

# Sleep Deprivation Game

by: BrainFacts.org

**SYNOPSIS** Are your students getting enough sleep? This board game is designed to teach players about the effects of sleep on the brain and what happens when we don't get enough sleep. Players will navigate their way across the board and compete with other players to collect the most amount of sleep hours and pillows.

---

**OBJECTIVES** At the end of this activity students will:

- Be able to discuss the positive impact sleep has on the brain
- Understand the negative effects of sleep deprivation
- Understand how sleep affects concentration, coordination, memory, and mood
- Know how many hours of sleep they need to get each night
- Better understand how caffeine affects sleep and the brain
- Have better knowledge of different sleep disorders

---

**BACKGROUND FOR TEACHER** The Sleep Deprivation Game explores different ways humans are affected by sleep. Sleep is vital to survival, and it helps the nervous system to function properly. Studies reveal that when animals and people fail to get enough sleep, concentration, coordination, memory, and mood suffer.

The goal of the game is to gain as many hours of sleep as possible. As players travel around the board, they collect and lose sleep by landing on different spaces.

No prior knowledge is needed to play this game.

---

**INTEGRATION INTO CURRICULUM**

- Health
- Biology, AP Biology
- Anatomy and Physiology

# GETTING STARTED

## MATERIALS NEEDED

Game board (one per group of 2 to 4 players)

**Memory Booster Cards** (one set per group)

**Hour Cards** (one set per group)

Player pieces: use items such as erasers, bottle caps, pieces from other games

Scissors

1 six-sided die

1 envelope per group

---

## SET-UP

1. Print the Sleep Deprivation Game board on 11" x 17" paper (or two sheets of 8 1/2" x 11" paper).
2. Print and cut out the **Memory Booster Cards** (four **two-sided** sheets).
3. Print two copies of **Hour Cards** per player. For example, if you have 4 players, print 8 copies.
4. Place game pieces and all cards in an envelope.
5. Print **Rules of the Game**, which includes the **Game Spaces** pages.

---

## GAME PLAY

1. Divide the students into groups of 2 to 4 players and distribute the materials. The students choose their game pieces, and they nominate a leader. The leader, called the Dream Catcher, is in charge of reading the rules of the game, as well as collecting and distributing **Hour Cards**.
2. The players decide on the order in which they will take turns.
3. The players put their player pieces on the **Start** space.
4. The first player rolls the dice and advances that many spaces. The Dream Catcher reads on the **Game Spaces** pages the description of the space on which the player lands. Each space determines if a player gains or loses **Hour Cards**.
5. Players take turns rolling the dice and advancing their pieces around the board until one reaches the **End** space. Then all players count their **Hour Cards**. The player with the most hours of sleep is the winner.

# RULES OF THE GAME

## GOAL OF THE GAME

The Sleep Deprivation Game explores different ways humans are affected by sleep. Sleep is vital to survival, and it helps the nervous system to function properly. Studies reveal that when people fail to get enough sleep, concentration, coordination, memory, and mood suffer.

The average amount of sleep that children get per day declines steadily as they grow older—from 15 hours when they are six months old, to 14 hours when they are 2 years old, to 12 hours when they are 3 or 4 years old. Teenagers need 8½ to 9 hours.

The goal of the game is to gain as many hours of sleep as possible. As players travel around the board, they collect and lose sleep by landing on different spaces.

---

## HOW TO PLAY

1. Designate one player to be the Dream Catcher. This person is in charge of collecting, distributing, and reading **Hour Cards**.
2. Determine the order in which players take turns.
3. The first player rolls the dice and advances that many spaces. The Dream Catcher then reads on the **Game Spaces** pages the description of the space on which the player lands. The icon on each space correlates to an action that determines if the player gains or loses sleep hours.
4. Players take turns rolling the dice and advancing their pieces around the board until one reaches the **End** space. Then all players count their **Hour Cards**. The player with the most hours of sleep is the winner.

---

## HOUR CARDS



**HOURS**

Players earn and lose hours of sleep throughout the game. The goal is to have the most hours of sleep by the time you reach the end of the board. Each player begins the game with two **Hour Cards**.

If at any time players run out of **Hour Cards**, they continue to play until they acquire more, or until the game finishes.

---

## MEMORY BOOSTER CARDS

A good night's sleep can strengthen memory and promote creative thinking. When a player lands on a **Memory Booster** space, they take a **Memory Booster Card** and follow its instructions.



# GAME SPACES *(page 1 of 2)*

## Caffeine



Caffeine is the most widely used brain stimulant in the world. It comes in many forms, such as coffee, tea, energy drinks, and soda. It works by blocking the sleep-promoting molecule adenosine from bonding with receptors on your neurons. **Lose 1 Hour Card.**

## Canceled Class

Woo hoo! A canceled morning class means more time to sleep in. **Gain 1 Hour Card.**

## Fall Back



When we set our clocks back an hour at the end of Daylight Saving Time, we gain time to sleep. **Gain 1 Hour Card.**

## First Night in a Hotel

Sleep researchers at Brown University discovered what is known as the “first-night effect,” which states that when you sleep in unfamiliar surroundings, only the left half of your brain is getting a good night’s rest. **Roll again.**

## Hypnic Jerk

The involuntary muscle spasm that occurs as a person is falling sleep (and is often accompanied by a feeling of falling) can be caused by stress, anxiety, fatigue, or caffeine. **Lose a turn.**

## Insomnia

Insomnia is the inability to sleep. This sleep disorder can be caused by many things, including stress, travel, and caffeine. **Lose 2 Hour Cards.**

## Left Pillow on a Plane

Oh no! You left your pillow on a plane. How will you sleep well? **Lose 1 Hour Card.**

## Midnight Movie

Not getting a full night’s sleep does more than make you cranky. Lack of sleep can lead to trouble forming long-term memories, increased anger, cerebral shrinkage, and slurred speech. **Lose 1 Hour Card.**

## Narcolepsy

Formerly called “sleeping sickness,” narcolepsy is a chronic sleep disorder that is characterized by excessive sleepiness during the day and, in extreme cases, sudden bouts of sleep that occur several times per day. Thus people with narcolepsy can literally fall asleep at any time. **Roll again.**

## Night Terrors



Night terrors usually begin when children are 3 to 6 years old and disappear during adolescence. Children in the throes of a night terror scream and cry. Their eyes are open, and they may say incoherent things while gesturing emphatically. Unlike nightmares, some details of which people can clearly recall once they awake, night terrors are characterized by confusion upon awakening and the lack of any recall of elaborate dream imagery. **Lose 2 Hour Cards.**

## Noisy Neighbor

Music from next door kept you up all night? Without a good night’s sleep, you could suffer from poor memory and decision-making. **Give 1 Hour Card to the player on your left.**

## Red Eye Flight



Late night flights mean you are sleeping in an unfamiliar space and disrupting your sleep cycle. **Roll again.**

# GAME SPACES *(page 2 of 2)*

## Sibling Steals Your Pillow



**Give 1 Hour Card to the player on your right.**

## Sleep Paralysis

Sleep paralysis is a temporary inability to speak or to move while falling asleep or waking up—a highly disconcerting experience, especially when the person experiencing it doesn't know its cause. **Lose a turn.**

## Sleep Over

**Jump to the space of the player in front of you. Do not follow the instructions on that space.**

## Slept Through the Night



Congratulations! You slept at least 8 hours and passed through all four stages of sleep. **Roll again.**

## Somnambulism

Sleep walking during non-REM sleep affects about one-third of children. About 3 percent walk during sleep at least once per month. **Move back one space.**

## Somniloquy

Sleep talking can happen during either REM or non-REM sleep. The words are generally so poorly articulated and the sentences so meaningless that anyone who hears them will be at a loss to interpret them. Those utterances that occur during REM sleep do, however, tend to be somewhat more intelligible. **Take 1 Hour Card from the player to your left.**

## Spring Forward



When we set our clocks forward an hour for Daylight Saving Time, we lose sleep. **Lose 1 Hour Card.**

## Summer Vacation



Finally, no more early morning classes. Time to sleep in! **Gain 2 Hour Cards.**

## Too Much Screen Time

Blue light, like the light wavelengths emitted by our screens, leads us to believe it is morning or daytime. Looking at a screen before bed keeps you awake. **Lose 1 Hour Card.**

## Use a Sleep App to Determine Your Sleep Cycle

Sleep behavior is defined by: reduced motor activity; diminished responses to external stimuli; posture (lying down with eyes closed); and relatively ready reversibility. These four criteria distinguish sleep from coma and hibernation. Using an app to track your sleep pattern can help you make adjustments that will lead to better sleep. **Gain 1 Hour Card.**

## Woke Up in Stage 1 of Sleep

Non-REM sleep begins when you first lie down and close your eyes. As you fall asleep, the rapid beta waves of wakefulness are replaced by the slower alpha waves of relaxation with your eyes closed. Soon, even slower theta waves begin to emerge. Though your reactions to stimuli from the outside world diminish, Stage 1 is still the phase of sleep from which it is easiest to wake someone up. **Gain 1 Hour Card.**