

## ELA.08.CR.1.9.132 C1 T9

Sample Item Id:	<b>ELA.08.CR.1.9.132</b>
Grade/Model:	08 / 1b
Claim:	<b>1:</b> Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.
Assessment Target:	<b>9: CENTRAL IDEAS:</b> Summarize central ideas, topics/subtopics, key events, or procedures using supporting ideas and details.
Standard(S):	RI-2, RH-2, RST-2
DOK:	2
Difficulty:	H
Item Type:	Constructed Response
Score Points:	2
Correct Response:	See rubric
Stimulus/Passage(S):	"What Are Coral Reefs?"
Stimuli/Text Complexity:	The quantitative measures place this passage in the 9-11 range. The qualitative measures support this assessment, primarily due to the relentlessly dense content. <b>Based on these sets of measures, this passage is recommended for assessment at grade 9 or possibly 8.</b> Please see the text complexity worksheet attached.
Acknowledgement(S):	<a href="http://water.epa.gov/type/oceb/habitat/coral_index.cfm">http://water.epa.gov/type/oceb/habitat/coral_index.cfm</a>
Item/Task Notes:	
How this task contributes to the sufficient evidence for this claim:	Given an informational text, students summarize central ideas, topics, or subtopics using only relevant key details from the text to support their summaries
Target-Specific Attributes (e.g., accessibility issues):	Requires students to read grade-level text and either use a mouse or indicate correct response. Alternative formats and/or support may be required for visually- and physically-impaired students.

*Stimulus Text:*

*Read the text and complete the task that follows it.*

### What Are Coral Reefs?

The mention of coral reefs generally brings to mind warm climates, colorful fishes, and clear waters. However, the reef itself is actually a component of a larger ecosystem. The coral community is really a system that includes a collection of biological communities, representing one of the most diverse ecosystems in the world. For this reason, coral reefs often are

referred to as the "rainforests of the oceans."

Corals themselves are tiny animals which belong to the group cnidaria (the "c" is silent). Other cnidarians include hydras, jellyfish, and sea anemones. Corals are sessile animals, meaning they are not mobile but stay fixed in one place. They feed by reaching out with tentacles to catch prey such as small fish and planktonic animals. Corals live in colonies consisting of many individuals, each of which is called polyp. They secrete a hard calcium carbonate skeleton, which serves as a uniform base or substrate for the colony. The skeleton also provides protection, as the polyps can contract into the structure if predators approach. It is these hard skeletal structures that build up coral reefs over time. The calcium carbonate is secreted at the base of the polyps, so the living coral colony occurs at the surface of the skeletal structure, completely covering it. Calcium carbonate is continuously deposited by the living colony, adding to the size of the structure. Growth of these structures varies greatly, depending on the species of coral and environmental conditions—ranging from 0.3 to 10 centimeters per year. Different species of coral build structures of various sizes and shapes ("brain corals," "fan corals," etc.), creating amazing diversity and complexity in the coral reef ecosystem. Various coral species tend to be segregated into characteristic zones on a reef, separated out by competition with other species and by environmental conditions.

Virtually all reef-dwelling corals have a symbiotic (mutually beneficial) relationship with algae called zooxanthellae. The plant-like algae live inside the coral polyps and perform photosynthesis, producing food which is shared with the coral. In exchange the coral provides the algae with protection and access to light, which is necessary for photosynthesis. The zooxanthellae also lend their color to their coral symbionts. Coral bleaching occurs when corals lose their zooxanthellae, exposing the white calcium carbonate skeletons of the coral

colony. There are a number of stresses or environmental changes that may cause bleaching including disease, excess shade, increased levels of ultraviolet radiation, sedimentation, pollution, salinity changes, and increased temperatures.

Because the zooxanthellae depend on light for photosynthesis, reef-building corals are found in shallow, clear water where light can penetrate down to the coral polyps. Reef building coral communities also require tropical or sub-tropical temperatures, and exist globally in a band 30 degrees north to 30 degrees south of the equator. Reefs are generally classified in three types. Fringing reefs, the most common type, project seaward directly from the shores of islands or continents. Barrier reefs are platforms separated from the adjacent land by a bay or lagoon. Atolls rest on the tops of submerged volcanoes. They are usually circular or oval with a central lagoon. Parts of the atoll may emerge as islands.

Coral reefs provide habitats for a large variety of organisms. These organisms rely on corals as a source of food and shelter. Besides the corals themselves and their symbiotic algae, other creatures that call coral reefs home include various sponges; mollusks such as sea slugs, nudibranchs, oysters, and clams; crustaceans like crabs and shrimp; many kinds of sea worms; echinoderms like star fish and sea urchins; other cnidarians such as jellyfish and sea anemones; various types of fungi; sea turtles; and many species of fish.

*Item Prompt:*

Summarize the relationship between coral reefs and algae using details from the text.

<b>Rubric for 2-point CR item</b>	
<b>2</b>	<p>A response:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to summarize the relationship between coral and algae.</li> <li>• Includes specific details that make clear reference to the text</li> <li>• Adequately supports the summary with clearly relevant information from the text</li> </ul>
<b>1</b>	<p>A response:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to summarize the relationship between coral and algae</li> <li>• Includes some details that make reference to the text</li> <li>• Supports the summary with limited information from the text</li> </ul>
<b>0</b>	<p>A response gets no credit if it provides no evidence of the ability to summarize the relationship between coral and algae, includes no relevant information from the text, or is vague.</p>

**Scoring Notes:**

Response may include but is not limited to:

The importance of the symbiotic relationship between coral reefs and algae and key points on how this relationship functions.

**Score Point 2 Sample:**

Coral has a symbiotic relationship with algae as algae live inside the coral and perform photosynthesis. The process of photosynthesis produces food that is shared with the coral. The algae are responsible for giving the coral its beautiful colors. The coral gives algae protection and access to light, which is a necessary part of photosynthesis.

**Score Point 1 Sample:**

Coral is made up of tiny animals that live with algae. It is the algae that perform photosynthesis, which makes food for the coral.

**Score Point 0 Sample:**

A coral reef is a beautiful place full of fish.

Worksheet: Text Complexity Analysis		
Title	Author	Text Description
What are Coral Reefs?	Unknown	An explanation of what coral reefs are, how they form, and the benefits they provide



**Recommended Placement for Assessment: Grade 8 or 9**

The quantitative measures place this passage in the 9-11 range. The qualitative measures support this assessment, primarily due to the relentlessly dense content. **Based on these sets of measures, this passage is recommended for assessment at grade 9 or possibly 8.**

Qualitative Measures	Quantitative Measures
<p><b>Meaning/Purpose:</b>  <u>Moderately complex:</u> The passage covers not only what is suggested by the title but a host of other topics related to coral reefs.</p> <p><b>Text Structure:</b>  <u>Moderately complex:</u> The progression of paragraphs/topics is somewhat subtle, though all are related to the main topic. The photos included may help students understand some of the information about how coral reefs form, etc., but do not explicitly support any given section.</p> <p><b>Language Features:</b>  <u>Very complex:</u> The passage is densely packed with technical words; many are defined, but the sheer volume of them make this a difficult read. There are many complex sentences.</p> <p><b>Knowledge Demands:</b>  <u>Very complex:</u> Students with no background knowledge will find this passage challenging.</p>	<p><b>Common Core State Standards Appendix A Complexity Band Level</b> (if applicable):</p> <p><b>Lexile or Other Quantitative Measure of the Text:</b></p> <p>Lexile: 1250L; upper grades 9-10 or grades 11-CCR                      Flesch-Kincaid: 10.8                      Word Count: 665</p> <p style="background-color: #0070C0; color: white; padding: 2px;"><b>Considerations for Passage Selection</b></p> <p>Passage selection should be based on the ELA Content Specifications targets and the cognitive demands of the assessment tasks.</p> <p><b>Potential Challenges a Text May Pose:</b></p> <ul style="list-style-type: none"> <li>• Accessibility</li> <li>• Sentence and text structures</li> <li>• Archaic language, slang, idioms, or other language challenges</li> <li>• Background knowledge</li> <li>• Bias and sensitivity issues</li> <li>• Word count</li> </ul>

Adapted from the 2012 ELA SCASS work