



Creating Your Own Dunkleosteus Story

Grade Level

Grade 4

Engage

This activity is designed to start your students in recognizing themselves as scientists and thinking critically about problem-solving. The goal is to teach concepts through discovery and to encourage using scientific thought processes. As with all lessons provided, please feel free to adapt them according to your students' abilities. Some of your students may be early readers, in which case you may find it more successful to lead activities and discussions as a whole group rather than using individual Research Plan sheets. Certain scientific vocabulary may or may not be appropriate for your students' level of understanding. Take these ideas, make them your own and your students will have a greater chance at success.

What do you imagine the “day in the life” of a Dunkleosteus might look like?

1. Begin this lesson by asking your students if anyone has heard of the giant aquatic animal, Dunkleosteus.
2. If your students are familiar with brainstorming and recording their ideas, break them into small groups. If your students need more guidance, work with them as a large group. Engage your students in a discussion of what they predict the answer to this question to be. More importantly, why do they think this?

Explore

3. Continue with the above discussion. If you and your students have access to technology and can do research, consider breaking the larger group up into smaller groups and have them research Dunkleosteus. Have them consider the following questions – Where did it live? What did it eat? How big was it? Describe its physical features. Do any of these features look like or remind them of any modern-day animals?
4. Have students record the information they found. Based on what they found, have them write down any questions they might have. Encourage the critical thinking process.

Explain

5. Have the students brainstorm and record ideas of different ways that they could share a story about a Dunkleosteus (verbal, visual, performance-based, etc.). How would their

ideas change if they were presenting to a specific group (first graders, their peers, parents, etc)?

6. Explain to your class that you have an activity that will allow them to creatively share their scientific findings about Dunkleosteus.

Expand

7. If your students are not already in smaller groups, break them up into groups of 4-5. Explain that each group will create their own story about a Dunkleosteus and creatively present that story to the class based on an assigned audience (suggestions include first graders, their peers, and a group of parents).

Adjustments for Social Distancing

If small group work is not possible in your classroom, students can write stories of their own and share them with their classmates.

8. Their story should include natural history information about Dunkleosteus, as well as a creative way Dunkleosteus meets an animal that has one or more of the same features as it. For example, if a group learns that Dunkleosteus had long fang-like teeth that are similar to the teeth of lions, their story should include a section where Dunkleosteus travels to Africa to meet a lion.
9. Remind students that this is a creative way of depicting scientific concepts, so students should make sure to include any scientific findings and concepts they found during their research and tailor their presentation to their assigned audience. Students can each create and present their own story if that works best for your class.

Assess

10. When the students have completed their story, have them present it to the class. Have them first share what their assigned audience was. When they have completed their presentations, discuss the following questions as a group:
 - a. As they shared their story and explained what life of a Dunkleosteus may have looked like, did they feel they included everything?
 - b. Was there any information they wanted to find, but couldn't? Remember, what we know about Dunkleosteus we know from fossil evidence. Knowing this, do they think this information exists? Why or why not?
 - c. Did they find anything in their research that told them how scientists determined what Dunkleosteus looked and acted like? How did scientists come to this conclusion?
 - d. What modern-day animal did they choose for Dunkleosteus to visit? What about this animal is similar to Dunkleosteus?

- e. Thinking about their audience, was their presentation style the best form of communication for the task? Would a different medium have been more effective?
- f. If they had to do the project again, would they do anything differently?
- g. What audience would their presentation style be most appropriate for?
- h. Based on their personal artistic interests, what additional artistic mediums could have been used in this project?

Optional Extension

11. Share your work! When you and your class have completed this activity, we'd love to see what you came up with! Click the "Share Resources" button at the top of the Zoo's Online Resource Library at <https://resourcelibrary.clemetzoo.com/>. From the dropdown menu, select "Document." Attach your file and complete the form on the page. Please include your school's name and the grade that you teach. When you're done, click "Submit". When we receive your submission, we will share your class' work!

Standards

| Ohio Academic Content Standards |
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| Grade 4 Life Science Topic: Earth's Living History Fossils can be compared to one another and to present-day organisms according to their similarities and differences. |



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My Research Plan

What do you imagine the “day in the life” of a Dunkleosteus might look like?

1. Questioning
State the problem.
Make a hypothesis.



2. Planning
Make a plan by asking
these questions
(think, talk, write)



3. Implementing
Gather the materials.
Follow the
procedures.
Observe and
record the results.



4. Concluding
Draw a conclusion.



5. Reporting
Share my results
(informal)
Produce a report
(formal)

