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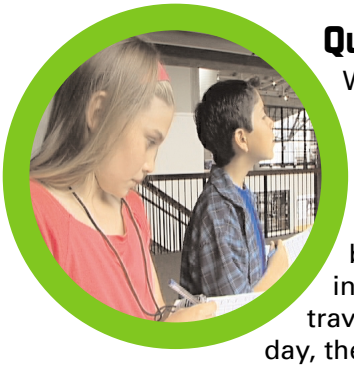
Animal Behavior
Episode 103

Investigations To Explore

Otters

Animal lovers Michelle and Josue wanted to learn more about the behavior of some amazing otters.



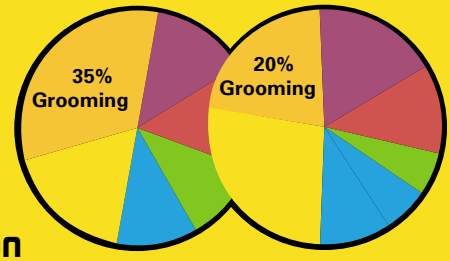
Question

Where do otters groom more…in the wild, or in captivity?

Investigation

Michelle and Josue chose six behaviors to observe: resting, playing, feeding, diving, grooming, and traveling. Three different times in the day, they recorded the number of minutes the otters spent in each activity. They compiled their results into a pie chart. They repeated the observation for otters in the wild.

Results



Conclusion

Michelle and Josue's charts indicate that the captive otters spend more time grooming than wild otters do. They speculate that this is because wild otters have to fend for themselves, and divide their time equally among the different behaviors.

Scientist: Michelle Jeffries

Michelle is an otter biologist at the Monterey Bay Aquarium. She is concerned with all aspects of otter care, including the rescue and rehabilitation of abandoned or injured otters in the wild.

Dog Intelligence

Laura and Anna wanted to explore the brain power of their dogs, Lucy and Fisher.

Question

Which dog solves problems more quickly…Lucy, a golden retriever, or Fisher, a terrier?

Investigation

The girls have their dogs try to solve four simple tests, and recorded the time each dog needed to complete the test.

Conclusion

The girls found that Lucy's size and strength gave her an advantage in certain tests, while Fisher's curiosity and small size helped him in others.

Find out more: pbskids.org/dragonflytv.

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Classroom Inquiry

1) Getting Started

- Ask about pets or bring one to class to get everyone talking about behavior.
- What animals do you like to watch? Why?
- What is behavior? Do sponges have behaviors? Who studies behavior? How do they study behavior?
- Think of a zoo animal, and describe different behaviors you've seen it do: eat, sleep, play, care for its young, communicate, groom, attack, etc.
- Have you ever wondered if an animal behaves differently in the wild, compared to at the zoo? What might the differences be?

2) Going Deeper

- How long would you have to watch a particular animal to know its behavior?
- Decide how to construct an animal activity log, and what should go in it.
- Once you observe an animal, what might you discover about the animal's habits? How might you make an activity log for humans?

3) Investigate with DragonflyTV

- Watch the video and see how Michelle and Josue investigated otters – OR – give your students data from the video (see opposite page) and have them draw their own conclusions.
- Michelle and Josue observed six behaviors; which one did they focus on?
- What do the pie charts say about how captive and wild otters groom? Why do you think there's a difference?
- Michelle and Josue think captive otters groom more because they don't have to spend time on finding food or other survival behaviors. What other reasons could there be?
- What would you do differently?

4) Investigate On Your Own

- Using Otters or Dog Intelligence as a model, ask your students to design their own investigations. Here are some challenge cards to give to student teams to get things rolling.

Challenge Cards

1) Human Grooming

Who grooms more: Adults, teenagers, or children? Boys or girls?

OR

Compare humans to pets. Do humans groom more than cats?

2) How Social Are They?

People say that cats are loners and dogs love people. Carry out an investigation to test if this is true.

Remember that each dog and cat has its own personality, so you will need to observe many animals to answer this question. How will you decide when dogs and cats are being sociable?

3) Approaching Squirrels

How close can you get to a squirrel? Does it matter if you are quiet or noisy? Crouching or standing up? Wearing brown or yellow? Could you get closer if you walked backwards?

Write down at least one prediction and conduct an investigation to check it out.

Tip: To help measure distance, drop a marker at your feet when a squirrel runs away. Place another marker where the squirrel was before it ran away.

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Inquiry Tips

Take the Dragonfly Q.U.E.S.T.

Question and Observe

Ouestions lead to observations, and observations lead to better questions.

Look Closer. Observe, draw, and measure such details as size, texture, and sound.

What is the Same/What's Different? Ask students to observe similarities and differences.

Revealing Patterns. When students observe events in detail, have them look for possible patterns. Can they categorize the objects they observed? For example, after rolling skateboards down a ramp, they might classify the boards by speed: fast, medium, and slow. Do all the slow boards have larger wheels? Harder wheels?

Uncover Comparative Questions

Help students move from careful observations to finding just the right question to investigate. Often the first questions your students ask are purely descriptive. Suppose someone asks, "How many creatures are under that rock?" You look and find four pillbugs. The question is answered, but it doesn't lead to any meaningful information.

Turn descriptive questions into comparative questions. A good comparative question would be: "Which type of rock has more animals under it – big rocks or small ones?" This comparative question leads to others: Do more animals live under big rocks just because of size? Or is there more moisture under big rocks? A wonderful investigation can be launched with just one simple comparative question.

Explore Predictions

Help cultivate solid reasoning behind your students' predictions. The reasoning is as important as the predictions. When asking for predictions, also ask: "Why do you think so?" Challenge them to find more information on their topic and refine their predictions. Some predictions are more testable than others. Is there enough time available to test the prediction? Do you have the right equipment?

Start Action Plan and Gather Data

Have your students create an action plan that shows each step they will take to get the information they need. Action plans help focus investigations. Students should think about what materials they need. What should be measured? How many times? For how long? Have students design a data sheet to record their findings.

Don't be surprised if your students need to change their original plan. Revising is part of every creative endeavor.

Think Hard about Findings and Share Discoveries.

Thinking hard about what it all means is an exciting process. Everyone may not agree on a single interpretation. Your students may change their minds about what the information means after talking with others. Sharing your discoveries is part of the fun. What is the most important information to share? How should it be shown? For example, should skateboard speed be shown in a sketch? A bar chart? A pie chart? A combination? Don't stop there. Be imaginative. For example, a group that investigated skateboards might hold a skateboard demonstration for their classmates and parents.

Going Further. Questions are a renewable resource!

What Makes a Great Dragonfly Inquiry?

Great inquiries arise when students trust their own questions and discover answers for themselves. As a teacher, you don't have to be an expert, all you need is a willingness to join children in the questions they ask.

If your students have great investigations, visit our Web site at pbskids.org/dragonflytv and tell us about them. Your students could be on DFTV!

For graduate-credit teacher workshops, visit www.DragonflyWorkshops.org

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