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Living Oceans
Foundation

STANDARDS

- **CCSS:** RST.9-10.1, 2, 3, 4, 5, 7, 8, 9, 10; RST.11-12.1, 2, 3, 4, 7, 8, 9, 10; W.9-10.2, 4, 7, 8, 9; W.11-12.2, 4, 7, 8, 9; SL.9-10.4, 6; SL.11-12.4, 6
- **NGSS:** HS-LS4-1
- **OLP:** 4.B.1, 4.B.2, 5.C.22

ONLINE CONTENTS

- [Classification Quiz](#)
- [What Clade R U?](#) Interactive (at bottom of *How To Build A Cladogram* section) Use the interactive program to learn and explore more about the anatomy of a stony coral polyp.
- [What Are Corals? Video](#) Classification helps scientists tell species apart. This educational video explains modern biological classification categories from the most general (domain) to the most specific (species).

CLASSIFICATION

This lesson is part of the *Classification* unit, which explains how to organize the millions of organisms on Earth. Below is a summary of what is included in the entire unit.

UNIT CONTENTS

A. [Background Information](#)

- How Do We Classify Organisms?
- Linnaean Naming System
- Coral Classification
- Modern Classification
- Understanding Cladograms
- How to Build a Cladogram

B. Lessons

[Watch It! Naming Nature](#)

- A worksheet to accompany the [Naming Nature](#) video

[Classify This!](#)

- A worksheet to classify an organism and identify its characteristics

[Rules, Rules, Rules](#)

- A worksheet about scientific names

[“Taxing” Corals](#)

- An activity to classify corals based on their characteristics

[In Light of New Evidence](#)

- A writing assignment on an organism that has been reclassified

[The Key to ID](#)

- An activity using a dichotomous key for sea stars

[And Then There Was One](#)

- An activity to create a dichotomous key for corals

[Cladograms 1](#)

- A lesson on creating and interpreting a cladogram

[Cladograms 2](#)

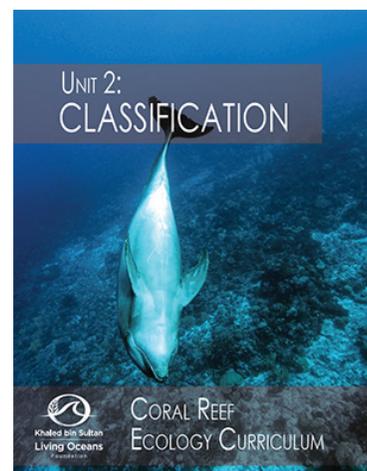
- A lesson on creating and interpreting a cladogram (with traits already included)

[Read It! Troubling Taxonomy](#)

- A worksheet to accompany the [Troubling Taxonomy](#) field blog

[Read It! Blue, You Say?](#)

- A worksheet to accompany the [Blue, You Say?](#) field blog



WATCH IT!**NAMING NATURE**

INSTRUCTIONS: Watch *Naming Nature* YouTube video (<https://youtu.be/5h5nSivm1KI>) and answer the following questions.

1. In your own words, what is modern classification?

2. What did Carolus Linnaeus contribute to classification?

3. What are the different categories used to classify all organisms?

a.
b.
c.
d.
e.
f.
g.
h.

4. What is an acronym you can use to remember the order and categories of classification?

a.
b.
c.
d.
e.
f.
g.
h.



WATCH IT!

NAMING NATURE

5. What are the names of the three domains?

- a. _____
- b. _____
- c. _____

6. List the different categories of classification for the bottlenose dolphin.

Category	Dolphin Classification
a.	
b.	
c.	
d.	
e.	
f.	
g.	
h.	

7. What categories of classification make up a scientific name?

_____ and _____

8. What is the scientific name of the bottlenose dolphin? _____

9. List two reasons why you think that taxonomy is important for scientists.

VIDEO TRANSCRIPT:

We humans have probably been naming and classifying living things in our environment since we were first able to communicate.

Whether a plant or animal was dangerous or delicious would've been important information for our earliest ancestors.

Modern biological classification got a boost from 18th century botanist Carl Linnaeus.

Linnaeus was the first to group living things according to shared physical characteristics.

Grouping like things together still makes scientists' jobs easier. It helps organize the study of the eight million different species that share our planet.

Modern classification begins with categories.

These categories are like boxes that scientists put related species into.

The categories are ranked from the most general grouping, called domain, to the most specific, called species.

A handy way to remember these categories is with this acronym: Dear King Philip, Come Over For Great Spaghetti.

Every living thing on earth can be classified by these eight categories.

Let's classify this marine favorite. -

There are three domains of living things, and all plants and animals belong in one of them.

The domains of Archaea and Bacteria contain single-celled microorganisms that have no cell nucleus.

The seagoing creature we're classifying belongs to the multi-celled domain Eukarya.

The next category is called kingdom. The kingdoms include plants, animals, fungi, and more.

Obviously, this playful creature has the physical characteristics of an animal, so its kingdom is Animalia.

Next comes phylum, the body type category. There are about 36 phyla. This animal is grouped with other animals that have backbones in a category called Chordata.

It's not cold-blooded like fish and reptiles, and it doesn't lay eggs like birds.

It belongs with animals that are warm-blooded and produce milk. That's the Mammalia or mammal class.

Next comes order. There are dozens of orders, but only one that contains whales and porpoises, which share many characteristics with this animal.

They're all members of the Cetacean order.

Now for its family? It's Delphinidae, or dolphins.

But there are many kinds of dolphins. This one is in the genus called *Tursiops*.

At this point, we've narrowed down this animal's classification from all the living things in the world to a genus that has just three species in it.

The last classification is species. Each species has a unique name. In this case it's *truncatus*.

The scientific name for any creature is a combination of its genus and its species. This one is *Tursiops truncatus*, but you know it as the bottlenose dolphin.

Classification helps scientists tell nature's some eight million species apart.

It helps determine which have healthy populations, and which are at risk.

Giving names to the living things around us probably started as a way to help ourselves to nature's bounty.

Now, scientific classification has become an important tool for helping understand and protect the natural world.