Coral Feeding

This lesson is a part of the Coral Feeding unit, which explains what corals eat, how they feed, and additional ways that they obtain energy. Below is a summary of what is included in the entire unit.

Unit Contents

A. Background Information
   - Predation
   - Symbiosis
   - Photosynthesis
   - Cellular Respiration

B. Lessons

Watch it! Coral – What Does It Eat?
   - A worksheet to accompany the Coral – What Does It Eat? video

It’s Tentacular!
   - An activity to simulate feeding strategies of corals

Symbiosis Charades
   - A game of charades adapted to learn different forms of symbiosis

Round and Round
   - An art project to show the relationship between coral and zooxanthellae, photosynthesis and cellular respiration

Read it! What’s on the Menu?
   - A worksheet to accompany the What’s on the Menu: Sunlight, Plankton or Organic Debris? field blog

Online Contents

- Coral Feeding Quiz
- Coral: What Does it Eat? Video Coral polyps are mostly stomach, with a mouth on top. Symbiotic algae, zooxanthellae, live in the coral and provide them with energy. Corals also snatch zooplankton and other food particles right out of the water.
OBJECTIVE: Illustrate the cycling of photosynthesis and cellular respiration by using corals’ symbiotic relationship as a model.

INSTRUCTIONS:
1. Design a model of the relationship between a coral and zooxanthellae. This model could be a 2-D poster or a 3-D sculpture. Be sure to include the following:
   - Coral - Draw/sculpt the basic polyp body form, including tentacles, and label it *polyp*.
   - Zooxanthellae - Draw zooxanthellae and label it *zooxanthellae*.
   - Photosynthesis reactants/cellular respiration products - Should be placed in a logical spot
   - Photosynthesis products/cellular respiration reactants - Should be placed in a logical spot
   - Draw arrows to indicate the cycling of matter and the flow of energy.

2. In the space below, write a paragraph explaining the cyclical relationship between photosynthesis and cellular respiration. Refer to your drawing/sculpture. Also describe at least two other benefits this symbiotic relationship provides.
## GRADING RUBRIC:

<table>
<thead>
<tr>
<th>Category</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coral and zooxanthellae</td>
<td>Coral and zooxanthellae are clearly recognizable and labeled correctly.</td>
<td>Coral and zooxanthellae are mostly recognizable and labeled correctly.</td>
<td>Either coral and zooxanthellae are not recognizable and labeled correctly.</td>
<td>Both coral and zooxanthellae are not recognizable and labeled correctly.</td>
<td></td>
</tr>
<tr>
<td>Photosynthesis reactants / cellular respiration products</td>
<td>Molecules are correct and in a logical position that shows how they pass from one organism to the other.</td>
<td>Molecules are correct and in a logical position.</td>
<td>Molecules are incorrect or are not in a logical position.</td>
<td>Molecules are incorrect and are not in a logical position.</td>
<td></td>
</tr>
<tr>
<td>Photosynthesis products / cellular respiration reactants</td>
<td>Molecules are correct and in a logical position that shows how they pass from one organism to the other.</td>
<td>Molecules are correct and in a logical position.</td>
<td>Molecules are incorrect or are not in a logical position.</td>
<td>Molecules are incorrect and are not in a logical position.</td>
<td></td>
</tr>
<tr>
<td>Arrows</td>
<td>Clearly show the cyclical nature of these reactions.</td>
<td>Mostly show the cyclical nature of these reactions.</td>
<td>Show some indication of these reactions being cyclical, but it is hard to see.</td>
<td>Arrows are present, but do not show cyclical nature of these reactions at all.</td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>Model is exceptionally attractive in terms of design, layout, and neatness.</td>
<td>Model is attractive in terms of design, layout and neatness.</td>
<td>Model is acceptably attractive, though it may be a bit messy.</td>
<td>Model poster is distractingly messy or very poorly designed. It is not attractive.</td>
<td></td>
</tr>
<tr>
<td>Paragraph Relationship</td>
<td>Fully and accurately describes the relationship between photosynthesis and cellular respiration.</td>
<td>Accurately describes the relationship between photosynthesis and cellular respiration.</td>
<td>Somewhat describes the relationship between photosynthesis and cellular respiration.</td>
<td>Inaccurately describes the relationship between photosynthesis and cellular respiration.</td>
<td></td>
</tr>
<tr>
<td>Paragraph -- Other benefits</td>
<td>Correctly identifies three other benefits.</td>
<td>Correctly identifies two other benefits.</td>
<td>Correctly identifies one other benefit.</td>
<td>Benefits mentioned are incorrect.</td>
<td></td>
</tr>
<tr>
<td>Grammar / spelling</td>
<td>There are no mistakes in the paragraph.</td>
<td>There are 1-3 mistakes in the paragraph.</td>
<td>There are 4-6 mistakes in the paragraph.</td>
<td>There are more than 6 mistakes in the paragraph.</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Out of 32:</td>
</tr>
</tbody>
</table>