

## CURRICULUM GUIDE: **SLEEP**



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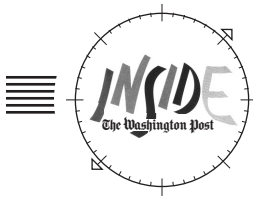
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## Sleep

*KidsPost Article: "Eyes Wide Shut: Sleeping May Be the Most Important Thing You Do Today"*

**Lesson:** The importance of sleep and how to evaluate sleep habits

**Level:** Beginning to Advanced

**Subjects:** Health, Language Arts

**Related Activity:** Mathematics

**Procedure**

**Read and Discuss**

Read the KidsPost article and sidebar. Give students the following questions and discuss the answers.

1. List five benefits of sleep.
2. What actions indicate that someone may not have had enough sleep?
3. What is the job of neurons in the brain?
4. What is a brain wave?
5. List the different periods of sleep and what takes place in each stage.
6. Why is one stage of sleep called Rapid Eye Movement? When does it occur? What happens during REM?

**Talk About Sleep**

1. Word Study.

Read "Word Study: a look at sleep." Did students like having a nap time? Do they know anyone who takes siestas? Have fun discussing the idioms, phrasal verbs and images that sleep conjures.

2. Sleep and Animals

Ask how many students have animals. Have they observed these animals sleeping? Have them describe any sounds, actions or positions of their pets or those of others that they have observed while the animals were sleeping.

Scientists observe and study animals. The KidsPost article refers to a study of brainwave activity in rats. What did MIT scientists discover? What hypothesis resulted from this study?

In addition to the MIT study of four rats, scientists have studied cats (They sleep 12–16 hours each day, about 3.2 hours of which is R.E.M. sleep.), dogs (Stanford researchers believe dogs suffer from sleep disorders as well as dream.) and birds (They can sleep with one eye open — called unihemispheric sleep. University of Chicago researchers studied zebra finches to learn about the connection of sleep and dreams and how these birds learn songs.).

**Analyze**

An 18th century English proverb gives this advice: "Six hours for a man, seven for a woman, and eight for a fool." According to scientists today, we are all fools if we get insufficient sleep. Students between the ages of 9 and 14 need 9 to 10 hours of sleep. From the

## Vocabulary

**Brain wave:** A rhythmic fluctuation of electric potential between parts of the brain, as seen on an electroencephalogram.

**Dream:** A series of images, ideas, emotions and sensations occurring involuntarily in the mind during certain stages of sleep.

**Hormone:** A substance, usually a peptide or steroid, produced by one tissue and conveyed by the bloodstream to another to effect physiological activity, such as growth or metabolism.

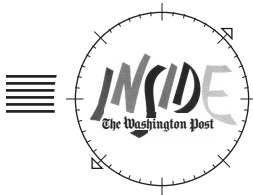
**Neuron:** Any of the impulse-conducting cells that constitute the brain, spinal column and nerves, consisting of a nucleated cell body with one or more dendrites and a single axon. Also called nerve cell.

**REM (Rapid Eye Movement):** The rapid, periodic, jerky movement of the eyes during certain stages of the sleep cycle when dreaming takes place.

**Sleep:** A natural, periodic state of rest for the mind and body, in which the eyes usually close and consciousness is completely or partially lost, so that there is a decrease in bodily movement and responsiveness to external stimuli.

**Theory:** Knowledge that is organized to apply in a relatively wide variety of circumstances; a system of assumptions, accepted principles and rules of procedure devised to analyze, predict or otherwise explain the nature or behavior of a specified set of phenomena. Speculation.

*Definitions are from the American Heritage Dictionary.*



## Sleep

article and discussion, students should understand why they need sufficient sleep every day. Give students two copies of Sleep and Activity Journal. They are to keep this journal for six days. Stress the importance of recording information daily and being honest. After six days, ask students to analyze the data they have collected about themselves. Give students a copy of Personal Health Plan to complete.

### Evaluate

You may give students a second Sleep and Activity Journal at this point or wait until the end of March. Have them keep this journal for six days. After six days, they are to analyze the data, then evaluate their ability to live a healthier life style. Have they made changes in their daily schedules since they kept their first Sleep and Activity Journal? Are these changes beneficial to their health? April 1-7, 2002, is National Sleep Awareness Week. You might include this evaluation as one of the activities to re-enforce the importance of sleep.

### Write

Ask students to write a personal narrative. In it they are to include what scientists say about sleep, their personal study of sleep habits and a judgment of their success in meeting sleep requirements. Are they persuaded that nine hours of sleep make a difference?

If you wish your students to write a persuasive essay, they could write

their parents, teacher or principal. What needs to change in order for them to get the necessary nine hours of sleep?

### Enrichment

1. National Sleep Awareness Week is April 1-7, 2002. Check out the National Sleep Foundation site for activities.

2. Can't sleep? Ask students to read more about insomnia, then prepare a report for your class. There are three main types of insomnia — transient, short-term and chronic.

Students could be divided into three groups to learn about each type.

After reports are given, ask the class to write a paragraph in which they distinguish each type of insomnia from the other.

This topic puts your students to sleep? Try these: snoring, sleep apnea, dreams.

### Answers

#### Activity One

True or False: 1. False, 2. True, 3. True, 4. False, 5. False, 6. True, 7. False.

Solve the Slogan: 1. Yell, 2. Peak, 3. Sheep, 4. The. The slogan: Keep Healthy — Sleep

#### Activity Two

Step One: 1. Year, 2. Athletes, 3. Pep, 4. Hunts, 5. Lasso, 6. Close, 7. Hilly  
Step Two: Sleep is essential to your physical health.

The KidsPost article can be found at <http://www.washingtonpost.com/wp-dyn/education/kidspost/nie/A45484-2002Jan14.html>

"Sweet Dreams" can be found at <http://www.washingtonpost.com/wp-dyn/education/kidspost/nie/A45478-2002Jan14.html>

*Continued*

## Sleep Resources

### ON THE WEB

<http://www.sleepfoundation.org/>

#### National Sleep Foundation

Information and activities include a sleep IQ test, sleep diary and drowsy driving fact sheet. Many brochures, fact sheets, reports to order from this Washington, D.C., based organization. Provides special section: "In this time of crisis: Sleep Problems Following a Crisis."

[starsleep.nhlbi.nih.gov](http://starsleep.nhlbi.nih.gov)

#### Garfield Star Sleeper

Facts about sleep and children, Garfield's games and contest. This site is sponsored by the National Institutes of Health's National Heart, Lung, and Blood Institute. NHLBI is sponsoring Sleep Well. Do Well. Star Sleeper Campaign, a five-year initiative to educate about the importance of getting at least nine hours of sleep each night for good health and to do best in whatever you do. The campaign features educational materials and promotional items, including a new Garfield Star Sleeper Fun Pad, a 48-page book of games and puzzles with embedded sleep messages. An interactive online version and other sleep education materials are available on this site. The NHLBI is part of the National Institutes of Health in Bethesda, MD.

<http://www.washingtonpost.com/wp-dyn/education/kidspost/nie/A18729-2001Sep24.html>

#### Back to Basics: In Times of Turmoil, Stabilize Your Health With Diet, Sleep and Exercise

Sally Squires, Washington Post health reporter, addresses adults, but many of the ideas can be modified for children. Good reminder for teachers to take care of themselves.

<http://www.health.gov/healthypeople/>

#### Healthy People

Healthy People 2010 challenges individuals and communities to take specific steps to ensure good health. Nothing specific to sleep.

<http://www.apa.org/journals/dev/dev363291.html>

#### American Psychological Association

Article, "Sleep Patterns and Sleep Disruptions in School-Age Children"

# Activity One: Solve the Slogan

Slogans help us to remember candidates, products and ideas. “I Like Ike,” “Look, Ma, no cavities!” and “Sleep for Success” are examples of slogans. After you know the word that is defined, you will be able to discover the slogan.

## True or False

Let’s see what you remember about sleep. Read each statement carefully.

In the blank before statements that are true, write TRUE.

In the blank before statements that are not true, write FALSE.

- \_\_\_\_\_ 1. During sleep your temperature rises.

\_\_\_\_\_ 2. During sleep a growth-producing hormone surges through your blood stream.

\_\_\_\_\_ 3. Everyone dreams every night.

\_\_\_\_\_ 4. During sleep your brain relaxes.
- \_\_\_\_\_ 5. Getting enough sleep can restore your energy, but sleep has no influence on your mood.

\_\_\_\_\_ 6. Dreaming takes place during the REM stage.

\_\_\_\_\_ 7. Over half of your sleep is spent dreaming.

## Find the Slogan

**STEP ONE:** Fill in the blanks with the letters of the answers.

1. To raise one’s voice or shout. This will not help you to wake up.

\_\_\_\_\_ 1

\_\_\_\_\_ 2

\_\_\_\_\_ 3

\_\_\_\_\_ 4
2. Top of the mountain.

\_\_\_\_\_ 5

\_\_\_\_\_ 6

\_\_\_\_\_ 7

\_\_\_\_\_ 8
3. An animal that is valuable for its fleece. Some people count them to try to fall asleep.

\_\_\_\_\_ 9

\_\_\_\_\_ 10

\_\_\_\_\_ 11

\_\_\_\_\_ 12

\_\_\_\_\_ 13
4. Definite article (grammar).

\_\_\_\_\_ 14

\_\_\_\_\_ 15

\_\_\_\_\_ 16

**STEP TWO:** You are ready to find the hidden slogan. Place the letters from Step One in the blanks below that have the same numbers.

- \_\_\_\_\_ 8

\_\_\_\_\_ 2

\_\_\_\_\_ 11

\_\_\_\_\_ 5

\_\_\_\_\_ 10

\_\_\_\_\_ 16

\_\_\_\_\_ 7

\_\_\_\_\_ 3

\_\_\_\_\_ 14

\_\_\_\_\_ 15

\_\_\_\_\_ 1
- \_\_\_\_\_ 9

\_\_\_\_\_ 4

\_\_\_\_\_ 6

\_\_\_\_\_ 12

\_\_\_\_\_ 13

NAME \_\_\_\_\_

## Activity Two: How Important Is Sleep?

Public health officials have said for years that everyone needs to eat right, exercise and get enough sleep. Is getting enough sleep as important as watching your diet and exercising?

**STEP ONE:** Fill in the blanks with the letters of the answers.

1. Twelve months equal a 

1

2

3

4
2. Those who are good at sports 

5

6

7

8

9

10

11

12
3. Having a lot of energy and spirit 

13

14

15
4. Chases wild animals in order to catch them 

16

17

18

19

20
5. A long rope used to catch horses and cattle 

21

22

23

24

25
6. An adjective that means near or a verb that means shut 

26

27

28

29

30
7. Mounds, not flat ground 

31

32

33

34

35

**STEP TWO:** You are ready to answer the question. Place the letters from Step One in the blanks below that have the same numbers.

- 28

8

2

30

13

32

20
- 9

24

29

11

18

6

32

3

21

19

28
- 35

25

17

4

15

7

1

12

32

26

22

33
- 16

14

5

27

10

31

**STEP THREE:** Do you have a plan for keeping healthy? Write about how you eat right, exercise and get enough sleep.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Sleep and Activity Journal

Record the number of hours and minutes you spend in each of these activities outside of school.

_____	_____	At School
HOUR	MIN	
_____	_____	Exercise
HOUR	MIN	
_____	_____	Homework
HOUR	MIN	
_____	_____	Music
HOUR	MIN	
_____	_____	Pleasure reading
HOUR	MIN	
_____	_____	Television
HOUR	MIN	
_____	_____	Video Games
HOUR	MIN	
_____	_____	Other
HOUR	MIN	

_____	_____	Sleep
HOUR	MIN	
_____	_____	Time I went to bed
HOUR		
_____	_____	Time I woke up
HOUR		

I woke up:

\_\_\_\_\_ Refreshed

\_\_\_\_\_ Groggy

\_\_\_\_\_ Tired

_____	_____	At School
HOUR	MIN	
_____	_____	Exercise
HOUR	MIN	
_____	_____	Homework
HOUR	MIN	
_____	_____	Music
HOUR	MIN	
_____	_____	Pleasure reading
HOUR	MIN	
_____	_____	Television
HOUR	MIN	
_____	_____	Video Games
HOUR	MIN	
_____	_____	Other
HOUR	MIN	

_____	_____	Sleep
HOUR	MIN	
_____	_____	Time I went to bed
HOUR		
_____	_____	Time I woke up
HOUR		

I woke up:

\_\_\_\_\_ Refreshed

\_\_\_\_\_ Groggy

\_\_\_\_\_ Tired

_____	_____	At School
HOUR	MIN	
_____	_____	Exercise
HOUR	MIN	
_____	_____	Homework
HOUR	MIN	
_____	_____	Music
HOUR	MIN	
_____	_____	Pleasure reading
HOUR	MIN	
_____	_____	Television
HOUR	MIN	
_____	_____	Video Games
HOUR	MIN	
_____	_____	Other
HOUR	MIN	

_____	_____	Sleep
HOUR	MIN	
_____	_____	Time I went to bed
HOUR		
_____	_____	Time I woke up
HOUR		

I woke up:

\_\_\_\_\_ Refreshed

\_\_\_\_\_ Groggy

\_\_\_\_\_ Tired

## KEY

**At School:** Total time spent from arrival to departure.

**Exercise:** Include playing with friends, practicing and playing with a team.

**Homework:** Keep track of time spent reading assignments, doing exercises, writing and studying for tests.

**Music:** Include practice, lesson time.

**Pleasure Reading:** Any non-

homework reading. Include religious texts.

**Television:** Total time spent viewing programs with family or alone.

**Video Games:** At home or away from home.

**Sleep:** If you went to bed but could not sleep, estimate how much time it took to fall asleep. You might ask someone at home to help you with keeping this time.



NAME \_\_\_\_\_

## Personal Health Plan

### Do the Math

For each activity listed, average the number of hours and minutes you spend in a day. (For example, for “Exercise,” total the number of hours recorded each day and divide by the number of days. Record your answer in the chart below.)

#### Average Time Spent

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. At School

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Exercise

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Homework

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Music

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Pleasure Reading

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Television

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Video Games

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Other

\_\_\_\_\_ Hr. \_\_\_\_\_ Min. Sleep

### Analyze the Results

1. Do you get the recommended nine hours of sleep per night? If your answer is yes, go to #2. If your answer is no, go to #3.

2. Congratulations. You are getting nine hours of sleep per night. You are providing your body with the sleep it needs to keep you healthy. Write a poem about sleep or keeping healthy.

3. Your answer for #1 is no. Doctors and scientists think you need to set a health goal.

a. If you don’t get nine hours of sleep per night, how do you usually feel each morning? Do you feel better on the days you get more sleep? Are your moods more positive, your energy level higher and your academic performance better?

b. Review your Sleep and Activity Journal. Rate the following on a 1-5 scale. One means barely better, 3 means somewhat better, and 5 means significantly better.

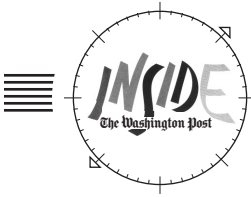
#### On the days that I get more sleep, my:

Mood	1	2	3	4	5
Energy Level	1	2	3	4	5
Appetite	1	2	3	4	5
Attention in Class	1	2	3	4	5
Grades on class work	1	2	3	4	5

c. If you don’t get nine hours of sleep each night, do you think you could? What would you have to change to allow you more time to sleep?

d. If you believe it is impossible to get more sleep, what keeps you from achieving that goal? Could someone help you to reach this health goal?

e. Create a plan for getting more sleep. The time you spend at school will remain constant. You will need nine hours of sleep. How might you vary your other activities in a week in order to have nine hours for sleeping? Remember, you only have 24 hours in a day.



## Word Study: A look at sleep

Go beddy-bye, take a nap, get some shut-eye and enter the Land of Nod.

Whatever you call it, you have entered the realm of sleep. Scientists today talk of brain waves, control of sleep by areas in the brain stem and the change in body functions. Two thousand years ago, the Roman poet Ovid wrote of Hypnos, the god of Sleep, and his many sons. In his *Metamorphoses*, Ovid tells of one son in particular — Morpheus:

"King Sleep was father of a thousand sons –indeed a tribe – and of them all, the one he chose was Morpheus, who had such skill in miming any human form at will. No other Dream can match his artistry in counterfeiting men: their voice, their gait, their face – their moods; and, too, he imitates their dress precisely and the words they use most frequently. But he mimes only men..."

Hypnos is formed from the Greek word, *hupnos*, meaning sleep. Morpheus gets his name from his ability to take on the form of humans, not animals or objects. In Greek *morphos* means shape.

There is also a Latin word for sleep. If you are drowsy, you are somnolent. The root of this word

is *somnus*, meaning sleep, and the suffix *olentus*, meaning abounding in. Someone who sleepwalks is called a somnambulist.

Trains have sleeping cars. You may have a sleeping bag. Every night you go to bed. Have you ever heard the expression to hit the sack? This goes back to the first mattresses. They were made from a cloth sack stuffed with hair, hay or other material. When people wanted a more comfortable bed, technology advanced. People slept off the ground. Ropes were pulled tightly between bed frames. If the ropes became loose, the mattress sagged and people did not sleep tight.

In his poem *Shadows*, D.H. Lawrence wrote about the peace in sleep, "in the morning awake like a new-opened flower." Renewal and having energy for the new day is what getting enough sleep is about. You are sleeping on a volcano if you don't try to get nine hours of sleep. It is important that you hit the hay, snuggle down and visit the Sandman.

Are you beginning to nod off? I saw you yawn. Sweet dreams.

## 40 Winks

Hibernation

Hypnagogic

Insomnia

Narcolepsy

Nocturnal

Soporific

Beauty sleep

Cat nap

Count sheep

Oversleep

Sleeper

Sleepless

Sleep like a baby

Sleep like a log

Sleep of the just

Sleep with one eye open

Sleepyhead

Slumber

Snooze

Sleep in

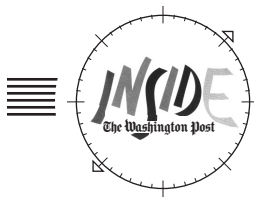
Sleep on it

Sleep out

Sleep over







## Academic Content Standards

*This lesson addresses academic content standards of Maryland, Virginia and the District of Columbia. Among those that apply are:*

**The main lesson addresses these academic content standards of:**

### Maryland

#### Writing

Students produce informational, practical, persuasive, and narrative writing that demonstrates an awareness of audience, purpose, and form using stages of the writing process as needed (i.e., pre-writing, drafting, revising, editing, and publishing). By the end of grade 8, students know and are able to write to persuade an intended audience by selecting an appropriate form that

- makes a clear and knowledgeable judgment,
- supports arguments with detailed evidence, examples, and reasoning, differentiating between evidence and opinion, and
- refutes counter arguments.

A complete list of Standards of Learning of Virginia can be found on the Web at <http://www.mdk12.org/mspp/standards/>.

### Virginia

#### Writing

Grade 7: 7.8 The student will develop narrative, expository, persuasive and technical writings.

- apply knowledge of prewriting strategies.
- Elaborate the central idea in an organized manner.
- Choose vocabulary and information that will cause a reader to perceive images and tone.
- Revise writing for clarity.

A complete list of Standards of Learning of Virginia can be found on the Web at <http://www.pen.k12.va.us/>.

### Washington, D.C.

#### English Language Arts

Reading/English Language Arts, Grade 3, Content Standard 1: Students comprehend and compose a wide range of written, oral and visual texts. Performance standard: The student relates new information to prior knowledge and experiences; makes connection to related topics or information. Content Standard 2: Students respond in many ways to a rich variety of literary texts and relate texts to life. Performance standard: The student responds to non-fiction, fiction, poetry and drama:

- identifies recurring themes across works;
- explains the reasons for a character's actions;
- makes inferences and draws conclusions about themes, events, characters and settings;
- relates literary texts to their own life, to lives of others, and to other literary works

A complete list of Standards for Teaching and Learning of the District of Columbia Public Schools can be found at <http://www.k12.dc.us/>.

## Health Standards

*These national health standards found at Mid-Continent Research for Education and Learning (McREL) apply to this lesson.*

#### Health

Standard 2: Knows environmental and external factors that affect individual and community health. Grades 3-5, 3: Knows how personal health can be influenced by society (e.g., culture) and science (e.g., technology). Grades 6-8, 2: Understands how various messages from the media, technology and other sources impact health practices (e.g., health fads, advertising, misconceptions about treatment and prevention options).

Standard 7: Knows how to maintain and promote personal health. Grades 3-5, 1: Understands the influence of rest, food choices, exercise, sleep, and recreation on a person's well-being. 4: Sets a personal health goal and makes progress toward its achievement. Grades 6-8, 1: Knows personal health strengths and risks (e.g., results of a personal health assessment). 3: Knows strategies and skills that are used to attain personal health goals (e.g., maintaining an exercise program, making healthy food choices).