Student Learning Plan

Unit 3: Foundations for Success

Brain Structure and Function [U3C2L1]

Let 1

Why this is important:

Many people never totally discover or exert the full potential of their brain. It's structure and function is an amazing part of human anatomy. In this learning plan you will explore current research on the structure of the brain and how it work. You will learn practical ways to apply complex concepts that can help put you in control of your own mind.

What you will learn to do:

(Competency)

Relate the structure and function of the brain to the learning process

Linked Core Abilities

A. Build your capacity for life-long learning

Apply critical thinking techniques

How you will know when you are succeeding:

You will show that you have learned the target knowledge and skills:

- by creating a jigsaw puzzle of the brain

Your performance will be successful when:

- puzzle is divided into major regions of the brain
- puzzle labeling includes key words used in the learning plan
- puzzle includes functions of each brain region
- puzzle relates an external stimulus or activity to the region of the brain it affects

Knowledge and skills you will learn along the way:

(Learning Objectives)

a. Identify key areas and function of the midbrain/limbic system

b. Associate major regions of the brain to their functions

c. Explain the function of a neuron

d. Explain the three elements involved in transmitting stimulus from outside the body to the brain

e. Assess the process required to enhance brain power

f. Define Key Words: axon, brain stem, cerebral hemisphere, cortex, dendrite, Limbic System, neural plasticity, neurons, neurotransmitter, sensory flooding, sensory gating, synapse

Learning Activities:

These learning activities are designed to help you learn the target skills and knowledge for this lesson. Your instructor may assign additional or alternative learning activities.

_____1. VIEW Video 1: Brain Topics. THINK ABOUT how parts of your physical body and brain transmits information. CONSIDER the phrases "brain evolution", "the five senses", "the nervous system", "emotions and the brain", and "memory". DETERMINE what you know or would like to know about these phrases by adding to a K-W-L Chart. SHARE your contributions to the K-W-L Chart with others in the class. [Work with a team of 3-6 cadets] ADD answers to the reflection questions into your cadet notebook.

_____2. [SELF-PACED OPTION] DRAW and LABEL a picture of the brain in your cadet notebook and ADD what you already know and would like to know about the brain.

_____3. VIEW "Presenting Brain Structures and Functions" video featured in the Quantum Learning CD-ROM. CONSIDER the five concepts presented in the video: "Evolution and Major Brain Areas", "Sensory Systems and the Cerebral Cortex", "Nerve Cells and the Nervous System", "Limbic System and Emotion", and "Memory Systems". LEARN MORE about one of the structures and functions of the brain by reading Exercise 1: Brain Summary and Section 1: Brain Structure and Function from Chapter 2 of your text. CREATE a Tree Map to classify the key points of an assigned section of reading. [Work with a team of 3-6 cadets] SHARE your information with others in the class. ANSWER the review questions at the end of the section. ADD answers to the reflection questions to your Cadet Notebooks.

_____4. [SELF-PACED OPTION] READ Exercise 1: Brain Summary and the Section 1: Brain Structure and Function from Chapter 2 of your student text ANSWER the review questions at the end of the chapter section.

_____5. CREATE on large index cards visual aid, graphic organizer or Thinking Map of your choice to include at least one piece of information about the brain, two pieces of information about the nervous system and three pieces of information about body's sensory system. [Work with a partner] PRESENT your information to others in the class. PREVIEW others' work and make suggestions for improvement or clarification. REVISE or CLARIFY your own information as necessary. ADD answers to the reflection questions to your Cadet Notebook. [Work independently]

_____6. [SELF-PACED OPTION] CREATE a "Brain Structure and Function" Thinking Map of your choice describing the one piece of information about the brain, two pieces of information about the nervous system and three pieces of information about the body's sensory system.

_____7. PLAY a game using the index card maps created in Learning Activity 7. RANDOMLY SELECT cards and explain to others the brain structure and function. ROTATE cards to PROVIDE you an opportunity to explain a variety of attributes of the brain and related systems. CONTINUE rotating cards until everyone in your team has had an opportunity to explain one of the cards. [Work with a team of 3-6 cadets] ADD answers to the reflection questions to your cadet notebooks. OBTAIN the Brain Structure and Function Assessment Task and Scoring Guide. [Work independently]

_____8. [SELF-PACED OPTION] CREATE a 5-piece jigsaw puzzle of the brain. LABEL the part of the brain on one side and list the structure's function on the other. ADD answers to the reflection questions to your cadet notebook. OBTAIN the Brain Structure and Function Assessment Task and Scoring Guide.

Assessment Activities:

These assessment activities will enable you to show that you have learned the target skills and knowledge for this lesson. Your instructor may assign additional or alternative assessment activities.

_____1. COMPLETE the Brain Structure and Function Assessment Task. USE Scoring Guide to self assess your work and SUBMIT your completed assessment to your instructor for evaluation.

_____2. [SELF-PACED OPTION] COMPLETE the Brain Structure and Function Assessment Task. USE Scoring Guide to self assess your work and SUBMIT your completed assessment to your instructor for evaluation.