Chapter 7
States of Consciousness

Review 7.1: Biological Rhythms and Sleep
This doctor worked the night shift for 6 months and has now switched to days. Clearly, he has not yet succeeded in resetting his 24-hour (1) biological clock. He would be well advised to spend some time outdoors during the day because bright light activates (2) proteins in his eyes’ (3) retinas, which trigger signals to the brain’s (4) suprachiasmatic nucleus, causing the (5) pineal gland to decrease production of the sleep-inducing hormone (6) melatonin. Being sleep deprived, this doctor may experience a depressed (7) immune system, impaired (8) performance, and impaired concentration—not what you want in someone who is treating an illness or injury. So, the doctor finally gets some sleep, passing through the five sleep stages, preceded by the relaxed, awake state characterized by regular (9) alpha waves. In Stage 1, he may feel he is falling, a (10) hypnagogic sensation, and have false sensory experiences, or (11) hallucinations. In Stage 2, his brain generates bursts of rapid activity, or sleep (12) spindles. In Stages 3 and 4, (13) deep sleep, he experiences large, slow (14) delta waves. When waves become rapid and saw toothed and eyes dart about, he has entered (15) REM sleep, where he (16) dreams of making a major medical breakthrough.