

Check your understanding



1 For how many seconds did we record the metabolic rate for each shark? And for how many seconds overall?

Answer [a. $60 \text{ seconds} * 60 \text{ minutes} * 24 \text{ hours} = 86,400 \text{ seconds}$
b. $86,400 * 7 \text{ sharks} = 604,800 \text{ seconds}$]

2 Why do you think there were no data for sharks swimming during the daytime?

A. [Because they are nocturnal, this behavior was not observed during the day.]

3 We recorded metabolic rate in relation to activity state. What other factors might impact how much energy you/ an animal uses in an hour?

A. [Temperature, illness, size, stress.]

4 Apart from eye state and body position, what other behaviors might indicate an animal is asleep?

A. [Reduced response to stimulation, eye twitching, slowed breathing, having moved to a sheltered location.]

5 What benefits do you think you get from sleep besides conserving energy? List at least three. Then find a partner and discuss.

Answer [Answers will vary but may include:

- An increased ability to concentrate.
- Improved mood/less irritability.
- Better memory.
- Appetite regulation and healthy weight maintenance.
- Cell renewal, nervous system repair, healing, and less visible aging.
- Increased collagen production, which is good for your skin.

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When did the sharks have the highest metabolic rate?

A. [While swimming at night.]