

BRIGHT SCHOLARS

AP+ EXAM PREP SERIES

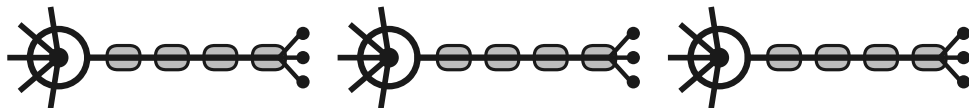
PSYCHOLOGY

REVIEW WORKBOOK

2027 EXAM

Concepts • Research Methods • Data • AAQ and EBQ Strategy

Name the concept. Apply it to the scenario. Support it with evidence.



Fully digital exam format • Diagnostic test • 6 units • AAQ and EBQ workshops • Full-length practice exam

THIS BOOK BELONGS TO

Name _____

School / Teacher _____

AP exam date _____

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i KNOW IT

Short concept notes in the margin, next to the problems that use them.

2 FRQ EDGE

Full AAQ and EBQ practice, scored part by part the way the exam scores it.

! FIX IT

The mix-ups students make most often, named so you can catch them.

T

AP EXAM WEIGHT: 15-25% OF THE MULTIPLE-CHOICE SECTION

How do the nervous system, brain, and senses turn physical events into thoughts, feelings, and actions?

- ☐ Trace a neural impulse and explain how neurotransmitters and drugs act at the synapse.
- ☐ Organize the nervous system and explain how the endocrine system differs.
- ☐ Match brain structures and lobes to their functions.
- ☐ Describe sleep stages, circadian rhythms, and sleep disorders.
- ☐ Explain thresholds, sensory adaptation, and signal detection.
- ☐ Explain how heredity and environment interact.

- 1.1** Neurons, Neurotransmitters, and Drugs
- 1.2** The Nervous and Endocrine Systems
- 1.3** The Brain
- 1.4** Sleep and Consciousness
- 1.5** Sensation

Unit Review: Mixed Practice, FRQ Edge, Fix It, Exit Ticket, READY+ Check

Try each one in under a minute.

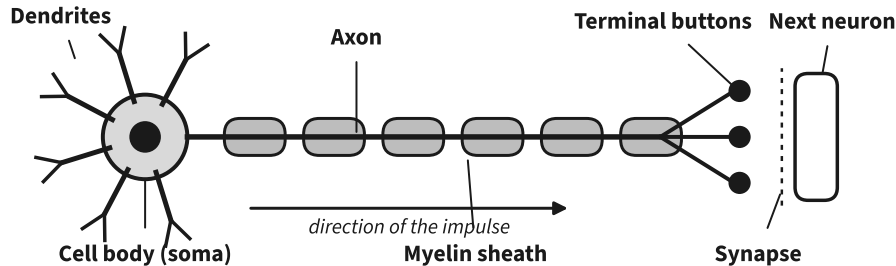
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UNIT 1 | LESSON 1.1

Neurons, Neurotransmitters, and Drugs

MODEL IT: THE NEURON



Dendrites receive messages, the **cell body** integrates them, and the **axon** carries the impulse away. The **myelin sheath** speeds transmission; its loss slows signals, as in multiple sclerosis. At the **terminal buttons**, neurotransmitters cross the **synapse** and bind to receptors on the next neuron. Leftover molecules are taken back up (**reuptake**). **Glial cells** support and protect neurons.

NEUROTRANSMITTER	MAIN ROLES
Dopamine	Reward, motivation, movement; linked to Parkinson's disease and addiction
Serotonin	Mood, sleep, appetite; targeted by many antidepressants
Acetylcholine	Muscle action, memory; linked to Alzheimer's disease
GABA	Main inhibitory neurotransmitter; calms neural activity
Glutamate	Main excitatory neurotransmitter; learning and memory
Endorphins	Pain relief and pleasure
Norepinephrine	Alertness and arousal

NEURAL FIRING

Enough stimulation pushes a neuron past its **threshold** and it fires an **action potential**. Firing is **all-or-none**: a stronger stimulus makes a neuron fire more often, not harder.

After firing, a brief **refractory period** follows.

EXCITATORY OR INHIBITORY

Excitatory signals push the next neuron toward firing; **inhibitory** signals push it away.

FIX IT

An **agonist** mimics or boosts a neurotransmitter; an **antagonist** blocks it. A drug that blocks **reuptake** keeps a neurotransmitter in the synapse longer, so it acts as an agonist.

MODEL IT: DRUG CATEGORIES

The exam expects category effects, not dosages. **Tolerance** means needing more of a drug for the same effect; **withdrawal** is the discomfort that follows stopping.

CATEGORY	EXAMPLES	GENERAL EFFECT
Depressants	Alcohol	Slow nervous system activity; impair judgment and reaction time
Stimulants	Caffeine, nicotine	Increase nervous system activity and alertness
Hallucinogens	Psilocybin, LSD	Distort perception and create sensory experiences without real stimuli
Opioids	Morphine, heroin	Relieve pain and produce euphoria; mimic endorphins; high risk of dependence

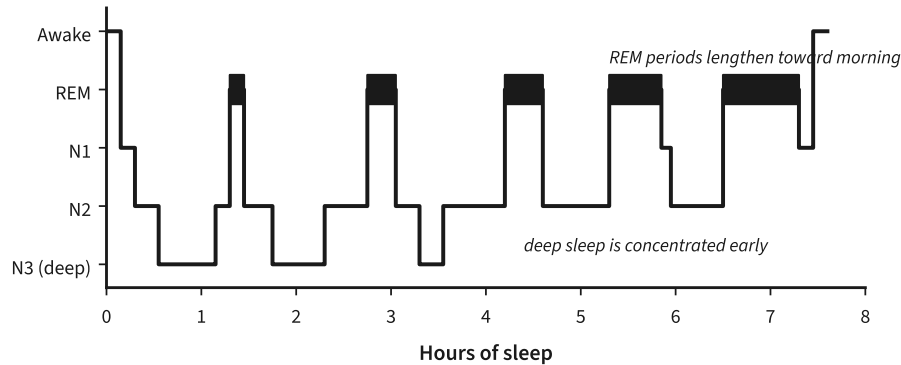
DATA CHECK: NEUROTRANSMITTERS AND MAZE LEARNING

A pharmacologist tested four drugs on rats learning a maze. Each drug targeted one neurotransmitter.

UNIT 1 | LESSON 1.4

Sleep and Consciousness

MODEL IT: A NIGHT OF SLEEP



A full cycle takes about 90 minutes. **N1:** light, easily disrupted sleep. **N2:** deeper; sleep spindles. **N3:** deepest, slow-wave (delta) sleep; hardest to wake from. **REM:** rapid eye movements, brain activity like waking, vivid dreams, and muscle paralysis (atonia).

DISORDER	PATTERN
Insomnia	Persistent difficulty falling or staying asleep
Narcolepsy	Sudden, uncontrollable sleep episodes during the day, sometimes entering REM directly
Sleep apnea	Repeated pauses in breathing during sleep
REM sleep behavior disorder	Acting out dreams because REM paralysis fails
Sleepwalking (somnambulism)	Walking or acting during N3 deep sleep

i CIRCADIAN RHYTHM

A roughly 24-hour biological clock that regulates sleep, body temperature, and hormones. Light, especially morning light, resets it; the pineal gland releases melatonin in darkness.

i WHY WE SLEEP

Theories include restoration of the body, memory consolidation, growth (growth hormone is released in deep sleep), and energy conservation. After sleep loss, people show **REM rebound**.

! FIX IT

Dreams are most vivid in REM, but dreaming can also occur in NREM sleep.

APPLY IT

- The jet-lagged traveler.** After flying across six time zones, Elena is exhausted at noon and wide awake at 2 a.m. for several days.

Explain her experience using circadian rhythm, and describe one strategy that would help her adjust.

- The sudden sleeper.** During class, Tyler suddenly falls asleep for a few minutes even though he slept a full night. *Identify the sleep disorder this pattern most resembles and explain how it differs from ordinary tiredness.*

Retrieval Practice and Test Scores

Read the source, then answer each part. Suggested time: 25 minutes.

SOURCE SUMMARY

A researcher recruited 120 eleventh-grade volunteers from one suburban high school. Students were randomly assigned to a retrieval-practice condition or a rereading condition. Both groups studied the same 30 psychology terms for 20 minutes. The retrieval-practice group then completed two untimed practice quizzes without notes, while the rereading group reread the terms for the same amount of time. One week later, all students took the same 30-item test. Retrieval-practice students averaged 24.6 correct ($SD = 3.1$); rereading students averaged 19.8 correct ($SD = 4.0$). Students and parents gave informed consent, and students were told they could withdraw at any time.

- A** Identify the research method used in the study.
- _____
- B** State the operational definition of the dependent variable.
- _____
- C** Describe what the difference between the group means indicates.

✓ CHECK IT

- 1** Drinking water when thirsty to restore the body's balance is best explained by
- (A) drive-reduction theory. (B) arousal theory.
- (C) incentive theory. (D) instinct theory.
-
- 2** A student must choose between two colleges she loves. This is a(n)
- (A) approach-avoidance conflict. (B) avoidance-avoidance conflict.
- (C) approach-approach conflict. (D) overjustification effect.
-
- 3** According to the Yerkes-Dodson law, a student taking a very difficult test will do best with
- (A) very high arousal. (B) relatively low arousal.
- (C) no arousal at all. (D) arousal that keeps rising.
-

“dominant” side. Test: measure hemispheric activity during several tasks for many people and check whether it predicts scores on a personality inventory.

Lesson 0.1 • Check It p. 19

- 1 C
- 2 A
- 3 D
- 4 B
- 5 C

Lesson 0.1 • Data Check p. 20

- 6 Behavioral, 31%. It is the largest share but not a majority.
- 7 Biological: genes, hormones such as testosterone, or brain chemistry may raise aggression. Sociocultural: peer norms or a culture of retaliation shaped how the teen responded to bullying.
- 8 Yes. No perspective wins a majority, and five lenses each draw meaningful support, which fits the idea that complex behavior needs more than one explanation.
- 9 Self-report measures what students believe, which may reflect what they studied most recently rather than careful analysis; wording and response choices can also shape answers.

Lesson 0.2 • Apply It p. 22

- 1 Correlation is not causation. Family income could raise both the number of shoes and access to tutoring, quiet study space, and other supports for grades.
- 2 IV: hours of sleep (8 vs. 4). DV: memory-test score. Random assignment spreads preexisting differences (ability, motivation) evenly across groups, so a difference in scores can be attributed to the sleep manipulation.
- 3 Random sampling: choosing names at random from the statewide list, which makes the sample representative of 11th graders in the state. Random assignment: the coin flip, which equalizes groups so the tutoring effect can be judged causally.

Lesson 0.2 • Check It p. 23

- 4 D
- 5 B
- 6 A
- 7 C
- 8 B

Lesson 0.3 • Calculate It p. 24

- 1 Mean = $40 \div 5 = 8$; median = 7; mode = 7. The mean is pulled up by the 12.
- 2 About 68% between 85 and 115 (within 1 SD); about 2% above 130 (more than 2 SD above the mean).
- 3 Class A's scores cluster tightly around 80; Class B's are much more spread out, with more very high and very low scores.
- 4 Significant, because .03 is below .05, so chance is an unlikely explanation. But a 0.4-point difference is a tiny effect size, so it may not matter in practice.

Lesson 0.3 • Data Check p. 25

- 5 Study C. Random assignment and a manipulated IV allow a causal conclusion that sleep restriction lowered test scores.
- 6 Negative and moderate: as sleep decreases, GPA tends to decrease, but the relationship is far from perfect.

- 7 Stress, course load, part-time work, or screen use could reduce both sleep and GPA.
- 8 Study C. But “proof” and “destroys” overstate it: one experiment does not prove a universal law, it measured a memory test rather than “academic success,” and 14% is a group average under specific conditions.

Lesson 0.4 • Apply It p. 26

- 1 Participants were deceived and may feel upset or embarrassed. Afterward they should learn the true purpose, why deception was needed, that their responses were normal, and that they may withdraw their data.
- 2 IV: study method (app vs. handwritten). DV: vocabulary test score. Informed consent and assent: parents sign permission and students agree after learning what the study involves. Confidentiality: scores are stored without names and reported only as group averages.

Lesson 0.4 • Check It p. 27

- 1 D
- 2 A

Unit 0 Review • Multiple Choice p. 28

- 1 B. The comparison group that does not get the treatment is the control group.
- 2 C. It specifies how the DV, anxiety, is measured.
- 3 A. A random sample from a broader population supports generalizing.
- 4 D. A value near zero indicates little or no linear relationship.
- 5 B. The median (35) resists the extreme score; the mean (106.6) is pulled up.
- 6 A. SD measures spread around the mean.
- 7 C. A small p means the result would be unlikely if there were no real effect.
- 8 D. Same people measured over time.
- 9 B. The researcher's expectations shape the outcome.
- 10 C. Childhood poverty cannot ethically or practically be assigned.
- 11 A. Improvement from expectation alone is the placebo effect.
- 12 D. Debriefing reveals the true purpose after the study.

Unit 0 • FRQ Edge (AAQ) p. 30

- A Experiment: study strategy was manipulated and students were randomly assigned.
- B The number of correct answers (out of 30) on the test given one week after studying.
- C On average, the retrieval-practice group answered 4.8 more items correctly than the rereading group a week later, so retrieval practice produced better delayed recall in this sample.
- D Informed consent: students and parents agreed after learning about the study. Right to withdraw: students were told they could stop at any time.
- E Limited generalizability: all participants were volunteers from one suburban school and one grade, so results may not apply to other ages, schools, or subjects. The 30 terms and one-week delay are also specific conditions.
- F Supports it. The testing effect says actively retrieving information strengthens later recall more than re-exposure. Students who quizzed themselves recalled more after a week (24.6 vs. 19.8) despite equal study time.