

Guided Reading Activity 7-1

Sleep and Dreams

Sleep Tranquilizer Website

For use with textbook pages 183-190

Directions: Recalling the Facts Use the information in your textbook to answer the questions.

1. What is sleep? State of altered consciousness; characterized by patterns of brain activity
2. Describe three views on why we sleep. (1) Recover from exhaustion, stress (2) Hibernation to conserve energy / (3) Adaptive - keep out of harm's way (4) Clear mind of useless info. (5) To dream
3. What are the characteristics of Stage I sleep? pulse slows down, muscles relax, uneven breathing, irregular brain waves, theta waves (10 min.)
4. What happens during REM sleep? rapid eye movement, irregular pulse and breathing, ↑ adrenal and sex hormones, twitching, paralysis, dreaming
5. What is jet lag and how do you cure it? internal circadian rhythms do not match external clock time / tired + disoriented (rest)
6. List five types of sleep disorders. (1) insomnia / (2) sleep apnea (3) narcolepsy / (4) nightmares / (5) night terrors (6) sleep walking / (7) sleep talking
7. What are the causes of sleep apnea? blockage of breathing caused by enlarged tonsils, throat or middle ear infections, obesity
8. What is the difference between nightmares and night terrors? nightmare - during REM, wake up with vivid memory of dream night terror - Stage IV Sleep, no memory of dream
9. How do dreams change as the night progresses? 1st dreams - vague thoughts from the day / Later - longer, more vivid, dramatic
10. Why did Sigmund Freud believe dreams are important? clues, thoughts, or desires that the dreamer would not tell during waking hours

Back Side

1/3 of life sleeping

Brain

De ja vu ↔ Dreams

The Sleep Stage Cycle

Stage I Sleep

- lasts about 2 to 10 minutes
- "drifting off"
- experience fantasy-like images
- can be awoken easily
- pulse rate decreases
- breathing becomes uneven
- muscles relax
- brain waves become smaller and irregular (theta waves)

Stage II Sleep

- lasts about 20 to 30 minutes
- eyes shift side to side
- sleep talking can occur
- can be awoken by loud noises
- presence of sleep spindles (bursts of rapid, rhythmic brain wave activity)

Stage III Sleep

- lasts about 15 to 20 minutes
- difficult to be awoken
- breathing and pulse rate slow down even more
- muscles become very relaxed
- brain waves become large and slow (delta waves)

Stage IV Sleep

- lasts about 15 to 20 minutes
- "deep sleep"
- very difficult to be awoken
- awoken by loud noises or sudden movements
- sleepwalking, sleep talking, and bed-wetting are most common
- tendency to roll around in bed
- no memory of events from this stage
- presence of large delta waves

Stage Reversal

- move from Stage 4 to 3 to 2 to 1

REM Sleep

- lasts about 15 to 45 minutes
- characterized by "rapid eye movement" and dreaming
- pulse rate and breathing rate become irregular
- increase in adrenal and sex hormones in the blood stream
- possible erection in men or vaginal lubrication increase in women
- face and appendages twitch
- large muscles in arms and legs are paralyzed
- presence of brain waves similar to Stage I