

# ANIMAL MINDS

## Teacher Guide

**Wouldn't it be amazing to see inside the mind of a lion, octopus or bee?** *Animal Minds* explores how scientists are doing just that. Their research shows that a variety of species have unique personalities, impressive memories, the ability to count and incredible problem-solving skills. This guide dives into the types of questions animal cognition scientists pursue, and it provides new ways for students to think about animals.



### ABOUT THE AUTHOR:

Dana L. Church is an author and researcher who did her PhD on animal cognition at the University of Ottawa. She is the author of *The Beekeepers: How Humans Changed the World of Bumble Bees* and *The Monarch Effect: Surviving Poison, Predators, and People*. Dana lives in Waterloo, Ontario.



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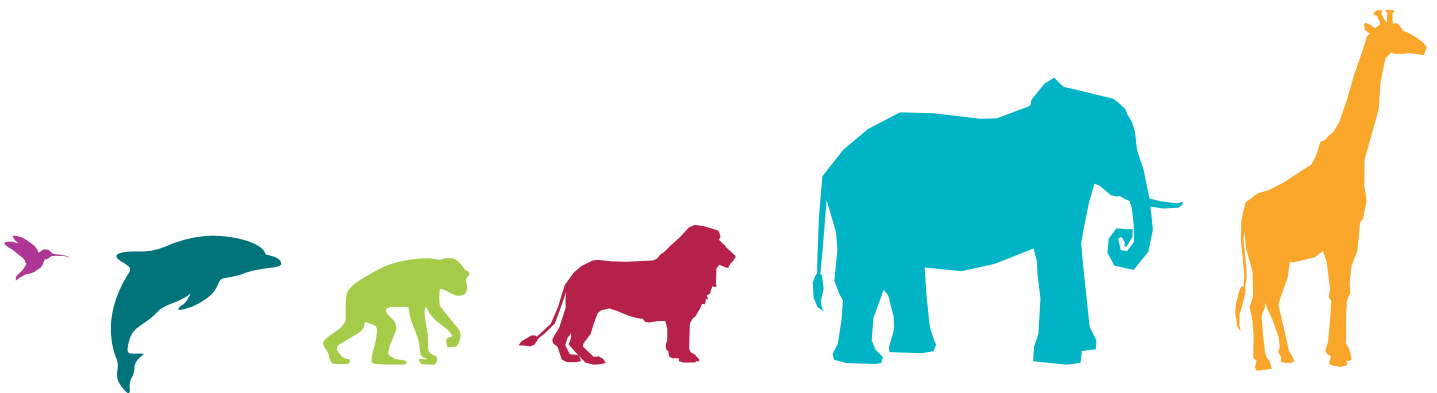
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### DISCUSSION QUESTIONS

1. You are a scientist and your job is to study animal thinking. Which animal will you choose and why?
2. In the dolphin personality study, each of the judges rated the dolphins independently and did not discuss their ratings with other judges. Explain why this is an important part of the scientific method.
3. Choose an animal that you or other people find intimidating or scary. What is it about that animal that makes you or other people feel that way? How might this animal be misunderstood?
4. Give three examples of anthropomorphism in television shows, movies, books, or in conversations. Is anthropomorphism a problem in these instances? Explain your point of view.
5. Think about your own spatial memory. When you walk to a familiar place, what cues do you use to remember where to go? Do you use the same type of cues when going to different places?
6. Choose an animal. In what situations would it be useful for it to have the ability to count or tell the difference between more and less?
7. Why might it be unfair to say that some animals are smarter or more intelligent than others?
8. Imagine you give a puzzle or a challenge to an animal, and it fails to solve it. What are some possible reasons why it was unsuccessful? How might you adjust the puzzle to make it is easier for the animal to solve?

### ACTIVITIES

1. Choose an animal. Like the personality test developed for dolphins, use the Big Five to create a personality test for your animal. What behaviours would be evidence for each of the five factors?
2. Let's analyze a pet's behavior. It can be your pet or someone else's. Use the table on the next page to determine where the pet fits into each of the Big Five personality factors. Use the same adjectives that were used for dolphins, or add your own. (You could also create a mind map or other visual tool.)
3. Choose an animal and research the type of habitat it lives in. What objects or strategies could it use to remember where it is when moving around to find food, a mate, or to return home?



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**BIG FIVE PERSONALITY REVEAL FOR:** (Name of pet)

**WHAT TYPE OF ANIMAL IS THE PET?**

**PERSONALITY FACTORS and TRAITS  
THE PET DEMONSTRATES**

**RANK**

High (very much like the pet)  
Medium (sometimes like the pet)  
Low (rarely like the pet, or not at all)

**EVIDENCE FOR YOUR RANKING**  
(the behaviors you use to judge)

**EXTROVERSION**

- Assertive
- Playful
- Active, energetic
- Timid
- Quiet
- Unexcitable

**AGREEABLENESS**

- Friendly, gentle
- Obedient
- Affiliative, companionable
- Inflexible
- Demanding
- Selfish

**CONSCIENTIOUSNESS**

- Careful, cautious
- Alert, attentive
- Diligent
- Lazy
- Unreliable
- Inconsistent

**OPENNESS**

- Creative, imaginative
- Intelligent
- Curious
- Not exploratory or inquisitive
- Unoriginal, conforming
- Simple

**NEUROTICISM**

- Jealous
- Aggressive
- Temperamental
- Relaxed, calm
- Comfortable
- Tolerant and easygoing