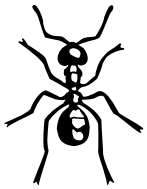

Activity #2

What's in a Name?

Length:
One class period

Prerequisite Activity:
None

Objectives:
- Demonstrate understanding of scientific, common, and Hawaiian names for species.
- Create valid scientific names for fictional species.
- Connect Hawaiian myth or story to botanical information about a species.

Vocabulary

Genus	Root	Suffix
Organism	Scientific name	
Prefix	Species	

●●● Class Period One: *Learning About Names*

Materials & Setup

- "Species Glossary" on the DVD

For each student

- Student Pages "What's in a Name? Roots, Prefixes and Suffixes" (pp. 5-9)

Instructions

1) Ask students what they know about their own names: what do their first, middle, and last names mean? What language are they from? Why did their parents choose these names? Where did the names originate?

2) Set a timer and have students list all the plant, animal, or insect species they can think of in two minutes' time; list English, Hawaiian, and Latin names.

3) Pass out the Student Pages "What's in a Name? Roots, Prefixes and Suffixes." Allow students to work on their own, then go over the answers in class.

Journal Ideas

- If you could name a species, would you choose to honor someone or describe the nature of the species? Explain your decision.
- Some non-native species—even some invasive species—have Hawaiian names. For instance, *kāhili* ginger is a beautiful but highly invasive plant that was given a Hawaiian name for its showy

flower heads, which resemble the royal feather *kāhili* of ancient chiefs. Strawberry guava is an invasive tree responsible for displacing more native forest than any other species and it continues to invade. People love its tasty fruits and call it by the Hawaiian name *waiawī*. Do you think the use of Hawaiian names to describe invasive species is appropriate? Why or why not?

- Write a story, using the *naupaka* legend as an example, to explain the origins of your first and last name.
- Why was Latin chosen as the scientific language? Investigate and write a paragraph explaining who decided on Latin, when, and why.

Assessment Tools

- Participation in class discussion
- Student Page "What's in a Name? Roots, Prefixes and Suffixes"
- Journal entries

*Thanks to Joan Yoshioka, who contributed the foundation for this lesson.

Answer Key

What's in a Name? Roots, Prefixes, and Suffixes

Many plant and animal species have more than one name. Plants and animals in Hawai'i often have at least three—**a scientific name**, a Hawaiian name, and at least one English name.

Scientific Names

Scientists around the world use Latin words to name living **organisms**. They use these ancient, "dead" languages to communicate with each other, regardless of their native tongues. If a Hawaiian biologist names a plant, scientists in Japan, England, and Bolivia can understand the name. Scientific names are universal.

Scientific names usually have three parts:

1. a **prefix** that precedes or goes before the word
2. a **root**, or the main part of the word
3. a **suffix** that goes at the end of the word

This English word has three parts: precooked.

1. What is the prefix? pre
2. What is the root? cook
3. What is the suffix? ed

List three common prefixes of English words and give their meanings.

See next page for examples

When naming organisms, scientists use a binomial (bi – "two," nomial – "name") system. Humans are *Homo sapiens*, which means "wise man." The term *Homo* is the genus name. The word sapiens is the species name. The **genus** is always capitalized, but the **species** name is not. They are both always italicized or underlined.

The native Hawaiian plant below is *naupaka kahakai*. Circle the correct spelling of its scientific name:

a) Scaevola sericea
b) Scaevola Sericea
c) *scaevola sericea*
d) *Scaevola sericea*

What is the genus name of *Scaevola sericea*? *Scaevola*

What is the species name of *Scaevola sericea*? *sericea*

Sometimes, an organism is given a name that describes its characteristics. For example, the genus name of *Scaevola* comes from the Greek word scaevus meaning left-handed or awkward, perhaps in reference to the "awkward" appearance of the plant's half-flower. The species name probably refers to the plant's sericeous (long, slender, silky) hairs growing on its leaves and branches. At other times, a plant is named to honor someone. For example, the endemic *Scaevola gaudichaudii* was named to honor Charles Gaudichaud-Beaupre, a French botanist who collected plants in Hawai'i in the 1800s.

Prefixes
a(n) – without
bi – two
endo – inside
exo – outside
hemi – half
macro – large
mono – one
penta – five
quad – four
tri – three
uni – one

Roots
alb – white
brach – arm
caudum – tail
cephal – head
dactyl – finger
dendro – tree
gastro – stomach
gnath – jaw
homo – same
hydro – water
ichthyes – fish
mana – hand
melano – black
morph – form
osteo – bone
pod – foot
pseudo – false
ptero – wing
stoma – mouth
tricho – hair

Suffixes
aceus – resembling
ensis – country or place of origin
fer – to carry or bear
florus – flowered
folius – leaved
iscus – lesser
issimus – very
ous – full of
osma – fragrant
phage – eater

Illustration by Brooke Mahnken

What would be an appropriate scientific name of a three-footed arm-eater?

Tripod brachophage

Many, many native Hawaiian insects have yet to be discovered and named. What would you name a newly discovered insect, if you had the choice? Use the above list to name three fictional organisms and give their meanings.

Any reasonable combination is acceptable.

Pick the name you like best from your list and draw the invented organism below. Label and explain the features that will help it get nourishment and protect it from predators.