how hang gliders use protocols to insure a successful flight.

Question:

- What are the 5 things that Joe observes to decide if it is a good day to hang glide?
 1. Direction of the wind (straight up the cliff).
 2. The speed (velocity) of the wind 10 – 20 miles an hour
 3. The base of the clouds (need to be higher the mountains)
 4. Weather on the way (a cold front coming? rain or low cloud base)
 5. How you feel (emotionally, physically, etc)

Controlling the Coqui - 5.5 mins

The Scientific Way.

Purpose: To demonstrate the **scientific process** in the field as Kehau Kong, a graduate assistant from UH Manoa, conducts an experiment to determine if a solution of caffeine and pyrethrin sprayed in an infested area will effectively kill Coqui, the noisy frog that is invading the Hawaiian Islands and endangering native wildlife.

Controlling the Coqui - continued

Questions:

What steps for the **scientific process** are shown?

Define the Problem

Ask Questions

Conduct research

Form Hypothesis

Test Hypothesis by collecting data

Draw conclusions from data

Share findings with others

Mana'o of Kupuna - 11 mins

Purpose: Show the important values that kupuna live by to help students understand a sense of self, a sense of place and a sense of future.

Questions:

- What values do the kupuna feel are important to live by?
 1. Aloha
 2. Do your best
 3. Work hard
 4. Take only what you need – save resources for tomorrow
 5. Strain through your heart
 6. Respect for all things, the land, the water, the ocean, and malama the aina (take care of the land)

Hawaii is a Special place for Scientists -7mins

Endangered species, Volcano & Mauna Kea

Purpose: Learn about all of the habitats (ecological settings) and thousands of species of plants and animals that scientists can study.

Questions:

- **True or false – 90% of these species are found nowhere else in the world?** (True)

- **What is the major threat to our endangered species?** (Non-native plants and animals that have been introduced to the Hawaiian Islands are the greatest threat to our native plants and animals.)
- **What kinds of ecosystems do we have in the Hawaiian Islands?** (Snowy mountains, glacial mountains, wet and dry forests, deserts, grasslands, shrub lands, swamplands, sand and boulder beaches, wet Pali, coral reefs, coastal forests, and tide pools.)
- **Why is Hawaii a good place to study volcanoes?** (Volcano eruptions happen often, they are usually safe, and not explosive, so they can be studied up close.)
- **Why do Hawaiians believe in Pele?** (The presence of the Hawaiian Goddess Pele is felt around volcanoes. Real unusual things happen with the eruptions of volcanoes in the Hawaiian Islands.)
- **Why is Mauna Kea a great place to study stars?** (Mauna Kea is the highest mountain peak and has the darkest skies in the Hawaiian islands; nowhere else on earth do the stars shine as brightly as it does up on Mauna Kea.)
- **Where do the Polynesians say we come from?** (Polynesians say we come from the sky.)