

## Seminars on Science

### Sharks and Rays Assessment

#### ASSESSMENT COMPONENT: ASSIGNMENTS

Course Assignments introduce processes, tools and technologies that scientists use to ask and answer questions. Assignments engage learners in scientific practices and expose them to scientific processes.

**Overall Objective: To build content knowledge.**

**Sharks and Rays – Week 2**

**Fossil Prospecting**

Objective	Exceeds course expectations	Meets course expectations	Approaches course expectations	Does not meet course expectations
<b>To list the features used for finding fossils</b>	Listed multiple features used to find fossils. Demonstrated thoughtful observation of photos.	Listed features used to find fossils. Demonstrated observation of photos.	Listed few features used to find fossils.  OR  Listed features that were not applicable for finding fossils.	Did not list features used.
<b>To describe where and how fossils were found</b>	Described in detail where and how fossils were found in each photo including features and clues that aided in fossil location.	Described where and how fossils were found including features and clues that aided in fossil location.	Described where and how fossils were found in a way that was unclear or inaccurate.  OR  Described where and how some fossils were found.	Did not describe where and how fossils were found.
<b>To identify fossils in photos</b>	Identified fossils and included rationales for identification in a way the demonstrated mastery of the content.	Identified fossils and included rationales for identification in a way the demonstrated understanding of the content.	Identified fossils and included rationales in a way that did not demonstrate understanding or may have been inaccurate.	Did not identify fossils in photos.
<b>To communicate scientific ideas</b>	Communicated ideas effectively using appropriate course-related language.	Generally communicated ideas using appropriate course-related language.	Generally communicated ideas but did not use course-related language.  OR  Writing contained significant errors.	Did not communicate scientific ideas.

**Sharks and Rays – Week 3  
Planning A Fossil Expedition**

<b>Objective</b>	<b>Exceeds course expectations</b>	<b>Meets course expectations</b>	<b>Approaches course expectations</b>	<b>Does not meet course expectations</b>
<b>To explain the major considerations for planning a fossil collecting trip.</b>	Explained the major considerations that go into planning a fossil collecting trip in a way that demonstrated mastery of the content.	Explained the major considerations that go into planning a fossil collecting trip in a way that demonstrated understanding of the content.	Explained the considerations that go into planning a fossil collecting trip in a way that did not demonstrate understanding or may have been inaccurate.	Did not explain the major considerations for planning a fossil collecting trip.
<b>To describe the steps in the expedition planning process</b>	Described the steps in the expedition planning process including consideration of location, timing, equipment, and purpose in a way that demonstrated mastery of the content.	Described the steps in the expedition planning process including consideration of location, timing, equipment, and purpose in a way that demonstrated understanding of the content.	Described the steps in the expedition planning process in a way that did not demonstrate understanding or may have been inaccurate.  OR  Described some steps in the expedition planning process.	Did not describe the steps in the planning process.
<b>To communicate scientific ideas</b>	Communicated ideas effectively using appropriate course-related language.	Generally communicated ideas using appropriate course-related language.	Generally communicated ideas but did not use course-related language.  OR  Writing contained significant errors.	Did not communicate scientific ideas.
<b>To cite reference sources</b>	Cited all reference sources in an organized manner.	Cited reference sources in an organized manner with minor errors.	Some reference sources omitted or poorly organized.	Did not cite reference sources.

**Sharks and Rays – Week 4  
Shark/Ray Comparison**

<b>Objective</b>	<b>Exceeds course expectations</b>	<b>Meets course expectations</b>	<b>Approaches course expectations</b>	<b>Does not meet course expectations</b>
<b>To infer how form is related to function</b>	Inferred how form is related to function in sharks and rays in a way that demonstrated mastery of the content.	Inferred how form is related to function in sharks and rays in a way that demonstrated understanding of the content.	Inferred in a way that did not demonstrate understanding or may have been inaccurate.	Did not infer how form is related to function.
<b>To provide evidence in the form of observations to back up conclusions</b>	Provided detailed evidence to support conclusions in a way that demonstrated mastery of the content.	Provided evidence to support conclusions in a way that demonstrated understanding of the content.	Provided evidence that did not demonstrate understanding or may have been inaccurate.	Did not provide evidence.
<b>To communicate scientific ideas</b>	Communicated ideas effectively using appropriate course-related language.	Generally communicated ideas using appropriate course-related language.	Generally communicated ideas but did not use course-related language.  OR  Writing contained significant errors.	Did not communicate scientific ideas.
<b>To cite reference sources</b>	Cited all reference sources in an organized manner.	Cited reference sources in an organized manner with minor errors.	Some reference sources omitted or poorly organized.	Did not cite reference sources.

**OVERALL ASSESSMENT: ASSIGNMENTS (COURSE WEIGHT: 30%)**

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**ASSESSMENT COMPONENT: DISCUSSIONS**

A large part of learning in our online courses occurs through discussion (text-based, asynchronous message exchanges). You are expected to be in frequent contact with your instructional team and other learners in the course's Discussion areas.

While this can be different from face-to-face communication, the same characteristics make classroom and online discussions meaningful. Both consist of two-way exchanges between teachers and learners: a back-and-forth that engages and deepens the understanding of all participants.

Each Discussion is graded two weeks after it begins. Weekly grades are based on how well learners reflect on content, engage in discussion with faculty and other students, and extend the online conversation (see the first two rows in the rubric). These grades will appear in the gradebook and will be combined with grades for the completion of Discussion assignments (see the third row in the rubric) to determine an Overall Assessment for Discussions.

**Overall Objective: To construct content knowledge and community.**

<b>Objective</b>	<b>Exceeds course expectations</b>	<b>Meets course expectations</b>	<b>Approaches course expectations</b>	<b>Does not meet course expectations</b>
<b>To support reflections on content</b> (Discussion Grade Weight: 45%)	Reflected on the Discussion question using course materials while drawing on other resources and asking additional questions.	Reflected on the Discussion question using course materials.	Did not adequately reflect on the discussion question or did not relate post to course materials.	Did not post, or posted without addressing the Discussion question.
<b>To engage in the online learning community and extend the online conversation</b> (Discussion Grade Weight: 35%)	Posted many substantive and timely responses to other learners and course faculty.	Often responded in a substantive and timely manner to other learners and course faculty.	Occasionally responded substantively to other learners and course faculty, or failed to post in a timely manner.	Posted few or no substantive responses.
<b>To complete the Discussions</b> (Discussion Grade Weight: 20%)	Completed all of the Discussions.	Completed almost all of the Discussions.	Completed more than half of the Discussions.	Completed few or no Discussions.

<b>OVERALL ASSESSMENT: DISCUSSIONS (COURSE WEIGHT: 40%)</b>
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**ASSESSMENT COMPONENT: FINAL PROJECT**

You have two options for the *Final Project*.

- *Application in the Classroom*: an instructional unit based on a course topic that you might be interested in using in your own classroom or environment. How could you use questions related to this course to support research and inquiry exploration in an educational setting?
- *Application in the Field*: a research proposal that relates to a course topic you find particularly interesting. What question would you pursue if you could? How would you plan to answer that question?

**Overall Objective: To build and demonstrate understanding of course content.**

<b>Objective</b>	<b>Exceeds course expectations</b>	<b>Meets course expectations</b>	<b>Approaches course expectations</b>	<b>Does not meet course expectations</b>
<b>To demonstrate content knowledge</b>	Project demonstrated mastery of course content by applying appropriate scientific concepts.	Project demonstrated understanding of course content by applying appropriate scientific concepts.	Project demonstrated a limited understanding of course content by applying appropriate scientific concepts.	Project failed to demonstrate an understanding of course content.
<b>To support scientific inquiry</b>	Project clearly supported scientific inquiry, either by raising and investigating important questions in a manner consistent with the way scientists study the natural world, or through the clear design of classroom materials that provide students with opportunities to ask important questions and to gather, organize, analyze, and evaluate relevant information.	Project supported scientific inquiry, either by raising and investigating questions or by designing classroom materials that may provide students with opportunities to ask important questions and to gather, organize, analyze, and evaluate relevant information.	Project sought to support scientific inquiry, either by raising important questions or by designing classroom materials that might enable student research projects or practice to emerge.	Project did not support scientific inquiry.
<b>To integrate and organize content</b>	Incorporated all of the required elements, as well as a clearly articulated introduction and conclusion in an organized sequence that demonstrates the goals of the project.	Incorporated all of the required elements, as well as a clearly articulated introduction and conclusion in an organized sequence that demonstrated the goals of the project. Some elements lacked depth and/or clarity.	Incorporated most but not all of the required elements, or lacked an organized sequence that demonstrated the goals of the project.	Did not incorporate the required elements.
<b>To use resources (essays, books, videos, websites, etc.)</b>	Critically analyzed all resources. Incorporated personal ideas, course based materials, and additional resources.	Incorporated personal ideas, course based materials, and additional resources.	Drew upon some course-related resources.	Did not use resources effectively in the project.
<b>To organize time schedules</b>	Completed all of the milestones and the final project by the date each was due.	Completed one milestone by the due date; submitted one after the due date. Completed the final course project by the due date.	Both milestones completed, but one or both submitted after the due date. Completed the final project after the due date.  OR  Did not complete the milestones. Completed the final project by the due date.	Did not complete the project milestones. Completed the final project after the due date.

**WEEK 3 FINAL PROJECT SUBMISSION (COMPLETE OR INCOMPLETE)**

**WEEK 5 FINAL PROJECT SUBMISSION (COMPLETE OR INCOMPLETE)**

**OVERALL ASSESSMENT: FINAL PROJECT (COURSE WEIGHT: 30%)**