



Did you get a good sleep last night? Here's hoping! You spend one-quarter to one-third of your life sleeping, and that shut-eye is key to your well being.

For starters, sleep affects our brain function. It is important for 'brain plasticity'. That's the brain's ability to adapt to incoming information. With too little sleep, we can't process what we've learned during the day. We will have difficulty remembering those things in the future.

Well-rested people do better in school. They are more productive, and cope better with stress. They can better regulate their emotions.

Sleep **deprivation** is associated with obesity, diabetes, and high blood pressure. Poor sleep is also linked to injuries, depression, and irritability. Even one night of missed sleep has an impact.

DEFINITIONS

DEPRIVATION: the disadvantage that results from losing something

STATISTICS CANADA: federal government agency in charge of producing statistics to help better understand Canada, its population, resources, economy, society, and culture

HOW MUCH SLEEP?

Our sleep needs are all different. They depend largely on our genes. But experts have general guidelines. Children aged five to thirteen need nine to eleven hours of sleep. Teens aged fourteen to seventeen need eight to ten hours. Adults need seven to nine hours. Seniors need seven to eight hours.

Do we get the sleep we need? Not necessarily. According to a **Statistics Canada** study, short sleep duration and poor sleep quality is common Canada.

One-third of the adults surveyed for the study said they slept less than seven hours. As well, 43 percent of men and 55 percent of women reported having trouble going to sleep or staying asleep.

What about kids and teens? Health officials say one child in

SCHOOL START-TIMES

The school day usually begins between 8 a.m. and 9 a.m. However, some schools are starting later. Why?

Around puberty, teens' circadian clocks shift by a couple of hours. Their bodies don't feel sleepy until later in the evening. Teens still need the recommended amount of sleep, however. So by starting school an hour or so later, the students can follow a schedule that is more in synch with their brain's internal clock.

four is not getting enough sleep. Another study found that about one-third of teens sleep less than the recommended amount. This impacts how they behave and interact with others.

WHILE YOU'RE ASLEEP...

Even when you are asleep, your brain is still very active.

ALL ABOUT ZZZZZZZZ...

The brain cycles repeatedly through REM (rapid eye movement) sleep and non-REM sleep. Non-REM sleep has four stages. The first is the stage between being awake and asleep. Next is light sleep, when the heart rate and breathing regulate and the body temperature drops. Then there are two stages of deep sleep. They are the more restorative and restful phases of sleep. They are also the most important for learning and memory.

Then, when you enter REM sleep, your closed eyes move rapidly. Your brain waves are similar to those when you're awake. Your breath rate increases and you become temporarily paralyzed.

The cycle of non-REM and REM sleep repeats, typically four or five times in a night. With each cycle you spend less time in the deeper states of non-REM sleep, and more time in REM sleep.

SLEEP TROUBLES

Two main processes regulate sleep – **circadian rhythms** and sleep drive.

Circadian rhythms are controlled by a biological clock in the brain. It responds to light cues. When night falls, it makes

THE TIMES ARE A-CHANGING

Spring ahead; fall back. Every year, people living in places that alternate between **Daylight Savings Time** and **Standard Time** shift their clocks one hour forward in the spring and one hour back in the fall. This fall, the time change takes place at 2 a.m. on Sunday, November 1st.

There are arguments for and against this seasonal time change. One con: It can mess with our body clock and trigger underlying health issues. We see an increase in accidents due to tired drivers in the days after a switch. Workplace injury rates go up. So do heart attacks and emergency hospital visits.

In March this year, Yukon became the first region in Canada to move to year-round Daylight Saving Time. Saskatchewan and most of Nunavut don't switch their clocks either, but they stay on Standard Time. The B.C. government plans to move permanently to Daylight Savings Time as soon as this can be coordinated with Washington and Oregon, which are in the same Pacific time zone. The Ontario government will also be voting to stay on Daylight Savings permanently.

melatonin. This hormone helps you fall asleep.

Sleep drive is the body's craving for sleep. During the day this desire for sleep builds. Ideally, by bedtime you just can't stay awake. But if you don't get enough sleep at night, your sleep drive may make you doze off in the middle of math class. A long nap in the afternoon will decrease your body's sleep drive, making it hard to sleep at night.

Other factors affecting sleep? Exposure to artificial light at night, drinking caffeinated drinks, and being too busy to fully relax.

Good 'sleep habits' are important, too. Be consistent. Go to bed at the same time get up at the same time every day. Keep your bedroom quiet, dark, and at a comfortable temperature. Remove computers and smartphones. Avoid big meals, caffeine, and alcohol before bed. Exercising during the day can also help you sleep.

What if you just can't get to sleep? Don't stress about it.

"Worrying about lack of sleep is one of the big causes of insomnia," says sleep expert Luc Beaudoin. ★

DEFINITIONS

CIRCADIAN RHYTHMS: a group of people who give advice to the leader of a government

DAYLIGHT SAVINGS TIME: the practice of moving clocks ahead during warm months so darkness falls later daily by the clock

STANDARD TIME: the local time in a country or region when Daylight Saving Time is not in use



COMPREHENSION QUESTIONS

1. How much of your life will you spend sleeping?

2. Describe the behaviour of people who are well-rested.

3. Describe the behaviour of people who don't get enough sleep.

4. What health risks are associated with sleep deprivation?

5. According to guidelines, how many hours of sleep per night do children and teens require?

6. How many hours of sleep do adults and seniors require?

7. What factors can interfere with people's ability to fall asleep at night?

8. Describe the four stages of non-REM sleep.

9. What does **REM** stand for? What happens during REM sleep?



ORGANIZER

A. The article describes the importance of getting a good night's sleep, and the factors that influence the quality of that sleep. For a period of five days, track your sleep habits, using the organizer below:

	Day #1	Day #2	Day #3	Day #4	Day #5
Did you have a lot to do today? (e.g., homework, chores, work, etc.)					
Did you do any physical exercise today? If so, what was it? (e.g., walk to/from school, bike ride, gym, yard work, etc.)					
Did you have a large meal for dinner?					
Did you have any caffeine today? (e.g., coffee, tea, pop, chocolate, etc.)					
What time did you go to bed?					
Did you use an electronic device before going to sleep?					
What time did you get up?					
How many hours of sleep did you get?					
Additional notes					

B. After gathering and considering the information in the above table, discuss it with a small group:

What similarities and differences do you notice?

What actions might you take to improve your sleep habits?



QUESTIONS FOR FURTHER THOUGHT

1. The article talks about the benefits of a later school start-time for teens because it is more in synch with their brain's internal clock. Imagine that you are trying to convince your school to start at a later time. What evidence would you use to support your proposal? Explain.

2. The article concludes with this quote from Luc Beaudoin, professor of cognitive science at Simon Fraser University: *"You do the best you can, but you don't want to start worrying about your lack of sleep, because it's been found that worrying about lack of sleep is one of the big causes of insomnia."*

a) What is your understanding of this passage?

b) For someone who is trying to get more sleep, what actions would you recommend they take to reduce their stress and worry about not getting enough sleep? Explain.

3. The article mentions several actions that can be taken to improve our sleep habits. Which of these do you believe is the simplest to put into practice? The most challenging? Explain.



QUESTIONS FOR ONLINE EXPLORATION

Note: The links below are listed at www.lesplan.com/en/links for easy access.

1. Many experts warn that teens are not getting enough sleep. Some go as far as to say that they are suffering from sleep deprivation. Visit any of the links below to learn more about the specific concerns related to teen sleep deprivation.

<https://www.cbc.ca/player/play/1433483843638>

<https://www.cbc.ca/news/health/national-sleep-deprivation-teenagers-youth-learning-1.4929842>

<https://canadianschoolcounsellor.com/summer2019/summer2019-features/generation-sleep-deprived/>

What personal connections can you make to this information?

2. The arguments for and against adjusting our clocks twice a year have existed for years. Not all Canadian provinces and territories observe this change, so many wonder why we need to do it at all. Visit any of the following sites to learn more about Daylight Savings Time in Canada. Create a simple T-chart to outline the advantages and disadvantages of this practice.

<https://www.cbc.ca/news/canada/forum-daylight-saving-time-1.3489495>

<https://www.cbc.ca/news/canada/daylight-saving-canada-2020-1.5489878>

<https://www.cbc.ca/news/canada/british-columbia/daylight-time-bc-sleep-experts-1.5342620>

<https://toronto.ctvnews.ca/daylight-saving-time-ends-soon-here-s-what-you-need-to-know-1.4666077>

<https://www.thespec.com/news/canada/2019/11/02/a-matter-of-time-researcher-says-changing-clocks-bad-idea-for-already-sleep-deprived-canadians.html>

Advantages of Daylight Savings Time	Disadvantages of Daylight Savings Time

3. Sleep experts provide us with guidelines for the amount of sleep we require to maintain our health and well-being. Some suggest that taking naps or power naps may have added benefits. Visit the links below to learn more about napping:

<https://www.cbc.ca/news/health/nap-health-canada-snooze-neurology-napping-snooze-1.5394362>

<https://www.bbc.com/news/newsbeat-47496316>

Then, share two facts that you learned about this topic and a question that you still have about its benefits.

