

Sleeping Across Species

November 2023

Columbia University Neuroscience Outreach

Objectives:

- Learn how an animal's sleep pattern is best suited for their survival
- Explore what factors determine an animal's sleep pattern

Materials:

- Animal cards (includes animal picture and a fun fact that gives clues about their sleep cycle)
- Decision panels

Possible Introductory Questions/Comments:

- **Q: Humans prefer to stay awake throughout the busy day and sleep soundly at night. But some animals have very different sleep cycles than us! What determines how an animal sleeps?**

Activity:

1. Guide the students through an info sheet that highlights different sleep patterns (*nocturnal vs. diurnal*), as well as some key determinants of those patterns (e.g. *environment, diet, eye sight, response to heat from sun, etc*)
2. Given these factors, play a card game! Hand students a stack of animal info cards and ask them to place each card into the appropriate decision panel. Some examples are listed below:
 - *Q: Kangaroo rats live in a dry, hot desert. They prefer to stay in deep underground burrows to escape the heat during the day. Are they more likely to be nocturnal or diurnal?*
 - *A: Nocturnal*
 - *Q: Bats use echolocation to navigate in the dark. Are they more likely to be nocturnal or diurnal?*
 - *A: Nocturnal*

Possible wrap-up/follow-up:

- Even though animals show a vast range of sleep patterns, it's clear that sleep is important across the animal kingdom! What may be some benefits of sleep?
- For older/more interested attendees, open a discussion about how human civilization may be disrupting some animals' natural sleep rhythm. e.g. Fear of humans is forcing some animals to shift towards being active at night