



**Marietta City Schools**

**District Unit Planner**

*AP Psychology*

<b>Unit title</b>	Unit 1: Biological Bases of Psychology			<b>Unit duration (hours)</b>	15-25% Exam 14 Days 21 Hours
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**Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?***

**Ga DoE Standards**

SSPBF1; SSPBF2; SSPBF3; SSPBF4; SSPBF5

**SSPBF1 Explain the development, structure, and function of biological systems and their role in behavior, cognition, and emotion.**

- Discuss the major divisions and sub-divisions of the nervous system and their role in behavior, include: central (brain and spinal cord) and peripheral [autonomic (sympathetic and parasympathetic) and somatic].
- Identify the components and function of a neuron.
- Explain the process of neurotransmission, include: action potentials and synaptic transmission.
- Identify the major structures and functions of the brain.
- Describe the methods used to analyze neural form and function: include the MRI, fMRI, PET, CAT, and EEG.
- Examine the role of genetics in the development of behaviors.

**SSPBF2 Compare different states of consciousness.**

- Identify altered states of consciousness, including: sleeping, dreaming, hypnosis, meditation, biofeedback, and mind-altering substances.
- Describe the sleep cycle and circadian rhythm.
- Explain theories of sleeping and dreaming.
- Investigate the validity of hypnosis.
- Analyze the physical and psychological issues associated with addiction.
- Explain how the major drug classes (stimulants, depressants, and hallucinogens) affect neurotransmission and behaviors.

**SSPBF3 Discuss the components of stress.**

- a. Categorize and explain the different physiological and psychological reactions to stress.
- b. Identify strategies to deal with stress that promote health, include: coping strategies and behavioral modification.

**SSPBF4 Describe how the physical world is translated into a psychological experience.**

- a. Describe the basic structures of the eye and ear, the associated neural pathways, and the process of sensory transduction.
- b. Recognize causes which can lead to hearing and vision deficits: include environmental causes, aging, genetics, diet, disease, and trauma.
- c. Describe the major theories associated with visual and auditory sensation and perception: include threshold theory, opponent process theory, trichromatic theory of vision, frequency theory, volley theory and place theory of hearing.
- d. Identify additional senses, include: smell, taste and touch.
- e. Analyze different perceptual illusions and describe why illusions are important for our understanding of perception.
- f. Compare top-down and bottom-up processing.

**Essential Questions**

How can biology influence our behavior and mental processes?

What happens when a particular neurotransmitter is absent from the body?

How do biological and environmental factors interact to influence our behaviors and mental processes?

Explain the relationship between heredity and environment in shaping behavior and mental processes.

Differentiate among the subsystems of the human nervous system and their functions.

Explain how the structures and functions of typical neurons in the central nervous system affect behavior and mental processes.

Explain how the basic process of neural transmission is related to behavior and mental processes.

Explain how psychoactive drugs affect behavior and mental processes.

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

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

Explain how the process of sensation is related to behavior and mental processes

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

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

Explain how the structures and functions of the chemical sensory systems relate to behavior and mental processes.

### Assessment Tasks

*List of common formative and summative assessments.*

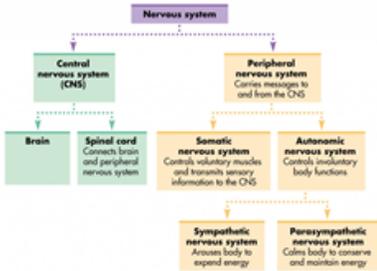
**Formative Assessment(s):** - Brain Structure Quiz, -Case Studies, Play Do Brain Diagram, Vocabulary Formative, Children’s Storyboard Project, Neurotransmitter Puppet Show, AP Classroom Progress Checks

**Summative Assessment(s):** Children’s Book Project, Unit 1 Article Analysis Question, Unit 1 Summative.

### Learning Experiences

Add additional rows below as needed.

Objective or Content	Learning Experiences	Personalized Learning and Differentiation All information included by PLC in the differentiation box is the responsibility and ownership of the local school to review and approve per Board Policy IKB.
1.1 Interaction of Heredity and Environment	Unit 1 Introduction, Learning Curves and Vocabulary. Read Biology, Behavior, and Mind.	Initially, a significant portion of teaching will be direct instruction, but as the unit progresses, students will be responsible for more independent learning with emphasis

<p>A Discuss psychology’s abiding interest in how heredity, environment, and evolution work together to shape behavior.</p> <p>B. Identify key research contributions of scientists in the area of heredity and environment</p> <p>C. Predict how traits and behavior can be selected for their adaptive value.</p>	<p>Write on board: Everything that is Psychological is simultaneously Biological!</p> <ul style="list-style-type: none"> <li>● Draw a neuron- <a href="https://www.khanacademy.org/science/high-school-biology/hs-human-body-systems/hs-the-nervous-and-endocrine-systems/v/anatomy-of-a-neuron">https://www.khanacademy.org/science/high-school-biology/hs-human-body-systems/hs-the-nervous-and-endocrine-systems/v/anatomy-of-a-neuron</a></li> <li>● Powerpoint- Neurons, Neurotransmitters, and Neurotransmission</li> </ul> <p>Activity- Reaction Time of Neural Transmission and Mental Processes.</p> <p>Read Neural Communication.</p>	<p>on drawing conclusions utilizing their knowledge.</p>
<p>1.2 Overview of the Nervous System</p>	<p>Display picture of Endocrine System</p> <ul style="list-style-type: none"> <li>- What is considered the master gland of the Endocrine System?</li> <li>- How are neurotransmitters and hormones kindred spirits?</li> </ul> <p>Read The Nervous System and Endocrine System</p>	<p>Scaffolded learning via chunking information</p>
<p>1.3 The Neuron and Neural Firing</p>	<p>Big Neurotransmitters: S-N-A-G-G-E-D. Chart.</p> 	<p>Pre-teach academic vocabulary through flipped learning homework</p>
<p>Identify basic processes and systems in the biological bases of behavior, including parts of the neuron.</p>	<p>Crash Course Psychology: The Chemical Mind (10:13 min) <a href="https://www.youtube.com/watch?v=W4N-7AlzK7s">https://www.youtube.com/watch?v=W4N-7AlzK7s</a></p>	<p>Extended learning via Crash course and Edpuzzle videos</p>

<p>Identify basic process of transmission of a signal between neurons.</p> <p>Discuss the influence of drugs on neurotransmitters.</p>	<p>Mouse Party: <a href="http://learn.genetics.utah.edu/content/addiction/mouse/">http://learn.genetics.utah.edu/content/addiction/mouse/</a></p> <p>Ted Talk: <a href="https://www.ted.com/talks/moshe_szyf_how_early_life_experience_is_written_into_dna#:t-387345">https://www.ted.com/talks/moshe_szyf_how_early_life_experience_is_written_into_dna#:t-387345</a> (15 min)</p>	<p>Learning through play via online game widgets</p>
<p>1.4 The Brain</p> <p>Describe the nervous system and its subdivisions and functions in the brain. Identify the contributions of key researchers to the study of the brain.</p>	<p>Brain Notes- Powerpoint</p> <p>Brain Structure/Function Review: <a href="https://www.bing.com/videos/search?q=brain+structure+and+function&amp;&amp;view=detail&amp;mid=F348BD098F270CE3AB5DF348BD098F270CE3AB5D&amp;&amp;FORM=VRDGAR">https://www.bing.com/videos/search?q=brain+structure+and+function&amp;&amp;view=detail&amp;mid=F348BD098F270CE3AB5DF348BD098F270CE3AB5D&amp;&amp;FORM=VRDGAR</a></p> <p>Formative Quiz: Neural and Hormonal Systems- discuss</p> <p>Neural and Hormonal Systems Quiz on AP Classroom</p> <p>Mnemonic Device review: <a href="https://www.youtube.com/watch?v=6xnMLr-sF7o&amp;feature=youtu.be">https://www.youtube.com/watch?v=6xnMLr-sF7o&amp;feature=youtu.be</a> Read The Cerebral Cortex.</p>	<p>Extended learning via Crash course and Edpuzzle videos</p>
<p>Recount historic and contemporary research strategies and technologies that support research.</p> <p>Identify the contributions of key researchers to the development of tools for examining the brain.</p>	<p>Crash Course Psychology #4: Meet your Master- Getting to Know your Brain <a href="https://www.youtube.com/watch?v=vHrmiy4W9CO">https://www.youtube.com/watch?v=vHrmiy4W9CO</a> (12:33)</p> <p>Neuroimaging Techniques Jigsaw:</p> <ul style="list-style-type: none"> <li>- <i>EEG (electroencephalography)</i></li> <li>- <i>PET scan (positron emission tomography)</i></li> <li>- <i>CT scan (computerized tomography)</i></li> <li>- <i>MRI (magnetic resonance imaging)</i></li> <li>- <i>fMRI (functional MRI scanning)</i></li> </ul> <p>Reading on Tools of Discovery, Older Brain Structures, and the Limbic System. The Cerebral Cortex</p>	<p>Grouping for Technique presentations via random or self-selected</p> <p>Jigsaw technique</p>

<p>Discuss the role of neuroplasticity in traumatic brain injury.</p> <p>Identify the contributions of key researchers to the study of neuroplasticity.</p> <p>Describe various states of consciousness and their impact on behavior.</p> <p>Identify the major psychoactive drug categories and classify specific drugs, including their psychological and physiological effects.</p> <p>Discuss drug dependence, addiction, tolerance, and withdrawal.</p> <p>Identify the contributions of major figures in consciousness research.</p>	<p>Play Dough Brain Activity. Require Wernicke’s and Broca’s area</p> <p>Best examples to present and discuss.</p> <p>Activity on motions with hands, feet for L-R brainedness.</p> <p>Brain Hemisphere Hats Activity</p> <p>HWK: Reading on ‘What do split brains reveal about the functions of our two brain hemispheres?’</p> <ul style="list-style-type: none"> <li>● Discuss and vote on “most accurate” brain</li> <li>● Powerpoint discussion of Divided brain with You tube video embedded: Split Brain Behavioral Experiments <a href="https://www.youtube.com/watch?v=82tIVcq6E7A&amp;t=17s">https://www.youtube.com/watch?v=82tIVcq6E7A&amp;t=17s</a> (10 min)</li> <li>● Brain Plasticity- use link on powerpoint slide</li> <li>● Split-brain worksheet- have students complete and then discuss the Divided Brain.</li> </ul>	<p>Self-directed learning by way of problem-based learning</p>
<p>1.5 Sleep</p> <p>Discuss aspects of sleep and dreaming.</p>	<p>Sleep Patterns, Sleep Theories, and Sleep Deprivation</p> <ul style="list-style-type: none"> <li>● States of Consciousness powerpoint</li> <li>● HW: Reading on Sleep Deprivation and Sleep Disorders</li> </ul>	
<p>1.5 Continued. Sleep.</p>	<p>Case Studies: Give each table group butcher paper, markers, and the three case studies. They should create the three sections however they’d like while recording the structures/functions being used in each scenario.</p> <p>For each case study, see who has the most structures/functions listed. Hold and discuss. See if anyone has others to add to it.</p> <p>-Formative Quiz: Tools of Discovery, Older Brain Structures, and the Limbic System; cerebral cortex</p> <p>HW: Quiz on AP Classroom: The Brain</p>	<p>Jigsaw and Gallery Walk</p> <p>Class Discussion on today’s meet while viewing documentary.</p> <p>Teacher centered notes with guided notes and class discussion built in.</p> <p>Independent Reading.</p> <p>Table talks.</p>

	<p>Three Identical Strangers: to discuss nature vs. nurture.... And ethics (1hr 36m)  <a href="https://www.imdb.com/title/tt7664504/">https://www.imdb.com/title/tt7664504/</a></p> <p>Dream Theories and Sleep Disorders PPT</p> <p>If time permits, have a student share a dream: Use <a href="http://www.dreammoods.com">www.dreammoods.com</a> to look up and interpret some of your dreams from the group.</p> <p>HW: read Drugs and Consciousness.</p> <p>HW: Quiz on Consciousness</p> <p>Unit 1 Kahoot, Assessment, FRQ, Vocab Due.</p>	<p>Summative Assessments with Group.</p>
<p>1.6 Sensation</p>	<p>Principles of Sensation</p> <p>A. Describe the general principles of organizing and integrating sensation to promote stable awareness of the external world.</p> <p style="padding-left: 40px;">Gestalt principles  Depth perception  Top-down processing  Bottom-up processing</p> <p>B. Discuss basic principles of sensory transduction, including absolute threshold, difference threshold, signal detection, and sensory adaptation.</p> <p>Read Processing Sensation and Perception.</p>	<p>Students will be responsible for more independent learning with emphasis on drawing conclusions utilizing their knowledge.</p>
<p><b>Content Resources</b></p>		
<p>AP Classroom, Barron’s AP Psychology, Myers Understanding AP Psychology 3rd Edition. Ppt and Prezi Notes, Quizlet, Kahoot, Quizziz and Blookets review for all units.</p>		