

Grades: 9-12

Nova, "Mysteries of Sleep -

From fruit flies to whales, virtually every animal sleeps. But why? Why do we need to spend nearly a third of our lives in such a defenseless state? Scientists are peering more deeply into the sleeping brain than ever before, discovering just how powerful sleep can be, playing a role in everything from memory retention and emotional regulation to removing waste from our brains. So why are we getting so little of it?

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- What is the program's purpose? How do you know?
- What are the key details in this program?
- What is the central message in this program? Explain?
- Why do we sleep?
- Why is sleep so important?
- What is the author trying to say through this episode? What from the text makes you believe this?

Question Box 2

- What was most challenging or least interesting about this program?
- What about the show stood out to you?
- What did you find most interesting and why?
- How do you feel when you don't get enough sleep? How much sleep do you need?
- How much did you know about the subject before we started?
- Do you have a pet? How much time does your pet spend sleeping?

Box 3 (Tasks)

- Assuming that we have spent one-third of our life asleep, how much sleep have you gotten in years? In hours? In minutes?
- Babies sleep about 18 hours per day. Teens need to sleep about 9 hours per day. Senior citizens need 7-8 hours per sleep per day. Graph how much sleep you might get over your life span.
- Teens need 9 hours of sleep per day, but they only average about 7 ½ hours of sleep per day. How much sleep have you lost in hours to date? How might that affect your performance in school and other activities? Justify your reasoning using mathematics.

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- Draw a model of the human brain. Label and describe the parts that are “cleaned” by sleep. Discuss with evidence, how sleep improves memory.

Box 4 (Enrichment)

- Compare and contrast the sleep patterns in humans and whales.
- Design an infographic to show the general public how much sleep human newborns, infants, toddlers, preschool, school age, teenage, young adults, adults, older adults should be getting per day.

Box 5 (Extend/Real-Life)

- There are careers in sleep. Click this link to learn about them:
https://drive.google.com/file/d/1YMoPV7bM_oFeNI_2Ugzl9bKY2Fyly6Yf/view?usp=sharing
- To learn more about sleep visit this website:
<http://sleepeducation.org/healthysleep/sleep-recharges-you-teen-sleep-duration/school>
- Make a sleep log of how much sleep you get over the next week. Compare and contrast how much sleep you get to how much sleep experts say you should be getting per night.
- Social-Emotional Connection: Mindfulness practices can help with promoting good sleep. Here are some steps to practice mindfulness to promote sleep:
 - Lie on your back with your arms relaxed by your sides. Take a moment to get comfortable, knees up or down as you please.
 - Bring your awareness to your breathing.
 - There's no right way to breathe. Just relax and breathe normally.
 - Try to imagine the air is coming from far away, and you blow it out to a distant place.
 - You might also say the words 'in' and 'out' in your mind to match your breathing. Or perhaps think of the word 'relax' with each exhale.
 - Concentrate on your chest rising and falling – can you feel it? Can you taste or smell the air as you breathe in? Is it cool or warm?
 - Your mind will probably wander at some point, and thoughts may arise.
 - Don't worry if you have thoughts. Acknowledge them, and then gently bring your focus back to your breathing.
 - As you continue breathing, feel your body gently sink into your mattress little by little.