Lesson 3: Science Communication

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Grade level(s): 5–8
Time: 45 minutes
Materials/preparation:

- ***Optional:*** Have students read an Ethogram Creature Feature before coming to the lesson
    - You can let your students choose one, or provide links for a few suggestions on different types of animals
- Interactive google slides with links to animal videos and articles (make copies for your class)
- Students need a notebook/computer to start brainstorming for their written piece

Learning Outcomes

1. Identify reliable online sources for scientific information
2. In written format: pose a question about an animal behavior and answer that question (in a Creature Feature), supporting your answer with evidence from reliable sources
3. ***Optional:*** Orally present your Creature Feature to your classmates (e.g., live presentations, video, or other format)

Lesson Sequence

1. **Introduce** lesson 3 topic: communicating science
    - **Hook:** Animals communicate in different ways, just like humans
    - Introduce *The Ethogram* website and its different column formats.
    - In order to communicate science, students should think about style, audience, and content/purpose.
2. ***Optional:*** If assigned, discuss the Creature Feature examples students read before class (*think, pair, share*, popcorn, or other format): ~5 minutes
    - Students could answer any of these questions: What species did you read about? What did you learn? What was surprising? What did you like about how the Creature Feature was written?
3. **Explain the assignment:** Students can work independently or in small groups to write their own Creature Features. See Student Creature Feature Guidelines for detailed instructions and feel free to modify these to suit your class.
    - Go through an example Creature Feature and point out aspects that students should include in their pieces: https://theethogram.com/2020/09/01/creature-feature-hummingbirds/ → This article on hummingbirds is one of our less technical Creature Features and should be age-appropriate for middle school students; the piece is broken down in the lesson slides to point out important aspects.
4. **Brainstorm:** Spend 15-20 minutes having your students brainstorm and plan their Creature Feature. Check in with each student/group and ask them which animal

behavior questions they are interested in; help them come up with questions from the 4 categories discussed in lesson 1. (You may need to review the question categories!)
    - For example, questions like “What do they eat?” or “How long do they live?” are ok and can be answered factually, but they do not address one of the 4 categories of questions about behavior. Encourage your students to come up with more complex questions like “How does a bear know when it’s time to hibernate?” (question about the cause of a behavior) or “Why do dogs wag their tails when they see humans or other dogs?” (questions about the function of a behavior)
5. **Review** what we learned in lesson 1, 2, and 3 (asking questions about animal behavior, gathering data using an ethogram, and communicating science through writing).

Optional extensions

1. Oral presentation of Creature Features
    - Have students create short presentations based on their written Creature Features to present to their class. These can be in the form of videos, live 3-minute talks with slides, or a piece of artwork the student creates and discusses. Whatever gets your students excited and creative!
    - Instructions for oral presentation:
        - Include basic information about the species you chose (such as): common and scientific names, where the species lives, what type of animal it is (e.g., mammal, reptile, bird, mollusk, fish, etc.), what it eats.
        - Present the question(s) about behavior that you answered with your research and what those answers were.
        - *Note:* Oral presentations are intended to be a chance for students to practice speaking and presenting to a group and share the cool stuff they found out about their species; references are not required for the presentation, but you can have your students include a reference list if you would like.
2. Career path discussion
    - You can cover the topics below yourself, or you can request a virtual classroom visit and Q&A session with graduate students from the UC Davis Animal Behavior Graduate Group by emailing us at the.ethogram@gmail.com. We are happy to discuss questions such as:
        - How did we get interested in animal behavior and this career path?
        - What preparation in high school/college is helpful for a career in animal behavior?
        - What are different types of jobs in biology/animal behavior (e.g., academic, government, conservation, teaching, business)?
        - What were some experiences and challenges people faced in their career and research?
    - Note: Eventually, The Ethogram plans to record video interviews with members of the Animal Behavior Graduate Group; the videos will highlight different stories

about animal behavior researchers and address some of the questions above. We will share this resource with you as soon as it's ready!