

#### **Health Virtual Learning**

Chapter 7.2 The Science Behind Sleep

# Truman High School

5/5/2020



Lesson: 5/5/2020

#### **Objective/Learning Target:**

- 1. Explain the system that directs the body to sleep and wake.
- 2. Compare and contrast the five stages of sleep.
- 3. Describe the roles that dreams may play in health.
- 4. Summarize the effect of sleep on the body's systems.

## The Body's Biological Clock

Most circadian rhythms are controlled by the body's master biological "clock," the suprachiasmatic nucleus (SCN)

- •The SCN controls...
- -The sleep-wake cycle
- -Body temperature
- -Hormone levels
- -Brain wave activity



## Sleep and Circadian Rhythm

Your body's biological clock determines when you feel tired and when you feel awake.

#### Disruptions to Circadian Rhythm

- •When the natural circadian rhythm is disrupted, the body's biological clock takes a while to readjust
- •Jet lag is a fatigue that people feel after changing time zones when they travel



#### Stages of Sleep

Each night, you usually pass through five distinct

stages of sleep.



#### Think Further...

In what sleep stage do sleep spindles occur?

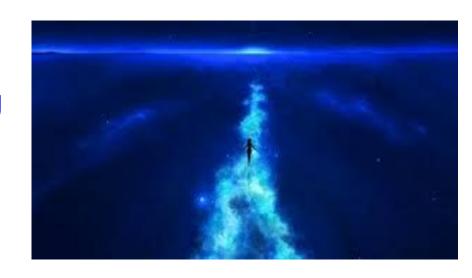
Stage 2

What happens during REM sleep?

- Your breathing becomes shallow and more rapid
- Your heart rate and blood pressure rise
- Your eyes dart about rapidly
- Your muscles are temporarily paralyzed

#### **Dreaming**

- On most nights, you spend more than two hours dreaming
- Most dreams last between 5
  and 20 minutes
- •Dreams that occur during REM sleep are remarkably vivid



#### Sleep and the Immune System

Have you noticed that you are more likely to get a cold or other health problem when you don't get enough sleep?

How does the amount of sleep you get affect your immune system?