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
### **Lesson 5**

#### Cladograms 1

**INSTRUCTIONS:**

1. Figure out the shared characters of the organisms in the chart.
2. Mark an ‘X’ in the boxes when the organism shares that characteristic.

<table>
<thead>
<tr>
<th>Characters</th>
<th>Butterflyfish</th>
<th>Coral</th>
<th>Flatworm</th>
<th>Nudibranch</th>
<th>Sea Star</th>
<th>Sea Turtle</th>
<th>Shark</th>
<th>Sponge</th>
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3. Draw a cladogram based on the results from the chart. Make sure to include the organism’s name and the shared characters.
**INSTRUCTIONS:** Answer the following questions based on the cladogram that you drew.

1. How many traits do sea turtles and sharks have in common? _______________________________________________________________________

2. What organism evolved before nudibranchs? _______________________________________________________________________

3. What organism evolved after sea stars? _______________________________________________________________________

4. In which organism did a true coelom begin to develop? _______________________________________________________________________

5. Which characteristic evolved first? _______________________________________________________________________

6. Which organism(s) have a deuterostome? _______________________________________________________________________

7. Which organism(s) have a true coelom and gills? _______________________________________________________________________

8. Are corals more closely related to sponges or flatworms? Explain: _______________________________________________________________________

9. Are there characteristics that all of these organisms share? If so, which one(s)? _______________________________________________________________________

10. Which organisms are most distantly related? _______________________________________________________________________

11. You discovered a new organism that has these characteristics: multi-cellular, symmetrical, triploblastic, but does not have a true coelom or deuterostome. Where would you place the organism in your cladogram? _______________________________________________________________________

12. Describe three pieces of information that you can obtain from a cladogram.

__________________________________________________________________________

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