



SLEEP & LEARNING

Prioritising sleep
will help you learn

THE STAGES OF SLEEP

Sleep occurs in cycles. Each cycle comprises different stages, and their proportions vary throughout the night.

Rapid Eye Movement (REM) sleep

Rapid Eye Movement sleep is dream sleep.

Brain activity resembles wakefulness, but the body is paralysed and cannot move.

REM sleep is important for **emotional resetting** and **problem-solving**.

Non Rapid Eye Movement (NREM) sleep

NREM sleep can be light or deep slow-wave sleep.

Deep NREM predominates early in the night, while lighter NREM is more common later.

NREM sleep is important for **fact-based learning** and **motor skills**.

ALL TYPES OF SLEEP ARE IMPORTANT FOR LEARNING

Sleep before learning

NREM sleep helps **prepare your brain** for learning. Napping, which includes NREM sleep, **increases recall** of facts. Waking up earlier than usual decreases your capacity to learn.

Sleep after learning

Deep NREM sleep correlates with consolidation of fact-based learning. Going to bed late decreases the amount of deep NREM sleep. Light NREM sleep is important for the consolidation of motor skills: **practice, with sleep, makes perfect**.

References

Walker M, **Why We Sleep**, 2018.

Walker MP et al. **Practice with Sleep Makes Perfect**. *Neuron*, 2002;35:205-211.

Stickgold R. **Sleep-dependent memory consolidation**. *Nature*, 2005;43:1272-78.