Course at a Glance

Plan

The Course at a Glance provides a useful visual organization of the AP Psychology curricular components, including:

- Sequence of units, along with approximate weighting and suggested pacing. Please note, pacing is based on 45-minute class periods, meeting five days each week for a full academic year.
- Progression of topics within each unit.
- Science practices across units.

Teach

SCIENCE PRACTICES

1 Concept Understanding
2 Research Methods and Design
3 Data Interpretation
4 Argumentation

Required Course Content

Each topic contains required Learning Objectives and Essential Knowledge Statements that form the basis of the assessment on the AP Exam.

Assess

Assign the Progress Checks—either as homework or in class—for each unit. Each Progress Check contains formative multiple-choice and free-response questions. The feedback from the Progress Checks shows students the areas where they need to focus.

UNIT 1 Biological Bases of Behavior

~17–23 Class Periods | 15–25% AP Exam Weighting

- 1, 2 — 1.1 Interaction of Heredity and Environment
- 1, 3 — 1.2 Overview of the Nervous System
- 1, 2, 3 — 1.3 The Neuron and Neural Firing
- 1, 2, 3 — 1.4 The Brain
- 1, 2, 4 — 1.5 Sleep
- 1, 2, 3 — 1.6 Sensation

UNIT 2 Cognition

~17–23 Class Periods | 15–25% AP Exam Weighting

- 1, 3 — 2.1 Perception
- 1, 2 — 2.2 Thinking, Problem-Solving, Judgments, and Decision-Making
- 1, 2 — 2.3 Introduction to Memory
- 1, 2, 3 — 2.4 Encoding Memories
- 1, 2 — 2.5 Storing Memories
- 1, 3 — 2.6 Retrieving Memories
- 1, 2, 4 — 2.7 Forgetting and Other Memory Challenges
- 1, 2, 4 — 2.8 Intelligence and Achievement

Progress Check 1

Multiple-choice: ~15 questions
Free-response: 2 questions
- Article Analysis Question (partial)
- Article Analysis Question (partial)

Progress Check 2

Multiple-choice: ~25 questions
Free-response: 2 questions
- Evidence-Based Question
- Evidence-Based Question

NOTE: Partial versions of the free-response questions are provided to prepare students for more complex, full questions that they will encounter on the AP Exam.

UNIT 3 Development and Learning

~17–23 Class Periods | 15–25% AP Exam Weighting

- 1, 2 — **3.1** Themes and Methods in Developmental Psychology
- 1, 3, 4 — **3.2** Physical Development Across the Lifespan
- 2 — **3.3** Gender and Sexual Orientation
- 1, 2, 4 — **3.4** Cognitive Development Across the Lifespan
- 1, 2 — **3.5** Communication and Language Development
- 1, 2 — **3.6** Social-Emotional Development Across the Lifespan
- 1, 2, 3 — **3.7** Classical Conditioning
- 1, 3, 4 — **3.8** Operant Conditioning
- 1, 4 — **3.9** Social, Cognitive, and Neurological Factors in Learning

Progress Check 3

Multiple-choice: ~20 questions
Free-response: 2 questions
- Article Analysis Question
- Evidence-Based Question

UNIT 4 Social Psychology and Personality

~17–23 Class Periods | 15–25% AP Exam Weighting

- 1, 2, 4 — **4.1** Attribution Theory and Person Perception
- 1, 3, 4 — **4.2** Attitude Formation and Attitude Change
- 1, 2, 3, 4 — **4.3** Psychology of Social Situations
- 1, 2 — **4.4** Psychodynamic and Humanistic Theories of Personality
- 1, 2, 3 — **4.5** Social-Cognitive and Trait Theories of Personality
- 1, 2 — **4.6** Motivation
- 1, 2, 3, 4 — **4.7** Emotion

Progress Check 4

Multiple-choice: ~10 questions
Free-response: 2 questions
- Article Analysis Question
- Evidence-Based Question

UNIT 5 Mental and Physical Health

~17–23 Class Periods | 15–25% AP Exam Weighting

- 1, 3 — **5.1** Introduction to Health Psychology
- 1, 2, 4 — **5.2** Positive Psychology
- 1, 2, 4 — **5.3** Explaining and Classifying Psychological Disorders
- 1, 2, 3, 4 — **5.4** Selection of Categories of Psychological Disorders
- 1, 2, 3, 4 — **5.5** Treatment of Psychological Disorders

Progress Check 5

Multiple-choice: ~30 questions
Free-response: 2 questions
- Article Analysis Question
- Evidence-Based Question

AP PSYCHOLOGY

UNIT 1

Biological Bases of Behavior

15–25%
AP EXAM WEIGHTING

~17–23
CLASS PERIODS

Remember to go to **AP Classroom** to assign students the online **Progress Check** for this unit.

Whether assigned as homework or completed in class, the **Progress Check** provides each student with immediate feedback related to this unit's topics and skills.

Progress Check 1

Multiple-choice: ~15 questions
Free-response: 2 questions

- Article Analysis Question (partial)
- Article Analysis Question (partial)

UNIT 1

15–25% AP EXAM WEIGHTING | **~17–23** CLASS PERIODS

Biological Bases of Behavior

ESSENTIAL QUESTIONS

- Why do we learn biology in a psychology course?
- How does knowledge of the connection between biological systems and mental processes help us live healthier lives?
- How much of who you are is determined by what's in your brain?

Developing Understanding

Psychology is the scientific study of behavior and mental processes. All psychological phenomena studied throughout AP Psychology have a biological basis. Unit 1 focuses on how the functions of our biological systems influence our physical and mental actions and responses. Knowledge of biological functions and mechanisms, especially how neurons communicate, how the brain functions, and how sleep and sensation impact behavior and mental processes, will help students gain a more comprehensive understanding of psychology throughout the course as well as awareness of how all behaviors and mental processes are based in biological operations. For instance, in Unit 2, students will learn that biological mechanisms are vital to memory, and in Unit 5, they will discover that damage to certain biological structures can be the cause of psychological disorders.

Building the Science Practices

1.A 2.A 3.A 4.A

In all units of AP Psychology, students will need to engage in the practice of concept application, or applying psychological perspectives, theories, concepts, and research findings to the various contexts they encounter throughout the course **(1.A)**. Starting in Unit 1, students will begin to use their knowledge of psychological concepts to explain behaviors and mental processes, compare and contrast theories that explain why these behaviors and processes work the way they do, and draw conclusions about behavioral outcomes in particular scenarios. For example, students will learn how different brain parts function and use that knowledge to explain behaviors and mental processes that could result from damage to a particular part or region. Students will consistently rely on their ability to apply this skill in a variety of contexts during the course, so it is important for them to start building a good foundation in Unit 1.

In this unit, it is beneficial for students to also begin working with research methods and design by determining the type of research design(s) used in a given study **(2.A)** This early exposure can begin with learning how to determine whether a study is using experimental or non-experimental methodologies in the context of Unit 1 content. For example, while experimental research is conducted by biopsychologists, other methods such as case studies, correlational research, and naturalistic observations are important when experiments are not appropriate. These introductory opportunities for students to engage with research articles and reports in biopsychology will lay the groundwork for engaging with research methods and design across other course units.

Biological Bases of Behavior

Unit 1 also provides students with an introduction to data interpretation by evaluating and analyzing representations of psychological concepts in quantitative and qualitative research, including tables, graphs, charts, figures, and diagrams. As a first step, students will learn to identify psychology-related concepts in descriptions or representations of data, as well as related variables and statistics **(3.A)**. Gaining a good foundation in identifying course concepts in data representations will help students be able to better interpret these representations and related statistics later in the course.

Engaging with the science practice of argumentation in every unit will help students gain proficiency throughout the course. In Unit 1, the focus should be on ensuring students can make a defensible claim about a psychological perspective, theory, concept, or research finding **(4.A)**. As teachers introduce research studies in biopsychology— those related to sleep, for example—to their students, they may want to have them practice articulating a claim that can be made from the research results. Students will need to become experienced with this skill in order to be able to move on to providing reasoning that supports their proposed claims, which they will start doing in Unit 2.

Preparing for the AP Exam

Learning the content and skills emphasized in Unit 1 will enable students to explain, compare, and begin to propose claims about the biological bases of behavior and mental processes. While students may liken learning about the bases of behavior to similar lessons from an introductory biology class, the focus of the AP Psychology Exam's multiple-choice questions for this unit will be on functions, not structures. For example, students will be asked about the process of neural communication, but they will not be asked to identify parts of the neuron. They will need to be able to connect which neurotransmitters function with which biological processes—and how those functions relate to behavior and mental processes. By learning how the neurotransmitters work—and don't work—as intended during the neuronal firing process, students can understand how successful and disrupted transmission affects behavior and mental processes in disorders such as multiple sclerosis or myasthenia gravis (Topic 1.3).

In both free-response questions on the AP Psychology Exam, students will be expected to engage with research studies and the skill of argumentation. The Evidence-Based Question (EBQ) asks students to propose a defensible claim based in psychological science about a specific topic related to a set of three summarized sources—a direct application of skill 4.A. The Article Analysis Question (AAQ) asks students to identify specific research elements presented in a peer-reviewed, summarized source, including the methodology used **(2.A)**. Increased opportunities to practice these foundational skills in Unit 1 will help students build related, more advanced skills in later units.

UNIT AT A GLANCE

Topic	Instructional Periods	Suggested Skills
1.1 Interaction of Heredity and Environment	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.A Determine the type of research design(s) used in a given study.
1.2 Overview of the Nervous System	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 3.A Identify psychology-related concepts in descriptions or representations of data.
1.3 The Neuron and Neural Firing	4	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.A Determine the type of research design(s) used in a given study. 3.A Identify psychology-related concepts in descriptions or representations of data.
1.4 The Brain	5	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 3.A Identify psychology-related concepts in descriptions or representations of data.
1.5 Sleep	4	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 4.A Propose a defensible claim.

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UNIT AT A GLANCE *(cont'd)*

Topic	Instructional Periods	Suggested Skills
1.6 Sensation	5	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.B Evaluate the appropriate use of research design elements in experimental methodology. 3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set. 3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

Go to **AP Classroom** to assign the **Progress Check** for Unit 1.
Review the results in class to identify and address any student misunderstandings.

SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and are offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 129 for more examples of activities and strategies.

Activity	Topic	Sample Activity
1	1.1	**Construct an Argument** Have students read the article "Are You a Natural?" from the book *40 Studies that Changed Psychology*. Then have them write an abstract of the article that includes the research question, methodology, and conclusions. Lead the class in a discussion about the interaction of nature and nurture.
2	1.3	**Fishbowl** Provide students with various scenarios of physiological changes in the body related to neurotransmitters and hormones. Students should read the scenario, identify the hormone, and explain why the change is occurring. At the end of the unit, or after Topic 1.3, have students compare and contrast neurotransmitters and hormones.
3	1.3	**Manipulatives** Give students sheets of butcher paper. Have them draw two neurons and label their parts. Then have them model an action potential traveling through the two neurons using everyday materials such as tennis balls or ping pong balls. Add variety by having students model what happens in response to different neurons.
4	1.4	**Manipulatives** Have student pairs create a model of the brain by tracing each other's heads on a piece of paper. On each drawing, they should draw and color in the parts of the brain. Then have them explain each part's function(s).
5	1.5	**Think-Pair-Share** Begin by having students watch the TED talk "Why Do We Sleep?" Have students maintain a written or electronic sleep log for one to two weeks. Afterward, have them calculate their data and discuss any patterns they notice. Students can then write a letter to the school administration about why school start times should be later for teens.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.A
Determine the type of research design(s) used in a given study.

TOPIC 1.1
Interaction of Heredity and Environment

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.1.A Explain the relationship between heredity and environment in shaping behavior and mental processes.	**1.1.A.1** Heredity and environmental factors interact to shape behavior and mental processes. **1.1.A.1.i** Heredity, or "nature," refers to genetic or predisposed characteristics that influence physical, behavioral, and mental traits and processes. **1.1.A.1.ii** Environmental factors, or "nurture," refers to the external factors that one experiences, such as family interactions or education. *Exclusion Statement: Specific information about genetics (genotype, phenotype, DNA, chromosomes, and recessive and dominant gene expression) is beyond the scope of the AP Psychology Exam.* **1.1.A.2** The evolutionary perspective explores how natural selection affects the expression of behavior and mental processes to increase survival and reproductive success. Some theorists have sought to apply principles of the evolutionary perspective in ways that discriminate against others (eugenics). **1.1.A.3** Research on the effects of genes on individual behavior and mental processes is often conducted using twin studies, family studies, and adoption studies.

TOPIC 1.2
Overview of the Nervous System

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

3.A
Identify psychology-related concepts in descriptions or representations of data.

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.2.A Differentiate among the subsystems of the human nervous system and their functions.	**1.2.A.1** The central nervous system includes the brain and the spinal cord and interacts with all processes in the body.
	1.2.A.2 The peripheral nervous system relays messages from the central nervous system to the rest of the body and includes the autonomic and somatic nervous systems.
	1.2.A.2.i The autonomic nervous system governs processes that are involuntary and includes the parasympathetic and sympathetic nervous systems.
	1.2.A.2.ii The somatic nervous system governs processes that are voluntary.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.A
Determine the type of research design(s) used in a given study.

3.A
Identify psychology-related concepts in descriptions or representations of data.

TOPIC 1.3
The Neuron and Neural Firing

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.3.A Explain how the structures and functions of typical neurons in the central nervous system affect behavior and mental processes.	**1.3.A.1** Two common types of neural cells in the brain are neurons (neural cells that transmit information) and glial cells (cells that provide structure, insulation, communication, and waste transport). These types of cells form the basis of the nervous system and are the building blocks of all behavior and mental processes.
	1.3.A.2 In the spinal cord, the reflex arc demonstrates how neurons within the central and peripheral nervous systems work together to respond to stimuli. Three types of neurons work together in the spinal cord to create a reflex arc: sensory neurons, motor neurons, and interneurons.
1.3.B Explain how the basic process of neural transmission is related to behavior and mental processes.	**1.3.B.1** The process of neural transmission most commonly occurs in an orderly, systematic way and involves the all-or-nothing principle, depolarization, refractory period, resting potential, reuptake, and threshold. Disruptions to this process could lead to disorders such as multiple sclerosis or myasthenia gravis. *Exclusion Statement: The sodium-potassium pump is outside the scope of the AP Psychology Exam.*

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.3.B Explain how the basic process of neural transmission is related to behavior and mental processes.	**1.3.B.2** Each neurotransmitter has specific function(s) related to behavior and mental processes, which may depend on the neurotransmitter's location in the nervous system. Neurotransmitters generally communicate either excitatory (making an action potential more likely) or inhibitory (making an action potential less likely) messages. Neurotransmitters related to behavior and mental processes for study in AP Psychology are limited to dopamine, serotonin, norepinephrine, glutamate, GABA, endorphins, substance p, and acetylcholine. *Exclusion Statement: The AP Psychology Exam will only address the listed neurotransmitters in EK 1.3.B.2.* **1.3.B.3** Outside of the nervous system, hormones perform actions similar to neurotransmitters. Hormones related to behavior and mental processes for study in AP Psychology are limited to adrenaline, leptin, ghrelin, melatonin, and oxytocin. *Exclusion Statement: The AP Psychology Exam will only address the listed hormones in EK 1.3.B.3.* *Exclusion Statement: Specific information about the glands of the endocrine system (with the exception of the pituitary gland as referenced in EK 1.4.A.4) is outside the scope of the AP Psychology Exam.*
1.3.C Explain how psychoactive drugs affect behavior and mental processes.	**1.3.C.1** Psychoactive drugs can influence neurotransmitter function in various ways throughout the neural communication process. Some act as agonists which encourage neural firing. Some act as antagonists which discourage neural firing. Some act as reuptake inhibitors which block the reabsorption of neurotransmitters back into the cell.

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LEARNING OBJECTIVE

1.3.C

Explain how psychoactive drugs affect behavior and mental processes.

ESSENTIAL KNOWLEDGE

1.3.C.2

Psychoactive drugs have psychological and physiological effects.

1.3.C.2.i

Stimulants, such as caffeine and cocaine, typically cause increased neural activity.

1.3.C.2.ii

Depressants, such as alcohol, typically cause decreased neural activity.

1.3.C.2.iii

Hallucinogens, such as marijuana, typically cause distortions in perception and/or cognition.

1.3.C.2.iv

Opioids, such as heroin, typically act as pain relievers.

1.3.C.3

Psychoactive drug use can lead to tolerance and/or addiction. Addiction can create significant withdrawal symptoms if the psychoactive drugs are no longer consumed.

TOPIC 1.4
The Brain

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.4.A Explain how the structures and functions of the brain apply to behavior and mental processes.	**1.4.A.1** The brain stem (including the medulla) generally controls basic functioning such as breathing and heart rate.
	1.4.A.2 The reticular activating system and the brain's reward center generally control some voluntary movement, eye movement, and some types of learning, cognition, and emotion.
	1.4.A.3 The cerebellum generally controls coordination of muscle movement, balance, and some forms of procedural learning.
	1.4.A.4 The cerebral cortex is divided into two hemispheres and includes the limbic system (thalamus, hypothalamus, pituitary gland, hippocampus, amygdala), corpus callosum, and the lobes of the cortex.
	1.4.A.4.i The occipital lobes generally control visual information processing and are located in the rear of the brain.
	1.4.A.4.ii The temporal lobes generally control auditory and linguistic processing and are located on the sides of the brain.

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SUGGESTED SKILLS

1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.C Evaluate the appropriate use of research design elements in non-experimental methodologies.

2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures.

3.A Identify psychology-related concepts in descriptions of representations of data.

LEARNING OBJECTIVE

1.4.A

Explain how the structures and functions of the brain apply to behavior and mental processes.

ESSENTIAL KNOWLEDGE

1.4.A.4.iii

The parietal lobes generally control association areas, which process and organize information, and the somatosensory cortex, which processes touch sensitivity. These lobes are located near the back crown of the brain.

1.4.A.4.iv

The frontal lobes, located just behind the forehead, generally control linguistic processing, higher-order thinking, and executive functioning, especially in the prefrontal cortex. The motor cortex is located at the rear of the frontal lobes and controls most types of skeletal movement.

1.4.A.5

Split brain research, achieved by severing the corpus callosum (often a treatment for severe epilepsy), reveals that the right and left hemispheres of the brain may specialize in different activities and functions.

1.4.A.5.i

Areas of the brain that affect language are typically located in the left hemisphere and include Broca's area (responsible for speech production) and Wernicke's area (responsible for speech comprehension). Damage to these parts of the brain can lead to aphasia.

1.4.A.5.ii

Researchers test for cortex specialization with split-brain patients by showing information in each visual field, taking advantage of the brain's contralateral hemispheric organization.

1.4.A.6

Brain plasticity is the ability of the brain to rewire itself or modify or create new connections throughout development and generally allows for the function of a damaged part of the brain to be assumed by a different part of the brain.

1.4.A.7

Research on the brain is done using scans (including EEG and fMRI), case studies, and surgical procedures (such as lesioning) to promote understanding of how the different structures of the brain work and how the brain functions together as a whole.

TOPIC 1.5
Sleep

Required Course Content

LEARNING OBJECTIVE

1.5.A
Explain how the sleep/wake cycle affects behavior and mental processes throughout the day and night.

ESSENTIAL KNOWLEDGE

1.5.A.1
Consciousness has varying levels of awareness of thoughts, feelings, behavior, and events in individuals' internal and external worlds. Sleep and wakefulness are two types of consciousness.

1.5.A.2
The sleep/wake cycle is a circadian rhythm, which in humans is about a 24-hour cycle. Jet lag and shift work are disruptions of the circadian rhythm.

1.5.A.3
The stages of sleep are identified by their specific EEG patterns.

1.5.A.3 .i
NREM sleep occurs in Stages 1 through 3 and decreases in duration throughout the cycle. Hypnogogic sensations occur as one enters Initial Stage 1 sleep.

1.5.A.3 .ii
REM sleep is considered paradoxical because it produces waves similar to wakefulness, but the body is at its most relaxed. Dreaming typically occurs in REM sleep. The frequency of REM sleep typically increases as the cycle progresses. When deprived of REM sleep, REM rebound can occur.

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SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.C
Evaluate the appropriate use of research design elements in non-experimental methodologies.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

4.A
Make a defensible claim.

LEARNING OBJECTIVE

1.5.A

Explain how the sleep/wake cycle affects behavior and mental processes throughout the day and night.

ESSENTIAL KNOWLEDGE

1.5.A.4

Theories regarding the structure and function of dreams include activation-synthesis and consolidation theory.

Exclusion Statement: The psychoanalytic theory of dreams is outside of the scope of the AP Psychology Exam.

1.5.A.5

Memory consolidation and restoration are current theories about why sleep occurs. These theories suggest that sleep is useful for organizing and consolidating memories or restoring depleted resources used throughout a given day.

1.5.A.6

Many disorders interrupt healthy sleep, and their effects on waking behavior and health vary. Sleep disruptions can affect physical and cognitive performance during wakefulness. Treating sleep disorders and following regular schedules for sleeping can improve waking performance and overall well-being. Disorders commonly studied in introductory psychology include insomnia, narcolepsy, REM sleep behavior disorder, sleep apnea, and somnambulism.

Exclusion Statement: The AP Psychology Exam will only address the listed disorders in EK 1.5.A.6.

TOPIC 1.6
Sensation

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.6.A Explain how the process of sensation is related to behavior and mental processes.	**1.6.A.1** Sensation is the process of detecting information from the environment that meets a certain threshold and transducing stimuli into neurochemical messages for processing (perception) in the brain. The absolute threshold occurs when a stimulus can be detected at least 50% of the time.
	1.6.A.2 Detection of change in stimuli or diminished sensitivity to stimuli can be explained by the just-noticeable difference and sensory adaptation. Weber's law describes the degree to which stimuli need to be different for the difference to be detected.
	1.6.A.3 The sensory systems constantly work together in a process called sensory interaction. Synesthesia is an experience of sensation in which one system of sensation is experienced through another.
1.6.B Explain how the structures and functions of the visual sensory system relate to behavior and mental processes.	**1.6.B.1** The retina is the photosensitive surface at the back of the eye. Cells in the retina capture visual information that is transduced to the brain for processing. Evidence of incomplete images captured by the retina is demonstrated by the presence of the blind spot, where the visual nerve exits the eye. The brain fills in the gaps in the incomplete retinal images to perceive a relatively complete picture of the world.

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SUGGESTED SKILLS

1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.B Evaluate the appropriate use of research design elements in experimental methodology.

3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

LEARNING OBJECTIVE

1.6.B

Explain how the structures and functions of the visual sensory system relate to behavior and mental processes.

ESSENTIAL KNOWLEDGE

1.6.B.2

Visual stimuli are focused onto the retina by the lens via a process called accommodation. When this process is altered, nearsightedness or farsightedness can result.

1.6.B.3

Cells that lie in the periphery of the eye and detect shapes and movement, but not color, are called rods. These cells are mainly activated in low-light environments. These cells play a role in light and dark adaptation.

1.6.B.4

Color vision is explained by both the trichromatic theory and the opponent-process theory.

1.6.B.4.i

Photoreceptor cells located in the fovea of the eye that process color and detail are called cones. Researchers have identified blue (detecting short wavelengths), green (detecting medium wavelengths) and red (detecting long wavelengths) cones in the retina.

1.6.B.4.ii

Afterimages result when certain ganglion cells in the retina are activated while others are not. The ganglion cells involved in this opponent process are red/green, blue/yellow/ and black/white.

1.6.B.4.iii

Color vision deficiency involves damage or irregularities to one or more cones or ganglion cells (red/green, blue/yellow). Color vision deficiency includes dichromatism or monochromatism.

1.6.B.5

Damage to parts of the brain responsible for vision (mainly the occipital lobes) can result in disorders such as prosopagnosia (face blindness) and blindsight.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.6.C Explain how the structures and functions of the auditory sensory system relate to behavior and mental processes.	**1.6.C.1** Sound occurs through the movement of air molecules at different wavelengths (called pitch) and amplitudes (called loudness). **1.6.C.2** Theories that help explain pitch perception include place theory, volley theory, and frequency theory. **1.6.C.3** Sound localization describes how we identify where sounds in our environment are coming from. **1.6.C.4** Hearing difficulties can result from aging and various kinds of damage to auditory structures. Types of hearing loss include conduction deafness and sensorineural deafness.
1.6.D Explain how the structures and functions of the chemical sensory systems relate to behavior and mental processes.	**1.6.D.1** Structures in the nose and brain process and/or transduce olfactory stimuli. Smell is the only sense not processed first in the thalamus of the brain. Pheromones produce chemical messages for the olfactory system. **1.6.D.2** Gustation is the sense of taste, and types of tastes include sweet, sour, salty, bitter, umami, and oleogustus. **1.6.D.3** Structures in the tongue, mouth, and brain process and/or transduce basic tastes. The number of taste receptors on the tongue is related to how sensitive people are to tastes, classifying them as supertasters, medium tasters, or nontasters. **1.6.D.4** The chemical senses interact to create the sensation of taste. Without the sense of smell, taste sensations are either muted or not experienced.
1.6.E Explain how the structures and functions of the touch sensory system relate to behavior and mental processes.	**1.6.E.1** Structures within the skin and brain process and/or transduce touch stimuli. The sensation of "hot" is produced by the activation of warm and cold receptors in the skin.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
1.6.F Explain how the structures and functions of the pain sensory system relate to behavior and mental processes.	**1.6.F.1** Pain is processed both in the body and in the brain. Gate control theory is one attempt to describe the complexities of pain. Phantom limb sensation occurs when people who have lost limbs report sensation or pain where the limb used to be.
1.6.G Explain how the structures and functions that maintain balance (vestibular) and body movement (kinesthetic) relate to behavior and mental processes.	**1.6.G.1** The vestibular sense controls balance and is primarily detected by the semicircular canals and structures in the brain. **1.6.G.2** Kinesthesis the sense of one's body movement. Kinesthesis allows the body to move in coordinated ways without having to look at the various parts of the body as it moves.

AP PSYCHOLOGY

UNIT 2

Cognition

15–25%
AP EXAM WEIGHTING

~17–23
CLASS PERIODS

Remember to go to **AP Classroom** to assign students the online **Progress Check** for this unit.

Whether assigned as homework or completed in class, the **Progress Check** provides each student with immediate feedback related to this unit's topics and skills.

Progress Check 2

Multiple-choice: ~25 questions
Free-response: 2 questions

- Evidence-Based Question
- Evidence-Based Question

UNIT 2

15–25% AP EXAM WEIGHTING | **~17–23** CLASS PERIODS

Cognition

ESSENTIAL QUESTIONS

- Can you always trust your senses?
- Why don't people always make good decisions?
- What strategies do you use to help you remember important things?
- Why aren't our memories recorded by the brain exactly how we experienced them?

Developing Understanding

Cognition plays a major role in the field of psychology. Building on the knowledge of anatomical structures and biological processes students learned in Unit 1, this unit introduces them to the memory processes and contains content that is relevant to their daily lives, such as how people remember and perceive the world around them. In Unit 2, students learn about the basic elements of thought, judgment, and problem-solving, as well as research-based strategies for memory improvement that can be directly applicable to their lives outside of the classroom. Students also delve into the measurement of intelligence and achievement, including how these assessments have been used both to identify students with aptitude to increase opportunities in school and the workplace, but also to limit access to jobs, military ranks, and educational institutions. The focus on perception in this unit, coupled with sensation from Unit 1, helps connect biological bases of behavior with cognitive psychology—ideas about how expectations and biases filter sensations to produce perception relate to theories about memory construction, forgetting, and judgment. Unit 2 content will remain important as students move on to discussions of cognitive development in children and adults in Unit 3, where they will encounter a reappearance of concepts, such as schema and memory failure.

Building the Science Practices

1.A 1.B 2.A 2.B 4.A 4.B

While students will continue to apply psychological perspectives, theories, and concepts to different scenarios **(1.A)** in Unit 2, they will also start to explain how cultural norms, expectations, and circumstances along with cognitive biases apply to behavior and mental processes **(1.B)**. This is especially pertinent when studying perception, thinking, and problem-solving, since cultural experiences and contexts can filter an individual's view of the world.

Additional opportunities for students to hone their ability to determine the type of research design(s) used in a given study **(2.A)** are widespread in Unit 2, such as studies related to encoding memories, forgetting, and other memory challenges. As students work with these studies, the next step in building the science practice of research methods and design is to evaluate the appropriate use of research design elements in experimental methodology **(2.B)**.

As students are exposed to various research studies related to cognition, they will have the chance to continue to sharpen their ability to propose a defensible claim **(4.A)**, which they first started in Unit 1. However, these investigations also bring opportunities for students to build their use of the science practice of argumentation by providing reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm **(4.B)**. Additionally, since memory research is generally easy to replicate with students, short experiments completed during

class can allow students to practice both proposing claims about their observations and using evidence and reasoning to explain the nuances of those claims, as well as support or refute their own claims and the claims of others.

Preparing for the AP Exam

In the multiple-choice section of the AP Psychology Exam, students will encounter sets of questions related to research scenarios provided in the question prompts to apply skills in the science practice of research methods and design to answer the questions. Thus, students' continued encounters with research studies and repeated application of skills 2.A and 2.B—including within the context of Unit 2 content—will have direct correlation to the AP Exam.

The science practices of research methods and design and argumentation come together in the free-response section. If the Article Analysis Question (AAQ) is based on an experimental study, students will be asked to apply skill 2.B and state the operational definition of an identified variable. They will also lean heavily on their ability to apply skill 4.B to provide evidence to justify the extent to which the study provided is generalizable and explain how the conclusions from the study support or refute a claim about a given psychological concept.

UNIT AT A GLANCE

Topic	Instructional Periods	Suggested Skills
2.1 Perception	3	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 3.A Identify psychology-related concepts in descriptions or representations of data.
2.2 Thinking, Problem-Solving, Judgments, and Decision Making	3	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies.
2.3 Introduction to Memory	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.A Determine the type of research design(s) used in a given study.
2.4 Encoding Memories	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.B Evaluate the appropriate use of research design elements in experimental methodology. 3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.
2.5 Storing Memories	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.C Evaluation the appropriate use of research design elements in non-experimental methodologies.
2.6 Retrieving Memories	4	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 3.A Identify psychology-related concepts in descriptions or representations of data. 3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

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UNIT AT A GLANCE *(cont'd)*

Topic	Instructional Periods	Suggested Skills
2.7 Forgetting and Other Memory Challenges	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.B Evaluate the appropriate use of research design elements in experimental methodology. 4.A Propose a defensible claim.
2.8 Intelligence and Achievement	3	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

Go to **AP Classroom** to assign the **Progress Check** for Unit 2.
Review the results in class to identify and address any student misunderstandings.

SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and are offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 129 for more examples of activities and strategies.

Activity	Topic	Sample Activity
1	2.1	**Use Manipulatives** Have students find advertisements in physical or digital media that demonstrate the different monocular depth cues. Be sure to have students write a brief description of the depth cue they have identified and how it is used effectively (or not) in the ad.
2	2.2	**Think-Pair-Share** Develop a list of concrete nouns (car, house, pet, etc.) and/or abstract nouns (beauty, justice, truth, etc.) and give a pair of students the same word. Instruct each student to come up with a prototype for their noun individually. Then, have students share their prototype with the student who shares their noun and have them compare and contrast their prototypes. Let students share with the class why their prototypes may be similar and different, using concepts from Topic 2.2 to support their conclusions.
3	2.4	**One-Minute Essay** Have students respond to the following prompt: Describe an encoding technique that you would like to try to use on an upcoming test. Be specific about how you plan to use it for the content you hope to learn. Once students have completed their essays, have them share a few with the class to discuss successful implementation of encoding techniques learned in Topic 2.4
4	2.4	**Index Card Summaries/Questions** Have students draw the face side of a penny from memory with as much detail as possible. Then have them read excerpts from the book *Moonwalking with Einstein*, by Joshua Foer. Ask students to summarize the methods Foer describes to help memory and then discuss the ways they remember information.
5	2.6	**Think-Pair-Share** Have students try to recall the names of the seven dwarfs in *Snow White*. Then show them a list that includes the dwarfs, among other similar names, and ask them to pick out the correct names.
6	2.7	**One-Minute Essay** Review Loftus's study on the misinformation effect as it pertains to car accidents. Have students reflect on the validity of eyewitness testimony and the misconception of how it is used in criminal justice trials. Review other related eyewitness studies, such as the weapons-focus effect and the other-race effect. Have them review studies that support the weapons-focus effect as well as others that don't. Have students examine the problems associated with wrongful convictions based on eyewitness testimony.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

3.A
Identify psychology-related concepts in descriptions or representations of data.

TOPIC 2.1
Perception

Required Course Content

LEARNING OBJECTIVE

2.1.A
Explain how internal and external factors influence perception.

ESSENTIAL KNOWLEDGE

2.1.A.1
Perception is influenced by whether one primarily relies on external sensory information (bottom-up processing) or internal prior expectations (top-down processing).

2.1.A.2
Schemas and perceptual sets are internal factors that filter perceptions of the world.

2.1.A.3
Contexts, experiences, and cultural experiences and expectations are external factors that filter perceptions of the world.

2.1.A.4
Perceptual principles proposed by Gestalt psychology (closure, figure and ground, proximity, and similarity) help explain how humans organize their perceptual world.

2.1.A.5
Attention is an interaction of sensation and perception that is affected by internal and external processes.

- **2.1.A.5.i**
  Some experiences of attention can be selective, such as with the cocktail party effect, where people attend to mentions of their names or specific topics in loud or distracting environments.
- **2.1.A.5.ii**
  Inattention can lead to a type of "blindness" to aspects of the environment. Change blindness occurs when changes to the environment are not perceived due to inattention.

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LEARNING OBJECTIVE

2.1.B

Explain how visual perceptual processes produce correct or incorrect interpretations of stimuli.

ESSENTIAL KNOWLEDGE

2.1.B.1

Binocular depth cues of retinal disparity (the difference between the images projecting onto the retina) and convergence (the merging of the retinal images by the brain) utilize images from each eye to provide perception of depth.

2.1.B.2

Monocular depth cues (relative clarity, relative size, texture gradient, linear perspective, and interposition) give the illusion of depth on flat or two-dimensional surfaces.

Exclusion Statement: The AP Psychology Exam will only address the listed monocular depth cues in EK 2.1.B.2.

2.1.B.3

Visual perceptual constancies maintain the perception of an object even when the images of the object in the visual field change.

2.1.B.4

Apparent movement can be visually perceived even when objects are not actually moving.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.A
Determine the type of research design(s) used in a given study.

TOPIC 2.2
Thinking, Problem-Solving, Judgments, and Decision-Making

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.2.A Explain how psychological concepts and theories account for thinking, problem-solving, judgment, and decision-making.	**2.2.A.1** Concepts form the basis of thought. Prototypes are the ideal example for any given concept. **2.2.A.2** People form and modify schemas, or frameworks for thinking, through assimilation (taking in new information but not changing the schema in light of it) and accommodation (taking in new information and changing the schema to incorporate the new information). **2.2.A.3** Algorithms address problems by attempting all possible solutions until the correct one is found. **2.2.A.4** Heuristics address problems by using mental shortcuts to make judgments. Using heuristics can lead to errors in judgment when decisions are made according to prior expectations or stereotypes (representativeness heuristic) or recalling the first or most vivid example that comes to mind (availability heuristic). **2.2.A.5** Decision making can be influenced by prior experiences that were successful (mental set) or circumstances surrounding a decision (priming and framing). **2.2.A.6** Cognitive processes such as gambler's fallacy and sunk-cost fallacy can hinder people from making good decisions.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.2.A Explain how psychological concepts and theories account for thinking, problem-solving, judgment, and decision-making.	**2.2.A.7** Executive functions are cognitive processes that allow individuals to generate, organize, plan, and carry out goal-directed behaviors and experience critical thinking. **2.2.A.8** Creativity is a way of thinking that includes generating novel ideas and engaging in divergent (versus convergent) thinking. Creative thinking is hindered by functional fixedness.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.A
Determine the type of research design(s) used in a given study.

TOPIC 2.3
Introduction to Memory

Required Course Content

LEARNING OBJECTIVE

2.3.A
Explain how the types, structures, and processes of memory work.

ESSENTIAL KNOWLEDGE

2.3.A.1
Memories for learned knowledge, events, and experiences are differentiated by how they are processed by, stored in, and retrieved by the brain.

- **2.3.A.1.i**
  Explicit memory is a type of memory that is more easily described or explained to others. Types of explicit memory include episodic and semantic.
- **2.3.A.1.ii**
  Implicit memory is more challenging to describe or explain to others. Procedural memory is a type of implicit memory for procedures and processes.
- **2.3.A.1.iii**
  Prospective memory is a type of memory related to future actions.

2.3.A.2
Long-term potentiation, a process by which synaptic connections between neurons become stronger with frequent activation, is a biological process for memory.

2.3.A.3
The working memory model examines how our primary memory system—working memory—engages in a dynamic interaction with several components, namely the central executive, phonological loop, and visuospatial sketchpad, to process information into long-term memory.

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LEARNING OBJECTIVE

2.3.A

Explain how the types, structures, and processes of memory work.

ESSENTIAL KNOWLEDGE

2.3.A.4

The multi-store model proposes three interacting systems (sensory memory [including iconic and echoic memory], short-term memory, and long-term memory) that information must pass through to be remembered. This model focuses on the impact of automatic and effortful processing on memory encoding, storage, and retrieval.

2.3.A.5

The levels of processing model proposes that memory is encoded on three levels from shallowest to deepest: structural, phonemic, and semantic.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.B
Evaluate the appropriate use of research design elements in experimental methodology.

3.B
Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

TOPIC 2.4
Encoding Memories

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.4.A Explain how different encoding processes work to get information into memory.	**2.4.A.1** Encoding involves processes and strategies to get information into memory. How information is encoded can determine how effectively information is stored and retrieved. **2.4.A.2** Mnemonic devices, such as method of loci, are processes that aid in encoding information into working and long-term memory. **2.4.A.3** Encoding can be improved by the process of grouping information together into meaningful chunks ("chunking"), categories, or hierarchies. **2.4.A.4** The spacing effect is a process that can cause significant differences in encoding and memory consolidation depending on whether the information is encoded all at once (massed practice) or distributed over time (distributed practice). **2.4.A.5** Encoding processes can be affected by the order of how the information is presented, called the serial position effect. The serial position effect predicts that information presented at the beginning of a list (primacy effect) or the end of a list (recency effect) will be more memorable than information presented in the middle of a list.

TOPIC 2.5
Storing Memories

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.C
Evaluate the appropriate use of research design elements in non-experimental methodologies.

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.5.A Explain how memory storage processes retain information in memory.	**2.5.A.1** Sensory memory, short-term memory, working memory, and long-term memory are processes that differ in storage duration, capacity, and content.
	2.5.A.2 Storage may be prolonged by rehearsing information over time (maintenance rehearsal). Rehearsing information over time in ways that promote meaning (elaborative rehearsal) helps with memory retention.
	2.5.A.3 Some people demonstrate highly superior autobiographical memory which may indicate that there are biological processes for superior memory storage. Autobiographical memory may also explain why memories connected to our own lives or selves are more memorable.
	2.5.A.4 Storage processes may be negatively affected by physical impairment and developmental limitations, such as amnesia (retrograde and anterograde), Alzheimer's disease, and infantile amnesia.

SUGGESTED SKILLS

1.B
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

3.A
Identify psychology-related concepts in descriptions or representations of data.

3.C
Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

TOPIC 2.6
Retrieving Memories

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.6.A Explain how memory retrieval processes get information out of memory.	**2.6.A.1** The process of memory retrieval occurs through recall (remembering without cues) or recognition (which relies on retrieval cues). **2.6.A.2** The process of memory retrieval can be enhanced when people are in the same environmental space (context-dependent memory), mood (mood-congruent memory), or physical state (state-dependent memory) as they were when they encoded the information to be retrieved. **2.6.A.3** Successful retrieval is more likely when using retrieval practice processes, including testing effect and metacognition.

TOPIC 2.7
Forgetting and Other Memory Challenges

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.B
Evaluate the appropriate use of research design elements in experimental methodology.

4.A
Propose a defensible claim.

Required Course Content

LEARNING OBJECTIVE

2.7.A
Explain possible reasons why memory failure or errors may occur.

ESSENTIAL KNOWLEDGE

2.7.A.1
The forgetting curve shows that time is a significant factor in forgetting. Forgetting occurs rapidly after initial learning and levels off over time.

2.7.A.2
Many memories are difficult to retrieve due to encoding failure, interference (proactive or retroactive), or inadequate retrieval (i.e., tip-of-the-tongue phenomenon).

2.7.A.3
Psychodynamic theorists believe that information or memories can be forgotten to defend the ego from distress (repression).

2.7.A.4
The accuracy of memories may be affected by the misinformation effect, source amnesia, or constructive memory (via memory consolidation and imagination inflation).

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

4.B
Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

TOPIC 2.8
Intelligence and Achievement

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.8.A Explain how modern and historical theories describe intelligence.	**2.8.A.1** Throughout history, consensus about how to define and measure intelligence continues to be elusive and can be subject to bias. Researchers debate whether intelligence is a general ability (called g) or is comprised of multiple abilities.
2.8.B Explain how intelligence is measured.	**2.8.B.1** Early formal intelligence tests yielded an intelligence quotient (IQ), which divided mental age by chronological age. In modern times, IQ scores are often used to identify students for educational services. *Exclusion Statement: Labeling or describing cognitive abilities and disabilities are outside the scope of the AP Psychology Exam.* **2.8.B.2** All psychological assessments, including intelligence tests, should adhere to sound psychometric principles to be considered useful. **2.8.B.2.i** A test is said to be standardized when it is administered using consistent procedures and environments. **2.8.B.2.ii** A test is considered valid if it measures what it is designed to measure. Types of validity include construct and predictive. **2.8.B.2.iii** A test is considered reliable if it yields similar results each time it is administered. Types of reliability include test-retest and split-half.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
2.8.B Explain how intelligence is measured.	**2.8.B.3** Researchers strive to develop assessments of intelligence that are socio-culturally responsive to reduce stereotype threat and potential inequity that may occur due to stereotype lift.
2.8.C Explain how systemic issues relate to the quantitative and qualitative uses of intelligence assessments.	**2.8.C.1** IQ scores across much of the world have generally increased over time (Flynn Effect) due to societal factors, such as higher socioeconomic status and access to better health care and better nutrition. **2.8.C.2** IQ scores tend to vary more within a group than between groups. Personal and sociocultural biases can impact the interpretation of individual IQ scores and the score's relationship with other outcomes. Poverty, discrimination, and educational inequities can negatively influence intelligence scores of individuals and societal groups around the world. **2.8.C.3** Scores from intelligence tests have been used to limit access to jobs, military ranks, educational institutions, and immigration to the US.
2.8.D Explain how academic achievement is measured and experienced as compared to intelligence.	**2.8.D.1** Some academic tests attempt to measure what someone knows (achievement tests) or predict how someone will perform in the future (aptitude tests). **2.8.D.2** People's beliefs about whether intelligence is fixed from birth (fixed mindset) or malleable due to experience (growth mindset) can affect academic achievement.

AP PSYCHOLOGY

UNIT 3

Development and Learning

15–25%
AP EXAM WEIGHTING

~17–23
CLASS PERIODS

Remember to go to **AP Classroom** to assign students the online **Progress Check** for this unit.

Whether assigned as homework or completed in class, the **Progress Check** provides each student with immediate feedback related to this unit's topics and skills.

Progress Check 3

Multiple-choice: ~20 questions
Free-response: 1 question

- Evidence-Based Question

UNIT 3

15–25% AP EXAM WEIGHTING | **~17–23** CLASS PERIODS

Development and Learning

ESSENTIAL QUESTIONS

- Are you the same person now as you were when you were 10 years old? Do you think you will be the same person in 10 years as you are now? Why or why not?
- How do parents know if their baby is hungry?
- How can you unlearn a bad habit and replace it with a new, better one?

Developing Understanding

Development and learning are about growth and change. The domains of development and learning encountered in Unit 3 give students opportunities to understand how biological, cognitive, and environmental factors—studied in Units 1 and 2—come together to influence growth throughout the lifespan. While the most noticeable and dramatic growth and development stage occurs from birth to roughly 18 years of age, people continue to grow and develop throughout their lives. Though some aspects of an individual person, such as personality or eye color, remain relatively stable throughout life, other aspects, such as memory retention or sensory acuity, can fluctuate with age.

People experience formal and informal learning throughout a significant portion of their lives. Classical conditioning and operant conditioning are two fundamental forms of learning that have been studied extensively for over 100 years. The advent of computers in the mid-20th century brought about new theories and methods for examining learning, and today, artificial intelligence models continue to unlock ways we can better understand how people learn.

Building the Science Practices

1.A 2.B 2.D 3.B 4.A

Building on their knowledge from Units 1 and 2, students will apply perspectives and concepts related to physiological and cognitive functions to understand how behavior and mental processes change over the course of a lifetime, which includes discussion of stage theories of development **(1.A)**. With opportunities to explore the many experimental studies used to refine development and learning theories in Unit 3, students will likely encounter the two approaches developmental psychologists typically use in their research—cross-sectional and longitudinal research designs—and how these designs help control variables such as time and maturation. Identifying the types of research designs used by developmental psychologists can help students refine their knowledge of research methodology and how to control for confounding variables **(2.B)**. Experiments in development and learning may yield both qualitative and quantitative data from work with populations such as infants, small children, or non-human animals. When the data is quantitative, students will learn how researchers calculate measures of central tendency—such as mean, median, and mode—as well as interpret the meaning of those statistics within the experimental scenario **(3.B)**. Additionally, in their overarching investigation of any experiment on learning or development, students will want to evaluate whether that experiment followed appropriate

ethical procedures, such as parental permission and consent as well as steps to protect participants from harm **(2.D)**.

Finally, students can also practice proposing claims about the best way to learn new things or how to navigate the "social clock" (Topic 3.6), focusing on whether they will be able defend (or refute) their claims with evidence from related research studies **(4.A)**. Continuing to develop the skill of proposing a defensible claim will ensure that students are set up to firmly grasp the more advanced skill of providing reasoning to support, refute, modify, or explain the nuances of that claim.

Preparing for the AP Exam

On the AP Psychology Exam, students often confuse classical and operant conditioning. Multiple-choice questions will require them to recognize that classical conditioning associates two, usually unrelated, stimuli together to elicit a response, while operant conditioning focuses on how the consequences of a behavior encourage future behavior.

In the free-response section of the AP Exam, the Article Analysis Question (AAQ) will ask students to describe the meaning of a specific statistic from the provided peer-reviewed article summary, as well as to describe one way in which the researchers who conducted the study applied ethical guidelines—direct applications of skills 3.B and 2.D, respectively. Given the ample research available related to learning and development theories, students have plenty of opportunities to practice these skills within the context of Unit 3 content so that they gain preparation for completing the AAQ.

UNIT AT A GLANCE

Topic	Instructional Periods	Suggested Skills
3.1 Themes and Methods in Developmental Psychology	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.A Determine the type of research design(s) used in a given study.
3.2 Physical Development Across the Lifespan	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram. 4.A Propose a defensible claim.
3.3 Gender and Sexual Orientation	1	2.C Evaluate the appropriate use of research design elements in non-experimental methodologies.
3.4 Cognitive Development Across the Lifespan	3	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.
3.5 Communication and Language Development	2	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures.
3.6 Social-Emotional Development Across the Lifespan	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.A Determine the type of research design(s) used in a given study. 2.B Evaluate the appropriate use of research design elements in experimental methodology.

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UNIT AT A GLANCE *(cont'd)*

Topic	Instructional Periods	Suggested Skills
3.7 Classical Conditioning	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 3.A Identify psychology-related concepts in descriptions or representations of data.
3.8 Operant Conditioning	4	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 3.A Identify psychology-related concepts in descriptions or representations of data. 3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set. 4.A Propose a defensible claim.
3.9 Social, Cognitive, and Neurological Factors in Learning	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

Go to **AP Classroom** to assign the **Progress Check** for Unit 3.
Review the results in class to identify and address any student misunderstandings.

SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and are offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 129 for more examples of activities and strategies.

Activity	Topic	Sample Activity
1	3.3	**Quickwrite** Provide students with a published gender roles experiment and then ask them to identify the research method and evaluate the ethics of the experiment. Have students summarize the results of the study and then design a study that can be conducted as a follow-up.
2	3.7	**Ask the Expert (or Students as Experts)** Have students create their own (appropriate) skit to demonstrate their understanding of classical conditioning. Required elements include neutral stimulus, unconditioned stimulus, unconditioned response, conditioned stimulus, and conditioned response. Students can perform their skits live in class or record them and upload them to YouTube.
3	3.7	**Misconception Check** Provide students with a list of behaviors and ask them to write down which behaviors are examples of learning. Provide a mini-lecture on learning, including the definition and the different types of learning. At the end of the lesson, read the list of behaviors again and ask students to identify which behaviors are examples of learning. Compare answers from the beginning of class and clarify misconceptions.
4	3.8	**Construct an Argument** Provide students with a list of scenarios that include examples of classical and operant conditioning. Have students identify the type of learning (classical or operant). If it is classical, have them identify the UCS, UCR, CS, and CR. If it is operant, have them determine if the scenario is punishment or reinforcement (positive or negative).
5	3.9	**Index Card Summaries/Questions** Bonobos, closely related to humans, exhibit the capacity to share with members of their troop. Have students read articles with research findings on bonobos. Then have them develop research questions that could be asked based on findings in the articles. These questions should be relevant to the field of social and cognitive development and related to learning.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.A
Determine the type of research design(s) used in a given study.

TOPIC 3.1
Themes and Methods in Developmental Psychology

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
3.1.A Explain how enduring themes inform developmental psychology.	**3.1.A.1** Developmental psychology is concerned with both chronological order of development and/or thematic issues in development across the lifespan. Thematic issues of interest to developmental psychologists include stability and change, nature and nurture, and continuous and discontinuous stages of development.
3.1.B Describe ways cross-sectional and longitudinal research design methods used in developmental psychology inform understanding about behavior and mental processes.	

TOPIC 3.2
Physical Development Across the Lifespan

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

3.C
Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

4.A
Propose a defensible claim.

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
3.2.A Explain how physical development before birth applies to behavior and mental processes.	**3.2.A.1** Teratogens, maternal illness, genetic mutations, hormonal, and environmental factors can influence the major physical and psychological milestones that occur during prenatal development. *Exclusion Statement: The stages of prenatal development (zygote, embryo, and fetus) are outside the scope of the AP Psychology Exam.*
3.2.B Explain how physical development in infancy and childhood apply to behavior and mental processes.	**3.2.B.1** Physical development in infancy and childhood happens in generally the same order, but the timing of the development can vary. The development of fine and gross motor coordination is among the major physical and psychological milestones that define infancy and childhood. These physical skills develop as children mature, allowing children to develop critical skills needed to become more independent. **3.2.B.2** Infants possess reflexes, like the rooting reflex, that indicate on-track physical and psychological milestone development. **3.2.B.3** Research using the visual cliff apparatus demonstrates an early ability in infants to perceive depth and an innovative way to assess infant responses.

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Development and Learning

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
3.2.B Explain how physical development in infancy and childhood apply to behavior and mental processes.	3.2.B.4 Research suggests that critical or sensitive periods in infancy and childhood have strong developmental effects, especially for skills such as language. Some non-human animals will imprint on the first object they encounter as a means of survival.
3.2.C Explain how physical development in adolescence applies to behavior and mental processes.	3.2.C.1 The main physical and psychological milestones that occur in adolescence are the adolescent growth spurt and puberty, in which reproductive ability develops. Adolescents develop primary and secondary sex characteristics during this time, such as menarche and spermarche.
3.2.D Explain how physical development in adulthood applies to behavior and mental processes.	3.2.D.1 Adulthood spans most of the lifespan and is characterized by a general leveling off and then a varying decline in reproductive ability (i.e., menopause), mobility, flexibility, reaction time, and visual and auditory sensory acuity.

TOPIC 3.3
Gender and Sexual Orientation

SUGGESTED SKILLS

2.C

Evaluate the appropriate use of research design elements in non-experimental methodologies.

Required Course Content

LEARNING OBJECTIVE

3.3.A

Describe how sex and gender influence socialization and other aspects of development.

SUGGESTED SKILLS

1.B

Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.C

Evaluate the appropriate use of research design elements in non-experimental methodologies.

4.B

Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

TOPIC 3.4
Cognitive Development Across the Lifespan

Required Course Content

LEARNING OBJECTIVE

3.4.A

Explain how theories of cognitive development apply to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.4.A.1

According to Piaget, children develop schemas via continuous and discontinuous processes such as assimilation and accommodation.

3.4.A.1.i

The sensorimotor stage occurs from infancy through toddlerhood. Object permanence develops during this stage.

3.4.A.1.ii

The preoperational stage occurs from toddlerhood through early childhood. Children become proficient in using mental symbols and engage in pretend play. The preoperational stage is identified more by cognitive tasks children cannot perform such as conservation and reversibility, or by those they exhibit, such as animism and egocentrism. Children begin to develop a theory of mind during this stage.

3.4.A.1.iii

The concrete operational stage occurs from early through late childhood. Children in this stage can generally correct the cognitive errors made in the preoperational stage and understand the world in logical, realistic, and straightforward ways, but struggle to think systematically.

3.4.A.1.iv

The formal operational stage occurs from late childhood through adulthood. People in this stage gain the ability to think abstractly and hypothetically. Piaget proposed that not all people achieve formal operational thinking.

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LEARNING OBJECTIVE

3.4.A

Explain how theories of cognitive development apply to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.4.A.2

According to Vygotsky, children are social learners who learn through interacting with and scaffolding by other people within sociocultural contexts. Ideally, learning occurs while the person is in their zone of proximal development.

3.4.A.3

Adults experience changes in cognitive capabilities as they progress through the lifespan. Crystallized intelligence remains relatively stable through adulthood while fluid intelligence tends to wane as people age. Cognitive disorders that affect adults include dementia.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

TOPIC 3.5
Communication and Language Development

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
3.5.A Explain how key components of language and communication apply to behavior and mental processes.	**3.5.A.1** Language is a shared (mutually agreed upon) system of arbitrary symbols (often expressed as and combined into phonemes, morphemes, and semantics) that are rule-governed (via grammar and syntax) and generative to produce an infinity of ideas. *Exclusion Statement: Pragmatics of language are outside the scope of the AP Psychology Exam.*
3.5.B Explain how language develops in humans.	**3.5.B.1** In language development across all cultures, people use nonverbal manual gestures (e.g., pointing) to communicate and develop formal language through specific stages (cooing, babbling, one-word stage, and telegraphic speech). People learning a language often make errors such as overgeneralization of language rules as they learn.

TOPIC 3.6
Social-Emotional Development Across the Lifespan

Required Course Content

LEARNING OBJECTIVE

3.6.A
Explain how social development relates to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.6.A.1
The ecological systems theory explores how the social environment influences development. The five systems in this theory are as follows:

- Microsystem (groups that have direct contact with the individual)
- Mesosystem (the relationships between groups in the microsystem)
- Exosystem (indirect factors in an individual's life)
- Macrosystem (cultural events that affect the individuals and others around them)
- Chronosystem (the individual's current stage of life).

3.6.A.2
Research has identified different parenting styles of caregivers, including authoritarian, authoritative, and permissive. Cultural differences exist in the ways these parenting styles affect outcomes in caregivers and children.

3.6.A.3
Research has identified different attachment styles demonstrated by infants and children, which vary by culture. The types of attachment infants and children display include secure and insecure (avoidant, anxious, and disorganized). Temperament is related to how children attach to caregivers.

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SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.A
Determine the type of research design(s) used in a given study.

2.B
Evaluate the appropriate use of research design elements in experimental methodology.

LEARNING OBJECTIVE

3.6.A

Explain how social development relates to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.6.A.3.i

Separation anxiety occurs when children express heightened anxiety or fear when away from a caregiver or in the presence of a stranger.

3.6.A.3.ii

Studies with monkeys demonstrate the importance of comfort over food in attachment.

3.6.A.4

Developmental psychologists study how peer relationships develop over time.

3.6.A.4.i

Children engage with peers via play (parallel and pretend).

3.6.A.4.ii

Adolescents gradually rely more on peer relationships as they age. As adolescents interact with peers, they demonstrate a type of egocentrism that is often demonstrated via the imaginary audience and the personal fable.

3.6.A.5

Developmental psychologists study how adults develop socially over time.

3.6.A.5.i

Culture plays a role in determining when adulthood begins and when major life events occur (social clock). Some cultures allow for a time of emerging adulthood as a transition from adolescence to adulthood.

3.6.A.5.ii

Relationships with other adults result in adults forming families or family-like relationships that should provide mutual support and care. Childhood attachment styles can affect how adults form attachments to other adults.

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LEARNING OBJECTIVE

3.6.A

Explain how social development relates to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.6.A.6

The stage theory of psychosocial development, which was a reconceptualization of the psychosexual theory, proposes that people must resolve psychosocial conflicts at each stage of the lifespan. The stages are as follows:

- Trust and mistrust
- Autonomy and shame and doubt
- Initiative and guilt
- Industry and inferiority
- Identity and role confusion
- Intimacy and isolation
- Generativity and stagnation
- Integrity and despair

Exclusion Statement: The psychosexual stage theory of development is outside of the scope of the AP Psychology Exam.

3.6.A.7

The experience of adverse childhood experiences (ACEs) has effects on relationships people form throughout the lifespan. Sociocultural differences exist in what is considered an ACE and how ACEs affect outcomes people may experience.

3.6.A.8

Adolescents develop a sense of identity for who they will be as an adult through the processes of achievement, diffusion, foreclosure, and moratorium. Identity development also includes processes for developing identities such as racial/ethnic identity, gender identity, sexual orientation, religious identity, occupational identity, and familial identity, often through considering possible selves.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

3.A
Identify psychology-related concepts in descriptions or representations of data.

TOPIC 3.7
Classical Conditioning

Required Course Content

LEARNING OBJECTIVE

3.7.A
Explain how classical conditioning applies to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.7.A.1
The behavioral perspective evolved from theories about learning via conditioning. Behaviorists have traditionally focused on observable behavior to the exclusion of mental processes.

3.7.A.2
Classical conditioning focuses on the association of one stimulus with another stimulus to elicit a response. Learning the association (also known as acquisition) involves a series of steps that demonstrate principles of associative learning.

3.7.A.2.i
The unconditioned stimulus (UCS) elicits an unconditioned response (UCR). This response becomes the conditioned response (CR) when it is performed in response to the conditioned stimulus (CS).

3.7.A.2.ii
The order of presentation of the CS with the UCS is important to successful acquisition.

3.7.A.2.iii
A CR can become extinct when the CS is no longer paired with the UCS. A formerly extinct CR can be spontaneously recovered when the CS and UCS are paired together again.

3.7.A.2.iv
Stimulus discrimination and generalization have been demonstrated in studies of classical conditioning.

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LEARNING OBJECTIVE

3.7.A

Explain how classical conditioning applies to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.7.A.2.v

A CS can be used as a UCS in higher-order conditioning.

Exclusion Statement: Delayed conditioning, trace conditioning, simultaneous conditioning, and backward conditioning are outside the scope of the AP Psychology Exam.

3.7.A.3

Research has demonstrated that emotional responses can be classically conditioned. These findings form the basis of therapeutic interventions for many mental disorders, such as counterconditioning.

Exclusion Statement: The expectancy theory is outside the scope of the AP Psychology Exam.

3.7.A.4

Research on taste aversions, which are acquired through classical conditioning, demonstrates one-trial conditioning and biological preparedness. One-trial learning occurs when the association is acquired through one pairing of the stimulus and response and is not strengthened by further pairings. Biological preparedness refers to how animals are biologically predisposed to learning certain stimulus-response pairings more quickly than others.

3.7.A.5

Habituation occurs when organisms grow accustomed to and exhibit a diminished response to a repeated or enduring stimulus.

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

3.A
Identify psychology-related concepts in descriptions or representations of data.

3.B
Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

4.A
Propose a defensible claim.

TOPIC 3.8
Operant Conditioning

Required Course Content

LEARNING OBJECTIVE

3.8.A
Explain how operant conditioning applies to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.8.A.1
Operant conditioning focuses on associating consequences (reinforcement and punishment) with behaviors. The Law of Effect states that behaviors with reinforcing consequences are more likely to be repeated while behaviors with punishing consequences are not as likely to be repeated.

3.8.A.2
Reinforcement and punishment can be positive or negative. Reinforcers can be primary or secondary. Reinforcement discrimination and generalization have been demonstrated in studies of operant conditioning.

3.8.A.3
Reinforcement can be used to shape behavior ("shaping") gradually through rewarding successive approximations of the desired behavior. Research with animals shows that only certain behaviors can be shaped through reinforcement (known as instinctive drift).

3.8.A.4
Superstitious behavior occurs when consequences reinforce unrelated behaviors. Learned helplessness occurs when organisms learn that they have no control over their experience of aversive consequences in a given situation.

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LEARNING OBJECTIVE

3.8.A

Explain how operant conditioning applies to behavior and mental processes.

ESSENTIAL KNOWLEDGE

3.8.A.5

The schedule with which reinforcement is delivered can determine the strength of the association between the consequence and the response. The two main types of reinforcement schedules are continuous and partial. Each type of reinforcement behavior can be graphed, resulting in a distinctive pattern on the graph (e.g., fixed-interval schedule produces a scalloped graph).

3.8.A.5.i

Continuous reinforcement schedules deliver reinforcement for each and every correct behavior.

3.8.A.5.ii

The partial reinforcement schedules focus on whether reinforcement is delivered on a time-based schedule (fixed or variable interval) or for the number of behaviors performed (fixed or variable ratio).

SUGGESTED SKILLS

1.A

Apply psychological perspectives, theories, concepts, and research findings to a scenario.

4.B

Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

TOPIC 3.9
Social, Cognitive, and Neurological Factors in Learning

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
3.9.A Explain how social learning applies to behavior and mental processes.	**3.9.A.1** Social learning theory proposes that learning can occur by observation and does not have to involve personal experience with a consequence (vicarious conditioning). Learning can occur by copying the behavior of models. The more similar a model is, the more likely the behavior is to be learned.
3.9.B Explain how cognitive factors in learning apply to behavior and mental processes.	**3.9.B.1** Insight learning occurs when the solution to a problem occurs without any association, consequence, or model being present. **3.9.B.2** Latent learning occurs when information is learned without reinforcement but is not immediately evident. Latent learning is often demonstrated by cognitive maps.

AP PSYCHOLOGY

UNIT 4

Social Psychology and Personality

15–25%
AP EXAM WEIGHTING

~17–23
CLASS PERIODS

Remember to go to **AP Classroom** to assign students the online **Progress Check** for this unit.

Whether assigned as homework or completed in class, the **Progress Check** provides each student with immediate feedback related to this unit's topics and skills.

Progress Check 4

Multiple-choice: ~10 questions
Free-response: 1 question

- Article Analysis Question

UNIT 4

15–25% AP EXAM WEIGHTING | **~17–23** CLASS PERIODS

Social Psychology and Personality

ESSENTIAL QUESTIONS

- Do people act the same when they are alone versus when they are in a group? Why or why not?
- How do expectations, biases, and attitudes affect our relationships with ourselves and others?
- Why do you do what you do? Is your "why" determined by your personal choices or what you are rewarded to do?

Developing Understanding

Social psychology is the study of how other people and groups influence behavior and mental processes, as well as how behavior and mental processes influence an individual's experiences in social situations. This unit explores how external social factors and internal personality variables come into play in a wide variety of everyday situations for people. Psychologists throughout history have proposed different theories that categorize different personalities and explain their connection to behavior and mental processes. Various perspectives in psychology have shaped these theories and how psychologists study personality. Some psychologists study what motivates us and/or our emotional responses to understand our individual differences; other psychologists seek to understand why different personalities exist, how they are developed, and if and how they change. As they explore the content of this unit, students will gain understanding about themselves, their peers, their families, and others whom they may meet in day-to-day life and begin to provide insight into factors that may contribute to mental and physical health issues that they will examine in Unit 5.

Building the Science Practices

1.B 2.C 2.D 3.C 4.B

As students study attribution theory, attitude formation, and the psychology of social situations (Topics 4.1–4.3), they will continue to uncover areas of the course where they will explain how cultural norms, expectations, and circumstances apply to behavior and mental processes **(1.B)**—such as the effects of individualism, collectivism, and multiculturalism have on how a person sees themselves and others.

In addition to applying the concepts and perspectives in this unit to different social scenarios and examining associated research—including the evaluation of the appropriate use of research design elements in non-experimental methodologies, such as those seen in studies of personality and motivation **(2.C)**—students will learn that the history of social psychology is filled with studies that are no longer considered ethical. Through a breakdown of these missteps seen when using both experimental and non-experimental methods, students will have opportunities to recognize how to conduct valid research, identify ethical flaws, and use appropriate data and data collection processes **(2.D)**.

Finally, in their investigation of various research studies, students may encounter data that is presented in various forms—such as specialized personality inventories. To best understand the meaning of the study's results, students may be required to interpret quantitative or qualitative inferential data from a table, graph, chart, figure, or diagram **(3.C)**. Through that interpretation, students will describe trends in and relationships between

the variables used in the study, including whether those variables are correlated. In order for students to fully engage with this skill, they may want to return to the work they did with practicing skills 3.A and 3.B in Units 1 and 3, respectively. Applying their data interpretations to claims they have made about social psychology concepts may also help students to further hone their argumentation skills, as these interpretations may serve as evidence that can be used to support, refute, or modify a proposed claim **(4.B)**.

Preparing for the AP Exam

Students often have difficulty differentiating social psychology key terms and phrases correctly to answer questions posed as scenarios. A common example of often-confused terms includes conformity versus obedience, so providing opportunities for students to identify and explain the distinctions among concepts like these can help students as they prepare for the multiple-choice section of the AP Exam. Consider asking students about common behaviors such as attending school or wearing certain styles of clothing to see if they feel those are influenced by obedience or conformity.

While plenty of scholarly research exists for topics in Unit 4, there are also topics that are written about extensively in popular media, giving plenty of sources to use for practice with either of the free-response questions (FRQ) on the AP Exam. For example, for the Evidence-Based Question (EBQ), teachers can curate a set of peer-reviewed articles on a specific social psychology or personality topic—which may bring in concepts from previous units—with which students can practice developing and justifying an argument. Using these critical thinking skills can help students not only prepare for the AP Psychology Exam but also make sense of the media stories they consume about popular topics in psychology.

UNIT AT A GLANCE

Topic	Instructional Periods	Suggested Skills
4.1 Attribution Theory and Person Perception	4	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.B Evaluate the appropriate use of research design elements in experimental methodology. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies. 4.A Propose a defensible claim.
4.2 Attitude Formation and Attitude Change	4	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 3.A Identify psychology-related concepts in descriptions or representations of data. 3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.
4.3 Psychology of Social Situations	4	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set. 4.A Propose a defensible claim.
4.4 Psychodynamic and Humanistic Theories of Personality	2	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies.

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UNIT AT A GLANCE *(cont'd)*

Topic	Instructional Periods	Suggested Skills
4.5 Social-Cognitive and Trait Theories of Personality	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.A Determine the type of research design(s) used in a given study. 3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.
4.6 Motivation	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.B Evaluate the appropriate use of research design elements in experimental methodology. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies.
4.7 Emotion	3	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 3.A Identify psychology-related concepts in descriptions or representations of data. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

Go to **AP Classroom** to assign the **Progress Check** for Unit 4.
Review the results in class to identify and address any student misunderstandings.

SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and are offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 129 for more examples of activities and strategies.

Activity	Topic	Sample Activity
1	4.1	**Quickwrite** Provide students with a card or paper that includes an attribution scale on each side. On one side, have them circle the traits that they identify with. On the other, have them circle the traits that describe the teacher. Have students count the number of "depends on the situation" responses on each side and compare the two.
2	4.3	**Debate** Have students read about the Stanford Prison Experiment or watch an excerpt from a documentary about the study.Then ask students to identify the methodological issues with the study and describe and evaluate the ethics of the experiment. Students can then debate the merits, ethics, and criticism of the experiment. Include the response to recent criticism published by Zimbardo and other researchers.
3	4.4	**Construct an Argument** Have students read the article "A Real-Life Lord of the Flies: The Troubling Legacy of the Robbers Cave Experiment." Then ask them to identify the research methods described in the article and evaluate the ethics of the experiments. Ask them if the studies described offer any insights about group dynamics and, if so, what those insights are.
4	4.5	**Jigsaw** Select a fictional character familiar to your students. Have them discuss that character's personality in terms of the different psychological perspectives. Then divide students into groups and have each group select their own character and repeat the discussion. Students can then share with the class or you can use the jigsaw strategy.
5	4.7	**Think-Pair-Share** Have students watch the well-known clip "These pretzels are making me thirsty" from the show *Seinfeld* (S3E11). In small groups, have them discuss how facial expressions and intonation convey emotion. Provide them with other scenarios and have them discuss how different theorists would explain the emotions conveyed in each scenario.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.B
Evaluate the appropriate use of research design elements in experimental methodology.

2.C
Evaluate the appropriate use of research design elements in non-experimental methodologies.

4.A
Propose a defensible claim.

TOPIC 4.1
Attribution Theory and Person Perception

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.1.A Explain how attribution theory applies to behavior and mental processes.	**4.1.A.1** Attributions are how people explain behavior and mental processes of themselves and others. Dispositional attributions relate to internal qualities of others (such as intelligence or personality) while situational attributions relate to external circumstances that are experienced. **4.1.A.2** People demonstrate a predictable pattern of attributions called explanatory style. Explanatory style is how people explain good and bad events in their lives and in the lives of others. Explanatory style can be optimistic or pessimistic. **4.1.A.3** People are subject to biases in their attributions. Those biases include actor/observer bias, fundamental attribution error, and self-serving bias, all of which can affect behavior and mental processes.
4.1.B Explain how locus of control (internal and external) applies to behavior and mental processes.	
4.1.C Explain how person perception applies to behavior and mental processes.	**4.1.C.1** People's perception of how much they like something can be influenced by the mere exposure effect. The mere exposure effect occurs when people are exposed to a stimulus repeatedly over time, which causes them to like the stimulus more.

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LEARNING OBJECTIVE

4.1.C

Explain how person perception applies to behavior and mental processes.

ESSENTIAL KNOWLEDGE

4.1.C.2

People can behave in ways that elicit behaviors from others that confirm their beliefs or perceptions about themselves or others (self-fulfilling prophecy).

4.1.C.3

Social comparison is a type of person perception that occurs when people evaluate themselves based on comparisons to other members of society or social circles. Social comparison can be upward or downward. People often judge their own sense of deprivation relative to others (relative deprivation).

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

3.A
Identify psychology-related concepts in descriptions or representations of data.

3.B
Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

4.B
Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

TOPIC 4.2
Attitude Formation and Attitude Change

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.2.A Explain how stereotypes and implicit attitudes contribute to the behaviors and mental processes of prejudice and discrimination.	**4.2.A.1** A stereotype is a generalized concept about a group. Stereotypes can help reduce cognitive load when making decisions or judgments. Stereotypes can be the cause and/or result of biased perceptions and experiences and are frequently the basis of prejudiced attitudes and discriminatory behaviors. **4.2.A.2** Implicit attitudes are those that individuals hold but may be unaware of or may not acknowledge. Research has focused on how implicit attitudes reflect negative evaluations of others, as demonstrated by the just-world phenomenon, out-group homogeneity bias, in-group bias, or ethnocentrism.
4.2.B Explain how belief perseverance and cognitive dissonance apply to attitude formation and change.	**4.2.B.1** Belief perseverance occurs when a belief persists even if evidence suggests it is not accurate. People experiencing belief perseverance may engage in confirmation bias, thereby clinging to an attitude or belief regardless of the evidence for or against it. **4.2.B.2** Cognitive dissonance refers to the mental discomfort that occurs when actions or attitudes are in conflict. People are motivated to reduce the discomfort by changing either actions or attitudes to be more in line with each other.

TOPIC 4.3
Psychology of Social Situations

Required Course Content

LEARNING OBJECTIVE

4.3.A
Explain how the social situation affects behavior and mental processes.

ESSENTIAL KNOWLEDGE

4.3.A.1
Social norms define expectations and roles a society may have for its members in individual and social situations.

4.3.A.2
Social influence theory proposes that social pressure to behave or think in certain ways can be normative or informational.

4.3.A.3
Persuasion refers to the techniques applied to convince the self or others of particular ideas, actions, or beliefs.

4.3.A.3.i
Persuasion can depend on the route to persuasion. The elaboration likelihood model outlines two main routes to persuasion: central and peripheral. The halo effect is an example of a peripheral route to persuasion.

4.3.A.3.ii
Persuasion can depend on how information is presented, as demonstrated by the foot-in-the-door and the door-in-the-face techniques.

4.3.A.4
Research on conformity clarifies the conditions that strengthen the likelihood of people adhering to unspoken rules, norms, or expectations.

4.3.A.5
Research on obedience clarifies the conditions that strengthen the likelihood of people complying with the directives of an authority figure.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

3.B
Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

4.A
Propose a defensible claim.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.3.B Explain how being in a group can affect an individual's behavior and mental processes.	**4.3.B.1** Cultural phenomena such as individualism, collectivism, and multiculturalism can influence how one perceives and behaves towards oneself and others. **4.3.B.2** Being a member of a group can influence how one behaves or experiences mental processes via group polarization, groupthink, diffusion of responsibility, social loafing, and deindividuation. **4.3.B.3** Performing a mental or physical behavior in front of a group can lead to social facilitation. **4.3.B.4** People often overestimate the levels to which others agree with them, known as the false consensus effect. **4.3.B.5** Superordinate goals serve to unite disparate groups under a common goal and help reduce negative affect and stereotyping among groups. Social traps occur when individuals do not unite and act in their own self-interest to the detriment of the group. **4.3.B.6** Industrial-organizational (I/O) psychologists study how people perform in the workplace. I/O psychologists study best practices in management of work, relationships among people working together or for a common company or program, and how people feel about work (burnout).
4.3.C Explain how prosocial behavior affects behavior and mental processes.	**4.3.C.1** Altruism refers to selfless behavior, but some researchers suggest that people act in prosocial ways due to incurring social debt. The social reciprocity norm and the social responsibility norm explain this type of behavior. **4.3.C.2** The bystander effect demonstrates that situational and attentional variables predict whether someone is likely to help another person.

TOPIC 4.4
Psychodynamic and Humanistic Theories of Personality

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.C
Evaluate the appropriate use of research design elements in non-experimental methodologies.

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.4.A Explain how the psychodynamic theory of personality defines and assesses personality.	**4.4.A.1** According to the psychodynamic theory of personality, unconscious processes drive personality. *Exclusion Statement: The stage theory of psychosexual development is out of scope for the AP Psychology Exam.* **4.4.A.2** Ego defense mechanisms (denial, displacement, projection, rationalization, reaction formation, regression, repression, and sublimation) serve to protect the ego unconsciously from threats. **4.4.A.3** Psychodynamic personality psychologists assess personality using projective tests that are designed to probe the preconscious and unconscious mind.
4.4.B Explain how the humanistic theory of personality defines and assesses personality.	**4.4.B.1** According to humanistic psychology, personality focuses on unconditional regard and the self-actualizing tendency as primary motivating factors. *Exclusion Statement: Maslow's hierarchy of needs is outside the scope of the AP Psychology Exam.*

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.A
Determine the type of research design(s) used in a given study.

3.C
Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

TOPIC 4.5
Social-Cognitive and Trait Theories of Personality

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.5.A Explain how the social-cognitive theory of personality defines and assesses personality.	**4.5.A.1** According to social-cognitive theory, reciprocal determinism shapes personality. Reciprocal determinism explores self-concept (how one views themselves and in relation to others) and how self-efficacy and self-esteem both contribute to self-concept.
4.5.B Explain how trait theories of personality define and assess personality.	**4.5.B.1** Trait theories of personality conclude that personality involves a set of enduring characteristics that lead to typical responses to stimuli. **4.5.B.2** The Big Five theory of personality proposes that traits of agreeableness, openness to experience, extraversion, conscientiousness, and emotional stability make up one's personality. These traits are measured by specialized personality inventories that use factor analysis to organize item responses.

TOPIC 4.6
Motivation

SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.B
Evaluate the appropriate use of research design elements in experimental methodology.

2.C
Evaluate the appropriate use of research design elements in non-experimental methodologies.

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.6.A Explain how theories about motivation apply to behavior and mental processes.	**4.6.A.1** Some theories about motivation focus on behavior and mental processes that seek to address physical needs and desires such as drive-reduction theory and arousal theory. Drive-reduction theory addresses how certain behaviors help maintain homeostasis while arousal theory addresses how people seek an optimal level of arousal when they behave (as demonstrated by the Yerkes-Dodson Law). **4.6.A.2** Self-determination theory proposes that people are motivated by intrinsic (internal) or extrinsic (external) motivations. Incentive theory explores the role of rewards (an extrinsic motivation) in motivating behavior. **4.6.A.3** Many non-human animals are motivated by instincts (innate, typically fixed patterns of behavior in animals in response to certain stimuli). Humans do not seem to demonstrate instinctual behavior or mental processes. **4.6.A.4** Lewin's motivational conflicts theory proposes that choices create conflicts one must resolve as the basis of motivation. The type of conflicts faced include approach-approach, approach-avoidance, and avoidance-avoidance. **4.6.A.5** Sensation-seeking theory proposes that one's level of need for varied or novel experiences is the basis of motivation. The types of sensation seeking are experience seeking, thrill or adventure seeking, disinhibition, and boredom susceptibility.

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LEARNING OBJECTIVE

4.6.B

Explain how eating and belongingness motivate behavior and mental processes.

ESSENTIAL KNOWLEDGE

4.6.B.1

Eating is a complex motivated behavior that demonstrates how physical and mental processes interact.

4.6.B.1.i

Hormones, such as ghrelin and leptin (regulated by the hypothalamus via the pituitary gland), regulate feelings of hunger and satiety.

4.6.B.1.ii

External factors like the presence of food, time of day, or social gatherings around meals also influence the behavior of eating.

TOPIC 4.7
Emotion

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
4.7.A Explain how theories of emotion apply to behavior and mental processes.	**4.7.A.1** Emotion, or affect, is a complex psychological process that is distinguished from reasoning or knowledge. Emotions reflect internal and external factors affecting an individual. Early 20th century psychological theories of emotion parsed the distinction between the physiological and cognitive experiences of emotion. Some theories proposed that the physiological and cognitive experiences occurred in succession while others proposed that they occurred simultaneously. Other theories emphasize that the cognitive label is required to experience an emotion. The facial-feedback hypothesis suggests that the experience of emotion is influenced by facial expressions, which supports theories that propose the physiological experience of emotion precedes the cognitive appraisal, and research testing this hypothesis has produced mixed results. *Exclusion Statement: Specific names of theories of emotion are outside the scope of the AP Psychology Exam.* **4.7.A.2** The broaden-and-build theory of emotion proposes that positive emotional experiences tend to broaden awareness and encourage new actions and thoughts. Negative emotions tend to reduce awareness and narrow thinking and action.

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SUGGESTED SKILLS

1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures.

3.A Identify psychology-related concepts in descriptions or representations of data.

4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

LEARNING OBJECTIVE

4.7.B

Explain how social norms and experiences influence the expression of emotions.

ESSENTIAL KNOWLEDGE

4.7.B.1

Research has explored whether the expression of emotions is universally common. Some emotions that may be commonly experienced across cultures include anger, disgust, sadness, happiness, surprise, and fear. Research on the universality of emotions shows mixed results.

4.7.B.2

Display rules and elicitors for emotional expression can differ among cultures. Display rules and elicitors may regulate how people from different genders, ages, or socioeconomic classes within a culture can display and interpret emotions.

AP PSYCHOLOGY

UNIT 5

Mental and Physical Health

15–25%
AP EXAM WEIGHTING

~17–23
CLASS PERIODS

Remember to go to **AP Classroom** to assign students the online **Progress Check** for this unit.

Whether assigned as homework or completed in class, the **Progress Check** provides each student with immediate feedback related to this unit's topics and skills.

Progress Check 5

Multiple-choice: ~30 questions
Free-response: 1 question

- Evidence-Based Question

UNIT 5

15–25% AP EXAM WEIGHTING | **~17–23** CLASS PERIODS

Mental and Physical Health

ESSENTIAL QUESTIONS

- How do psychologists define "normal" behaving, thinking, and acting?
- How can we apply health, positive, and clinical psychology principles to change our lives, organizations, and communities in positive ways?
- Where can someone find help if they think they or someone they care about is experiencing a psychological illness?

Developing Understanding

While people's overall health and well-being is a deep interest of all psychologists, there are more specific areas within these categories on which certain psychologists place their main research focus. Health psychologists explore factors that help people lead mentally and physically healthy lives. Positive psychologists explore factors related to mental health and happiness, focusing on positive emotions, cognitions, and experiences. Psychologists who study and/or treat psychological disorders utilize theoretical perspectives to explain a disorder's origin and/or determine the best method for its treatment. These explanations and treatments build on the theories, perspectives, concepts, and processes studied throughout the course. Connecting content and perspectives presented in this unit and those presented in the previous four units can help students realize why psychologists use integrated approaches and evidence-based practices to understand and treat psychological disorders. Overall, this final unit presents an opportunity for students to see real-world application of course content to people's authentic experiences of psychological health, illness, and wellness.

Building the Science Practices

1.A 1.B 2.C 2.D

As with previous units, students will have the opportunity to apply psychological perspectives, theories, concepts, and research findings—this time, to scenarios involving mental and physical health **(1.A)**. This may involve comparing many of the psychological perspectives, theories, and concepts they studied in earlier units, now through the lenses of health, positive, and clinical psychology. Students will explore factors that lead to mental and physical health, using biological, psychological, and sociocultural theories learned throughout the course. In their exploration of psychological disorders (Topics 5.3–5.5), students may see that some of these disorders have consistent incidence rates around the world (e.g., schizophrenia), while others seem more prevalent in certain cultures (e.g., higher incidence of depression in the United States). This discovery could open discussions where students explain how cultural norms and biases apply to specific scenarios, as well as the implications of applying psychological concepts or theories in inappropriate or discriminatory ways **(1.B)**.

While reviewing research studies related to unit content, students may detect issues with generalizability and replicability. Evaluation of the appropriate use of design elements in case studies and other research can help students see that research conclusions may evolve during peer review and replication **(2.C)**. Still, students should note that clinical and research psychologists emphasize the importance of relying on research and evidence-based approaches to support mental health, well-being, and psychological growth. Students should not "diagnose" people with mental illness, whether the

scenarios presented are real or fictional, and understand that only trained and licensed practitioners should apply diagnostic labels to anyone. However, students can see how practitioners have applied those labels via case studies and how they have identified behaviors, thinking processes, or diagnostic criteria that match those presented in scenarios. Additionally, protection of vulnerable populations (e.g., people with psychological disorders) is important for research in this area, so opportunities to identify and evaluate ethical research practices, and discussing whether they were used appropriately, present themselves as students look at different studies **(2.D)**.

Preparing for the AP Exam

In the multiple-choice section of the AP Exam, students often have difficulty distinguishing between key terms and phrases when answering questions posed as scenarios or set in a context. For instance, students may confuse obsessive-compulsive disorder with obsessive-compulsive personality disorder. Encouraging students to identify the key differences in disorders with similar names or within a common category will help them be aware of and identify these nuances on the AP Psychology Exam.

By this point in the course, students have all the skills they need to answer a full Article Analysis Question (AAQ) from the free-response section of the AP Exam. Using a peer-reviewed article summary on a topic from Unit 5—perhaps one that reports on a case study or correlational research—students can practice identifying the research method, stating the operational definition of a specific variable, describing the meaning of a specific statistic, and describing ethical guidelines that have been applied. Students will also need to apply the skill of argumentation in the AAQ by using evidence to justify whether the study is generalizable and whether the study's conclusions support or refute a particular idea or concept.

UNIT AT A GLANCE

Topic	Instructional Periods	Suggested Skills
5.1 Introduction to Health Psychology	3	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 3.A Identify psychology-related concepts in descriptions or representations of data. 3.B Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.
5.2 Positive Psychology	2	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies. 4.A Propose a defensible claim.
5.3 Explaining and Classifying Psychological Disorders	5	1.B Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.
5.4 Selection of Categories of Psychological Disorders	5	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 3.A Identify psychology-related concepts in descriptions or representations of data. 4.A Propose a defensible claim.

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UNIT AT A GLANCE *(cont'd)*

Topic	Instructional Periods	Suggested Skills
5.5 Treatment of Psychological Disorders	5	1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario. 2.B Evaluate the appropriate use of research design elements in experimental methodology. 2.C Evaluate the appropriate use of research design elements in non-experimental methodologies. 2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures. 3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram. 4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

Go to **AP Classroom** to assign the **Progress Check** for Unit 5.
Review the results in class to identify and address any student misunderstandings.

SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and are offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 129 for more examples of activities and strategies.

Activity	Topic	Sample Activity
1	5.2	**Quickwrite** Have students track their mood over the course of a week while teaching about positive psychology. Make sure their first entry (or entries) are prior to teaching the content. Then, at some point during each class period, have students do a Quickwrite where they jot down at least three things that they are grateful for that day. After the week is over, lead the class in collecting their data. Calculate any relevant statistics and/or plot their data in a graph or table. Have students use the data from class to support or refute any claims they make about the impact of the gratitude exercise.
2	5.3	**Jigsaw** For each mental illness studied in class, students should explain the illness using different perspectives. Then have students switch groups to discuss all illnesses and share them. Divide students into groups to study a particular illness from all different perspectives for each. Alternatively, divide students into groups to study one perspective for each disease and then rearrange the groups so that all perspectives are represented in each group. Have students share with each other their assigned perspective for each illness.
3	5.5	**Construct an Argument** Use scenarios to allow students to discriminate between therapeutic approaches: psychodynamic approach, behavior therapy, humanistic therapy, and cognitive therapy.
4	5.5	**Debate** Have students debate the criticisms, strengths and weaknesses, and effectiveness of therapies for mental illness.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

3.A
Identify psychology-related concepts in descriptions or representations of data.

3.B
Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

TOPIC 5.1
Introduction to Health Psychology

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.1.A Explain how health psychology addresses issues of physical health and wellness as they apply to behavior and mental processes.	
5.1.B Explain how stress applies to behavior and mental processes.	**5.1.B.1** Stress is a factor in heightened susceptibility to disorders and disease. Stress has been linked to physiological issues such as hypertension, headaches, and immune suppression. **5.1.B.2** Stressors can be viewed as motivating (eustress) or debilitating (distress). Stressors can be experienced as traumatic or as daily hassles that can build up over time. Adverse childhood experiences (ACEs) are sources of stress that can affect a person throughout the lifespan.
5.1.C Explain how reactions to stress apply to behavior and mental processes.	**5.1.C.1** The general adaptation syndrome (GAS) describes the process of experiencing stress. Initially, alarm reaction occurs when the stress is encountered (via a fight-flight-freeze response). Then, a resistance phase occurs as the stress is confronted. Finally, an exhaustion phase occurs when the stress subsides, or resources are spent. The greatest susceptibility to illness occurs during the exhaustion phase.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.1.C Explain how reactions to stress apply to behavior and mental processes.	5.1.C.2 The tend-and-befriend theory proposes that some people react to stress by tending to their own needs and/or the needs of others and seeking connection with others. This phenomenon seems to occur mostly in women.
5.1.D Explain how the ways that people cope with stress applies to behavior and mental processes.	5.1.D.1 Problem-focused coping involves seeing stress as a problem to be solved and working solutions until a solution is found. 5.1.D.2 Emotion-focused coping involves managing emotional reactions to stress as a means of coping. Strategies that are emotion-focused may include deep breathing, meditation, or taking medication aimed at reducing stressful emotional responses.

SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.C
Evaluate the appropriate use of research design elements in non-experimental methodologies.

4.A
Propose a defensible claim.

TOPIC 5.2
Positive Psychology

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.2.A Explain how positive psychology approaches the study of behavior and mental processes.	**5.2.A.1** Positive psychology seeks to identify factors that lead to well-being, resilience, positive emotions, and psychological health.
5.2.B Explain how positive subjective experiences apply to behavior and mental processes.	**5.2.B.1** Expressing gratitude, a positive subjective experience, increases subjective well-being. **5.2.B.2** People who exercise their signature strengths or virtues report higher levels of positive objective experiences such as happiness and subjective well-being. A classification of character strengths has been developed around 6 categories of virtues: wisdom, courage, humanity, justice, temperance, and transcendence. **5.2.B.3** Posttraumatic growth, a positive subjective experience, may result after the experience of trauma or stress.

TOPIC 5.3
Explaining and Classifying Psychological Disorders

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.3.A Describe the approaches used to define behaviors and mental processes as psychological disorders.	**5.3.A.1** Level of dysfunction, perception of distress, and deviation from the social norm are all factors used to identify psychological disorders. **5.3.A.2** Diagnosing or classifying psychological disorders has positive and negative consequences depending on the nature of the disorder, the individual being diagnosed, and the presence of cultural/societal norms, stigma, racism, sexism, ageism, and discrimination. **5.3.A.3** Diagnosing psychological disorders requires specialized training and the use of evidence-based diagnostic tools. The American Psychiatric Association developed the Diagnostic and Statistical Manual (DSM) of Mental Disorders to classify mental disorders. The World Health Organization developed the International Classification of Mental Disorders (ICD) to classify mental disorders. These classification systems are updated regularly to be responsive to new research and practice advances.
5.3.B Explain how psychological perspectives define psychological disorders.	**5.3.B.1** Most psychologists employ an eclectic approach (using more than one psychological perspective) when diagnosing and treating clients.

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SUGGESTED SKILLS

1.B
Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

4.B
Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.3.B Explain how psychological perspectives define psychological disorders.	5.3.B.2 The behavioral perspective proposes that the causes of mental disorders focus on maladaptive learned associations between or among responses to stimuli.
	5.3.B.3 The psychodynamic perspective proposes that the causes of mental disorders focus on unconscious thoughts and experiences, often developed during childhood.
	5.3.B.4 The humanistic perspective proposes that the causes of mental disorders focus on a lack of social support and being unable to fulfill one's potential.
	5.3.B.5 The cognitive perspective proposes that the causes of mental disorders focus on maladaptive thoughts, beliefs, attitudes, or emotions.
	5.3.B.6 The evolutionary perspective proposes that the causes of mental disorders focus on behaviors and mental processes that reduce the likelihood of survival.
	5.3.B.7 The sociocultural perspective proposes that the causes of mental disorders focus on maladaptive social and cultural relationships and dynamics.
	5.3.B.8 The biological perspective proposes that the causes of mental disorders focus on physiological or genetic issues.
5.3.C Explain how interaction models define psychological disorders.	5.3.C.1 The biopsychosocial model assumes that any psychological problem potentially involves a combination of biological, psychological, and sociocultural factors.
	5.3.C.2 The diathesis-stress model assumes that psychological disorders develop due to a genetic vulnerability (diathesis) in combination with stressful life experiences (stress).

TOPIC 5.4
Selection of Categories of Psychological Disorders

Required Course Content

Exclusion Statement: While there are many disorders listed in diagnostic manuals used by professionals in the field, the AP Psychology Exam focuses on the disorders listed in Topic 5.4 as representative of an introductory understanding of psychological disorders.

LEARNING OBJECTIVE

5.4.A

Describe the symptoms and possible causes of selected neurodevelopmental disorders.

ESSENTIAL KNOWLEDGE

5.4.A.1

Neurodevelopmental disorders are a group of disorders with onset occurring during the developmental period. Symptoms of neurodevelopmental disorders focus on whether the person is exhibiting behaviors appropriate for their age or maturity range.

Selected disorders in scope for AP Psychology in this category are attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (ASD).

5.4.A.2

Possible causes of neurodevelopmental disorders may be environmental, physiological, or genetic in nature.

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SUGGESTED SKILLS

1.A
Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.D
Evaluate whether a psychological research scenario followed appropriate ethical procedures.

3.A
Identify psychology-related concepts in descriptions or representations of data.

4.A
Propose a defensible claim.

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.4.B Describe the symptoms and possible causes of selected schizophrenic spectrum disorders.	**5.4.B.1** Schizophrenic spectrum disorders are characterized by issues in one or more of these five areas: delusions, hallucinations, disorganized thinking or speech, disorganized motor behavior, and negative symptoms. Schizophrenia can be experienced as an acute or chronic condition. **5.4.B.1.i** Delusions (false beliefs) are positive symptoms and may manifest in ways such as delusions of persecution or grandeur. **5.4.B.1.ii** Hallucinations (false perceptions) are positive symptoms and may involve one or more of the senses. **5.4.B.1.iii** Disorganized thinking or speech is a positive symptom and may manifest as speaking in ways such as speaking in a word salad (stringing together words in nonsensical ways). **5.4.B.1.iv** Disorganized motor behavior may manifest as catatonia. Catatonia, or disordered movement, may be experienced as excitement (a positive symptom manifestation) or stupor (a negative symptom manifestation). **5.4.B.1.v** Negative symptoms present as the lack of a typical behavior, such as the lack of emotional expression (flat affect) or lack of movement (catatonic stupor). **5.4.B.2** Possible causes of schizophrenia suggest a genetic or biological link, such as prenatal virus exposure or imbalances with certain neurotransmitters (dopamine hypothesis).
5.4.C Describe the symptoms and possible causes of selected depressive disorders.	**5.4.C.1** Depressive disorders are characterized by the presence of sad, empty, or irritable mood along with physical and cognitive changes that affect a person's ability to function. *Selected disorders in scope for AP Psychology in this category are major depressive disorder and persistent depressive disorder.*

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.4.C Describe the symptoms and possible causes of selected depressive disorders.	5.4.C.2 Possible causes of depressive disorders focus on biological, genetic, social, cultural, behavioral, or cognitive sources.
5.4.D Describe the symptoms and possible causes of selected bipolar disorders.	5.4.D.1 Bipolar disorders are characterized by periods of mania and periods of depression. Bipolar cycling involves experiencing periods of depression and mania in alternating periods that can last various amounts of time. *Selected disorders in scope for AP Psychology in this category are Bipolar I disorder and Bipolar II disorder.* 5.4.D.2 Possible causes of bipolar disorders focus on biological, genetic, social, cultural, behavioral, or cognitive sources.
5.4.E Describe the symptoms and possible causes of selected anxiety disorders.	5.4.E.1 Anxiety disorders are characterized by excessive fear and/or anxiety with related disturbances to behavior. *Selected disorders in scope for AP Psychology in this category are specific phobia, agoraphobia, panic disorder, social anxiety disorder, and generalized anxiety disorder.* 5.4.E.1.i Specific phobia involves fear or anxiety toward a specific object or situation, such as acrophobia (heights) or arachnophobia (spiders). 5.4.E.1.ii Agoraphobia is intense fear of specific social situations, including using public transportation, being in open spaces, being in enclosed spaces (e.g., shops, theaters, etc.), standing in line or being in a crowd, or being outside of the home alone. 5.4.E.1.iii Panic disorder involves the experience of panic attacks (unanticipated and overwhelming biological, cognitive, and emotional experiences of fear/anxiety). Panic disorder can manifest as a culture-bound anxiety disorder such as *ataque de nervios* (experienced mainly by people of Caribbean or Iberian descent).

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.4.E Describe the symptoms and possible causes of selected anxiety disorders.	**5.4.E.1.iv** Social anxiety disorder involves the intense fear of being judged or watched by others. Social anxiety disorder is distinct from but may include agoraphobia. *Taijin kyofusho* is a culture-bound anxiety disorder experienced mainly by Japanese people in which people fear others are judging their bodies as undesirable, offensive, or unpleasing. **5.4.E.1.v** Generalized anxiety disorder (GAD) involves prolonged experiences of nonspecific anxiety or fear. **5.4.E.2** Possible causes of anxiety disorders focus on learned associations between and among stimuli, maladaptive thinking or emotional responses, and biological or genetic sources.
5.4.F Describe the symptoms and possible causes of selected obsessive-compulsive disorders and related disorders.	**5.4.F.1** Obsessive-compulsive and related disorders are characterized by the presence of obsessions (intrusive thoughts) and compulsions (intrusive, often repetitive, behaviors intended to address obsessions). *Selected disorders in scope for AP Psychology in this category are obsessive-compulsive disorder and hoarding disorder.* **5.4.F.2** Possible causes of obsessive-compulsive disorders involve learned associations between and among stimuli, maladaptive thinking or emotional responses, and biological or genetic sources.
5.4.G Describe the symptoms and possible causes of selected dissociative disorders.	**5.4.G.1** Dissociative disorders are characterized by dissociations from consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior. *Selected disorders in scope for AP Psychology in this category are dissociative amnesia (with and without fugue) and dissociative identity disorder.* **5.4.G.2** Possible causes of dissociative disorders involve the experience of trauma or stress.

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LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.4.H Describe the symptoms and possible causes of selected trauma and stressor-related disorders.	**5.4.H.1** Trauma and stressor-related disorders are characterized by exposure to a traumatic or stressful event with subsequent psychological distress. Symptoms of trauma and stressor-related disorders may involve hypervigilance, severe anxiety, flashbacks to traumatic or stressful experiences, insomnia, emotional detachment, and hostility. *The selected disorder in scope for AP Psychology in this category is posttraumatic stress disorder.* **5.4.H.2** Possible causes of trauma and stressor-related disorders involve the experience of trauma or stress.
5.4.I Describe the symptoms and possible causes of selected feeding and eating disorders.	**5.4.I.1** Feeding and eating disorders are characterized by altered consumption or absorption of food that impairs health or psychological functioning. *Selected disorders in scope for AP Psychology in this category are anorexia nervosa and bulimia nervosa.* **5.4.I.2** Possible causes of feeding and eating disorders focus on biological, genetic, social, cultural, behavioral, or cognitive sources.
5.4.J Describe the symptoms and possible causes of selected personality disorders.	**5.4.J.1** Personality disorders (which fall into three clusters) are characterized by enduring patterns of internal experience and behavior that is deviant from one's culture; is pervasive and inflexible; begins in adolescence or early adulthood; is stable over time; and leads to personal distress or impairment. **5.4.J.1.i** Cluster A is the odd or eccentric cluster and includes paranoid, schizoid, and schizotypal personality disorders. **5.4.J.1.ii** Cluster B is the dramatic, emotional, or erratic cluster and includes antisocial, histrionic, narcissistic, and borderline personality disorders.

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LEARNING OBJECTIVE

5.4.J

Describe the symptoms and possible causes of selected personality disorders.

ESSENTIAL KNOWLEDGE

5.4.J.1.iii

Cluster C is the anxious or fearful cluster and includes avoidant, dependent, and obsessive-compulsive personality disorders.

5.4.J.2

Possible causes of personality disorders focus on biological, genetic, social, cultural, behavioral, or cognitive sources.

TOPIC 5.5
Treatment of Psychological Disorders

Required Course Content

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.5.A Describe research and trends in the treatment of psychological disorders.	**5.5.A.1** Many researchers who have conducted meta-analytic studies of psychotherapy conclude that psychotherapies are generally effective. Many psychologists use evidence-based interventions to develop treatment plans. Therapists should exhibit cultural humility and establish a therapeutic alliance with the client to deliver therapy successfully.
5.5.B Describe research and trends in the treatment of psychological disorders.	**5.5.B.1** Due to the increased use and effectiveness of psychotropic medication therapy, hospitals and asylums deinstitutionalized massive numbers of people in the late 20th century. Therapists now prefer to treat in decentralized ways, often with a combination of medication and psychological therapies.
5.5.C Describe ethical principles in the treatment of psychological disorders.	**5.5.C.1** Psychologists in clinical or therapeutic situations must follow certain ethical principles as established by the APA, including nonmaleficence, fidelity, integrity, and respect for people's rights and dignity.
5.5.D Describe techniques used with psychological therapies.	**5.5.D.1** Psychodynamic therapies employ free association and dream interpretation to uncover the unconscious mind.

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SUGGESTED SKILLS

1.A Apply psychological perspectives, theories, concepts, and research findings to a scenario.

2.B Evaluate the appropriate use of research design elements in experimental methodology.

2.D Evaluate whether a psychological research scenario followed appropriate ethical procedures.

3.C Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

4.B Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

LEARNING OBJECTIVE	ESSENTIAL KNOWLEDGE
5.5.D Describe techniques used with psychological therapies.	5.5.D.2 Cognitive therapies may employ cognitive restructuring or fear hierarchies to combat maladaptive thinking. Cognitive therapy proposes that people should focus on the cognitive triad—negative thoughts about oneself, the world, and the future. 5.5.D.3 Applied behavior analysis involves applying principles of conditioning to address mental disorders and developmental disabilities. Exposure therapies (such as systematic desensitization), aversion therapies, and token economies all employ principles of applied behavior analysis. Biofeedback uses principles of conditioning to help clients regulate body systems (such as the sympathetic and parasympathetic nervous systems) that contribute to feelings of anxiety or depression. 5.5.D.4 Cognitive-behavioral therapies, such as dialectical behavior therapy and rational-emotive behavior therapy, combine techniques from the cognitive and behavioral perspectives to treat mental and behavioral disorders. 5.5.D.5 Therapy from the humanistic perspective, commonly referred to as person-centered therapy, employs active listening and unconditional positive regard.
5.5.E Explain how group therapy is different from individual therapy.	
5.5.F Describe effective uses of hypnosis.	5.5.F.1 Hypnosis has shown effectiveness in treating pain and anxiety. Research does not support the use of hypnosis to retrieve accurate memories or regress in age.

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LEARNING OBJECTIVE

5.5.G

Describe interventions derived from the biological perspective.

ESSENTIAL KNOWLEDGE

5.5.G.1

Psychoactive medications, such as antidepressants, antianxiety drugs, lithium, or antipsychotic medications, interact with specific neurotransmitters in the central nervous system to address possible biochemical causes of mental disorders. Psychoactive medications can have side effects such as tardive dyskinesia (a movement disorder related to the regulation of dopamine in the nervous system).

5.5.G.2

Surgical or invasive interventions include psychosurgery (which may involve lesioning), TMS (transcranial magnetic stimulation), or electroconvulsive therapy. The lobotomy is a form of psychosurgery that was popular in the mid-20th century but is rarely, if ever, performed today.