

Curriculum Unit  
Title

*Brain Surgery Across the Ages: Stones to Advanced Technologies*

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**KEY LEARNING, ENDURING UNDERSTANDING, ETC.**

There are various tools (past and present) used to study the nervous system.

An evolution of advances have been made in neuroscience which enable us to better understand the nervous system and that these advances have also created issues in neuroscience and genetics.

**ESSENTIAL QUESTION(S) for the UNIT**

How has the brain developed over time and why?

What are the technologies that have been used to study the brain in the past and now – in the present?

How do these technologies assist us in better understanding the brain?

What are the commonalities of the past technologies with those of today?

**CONCEPT A**

Cognitive Revolution

**CONCEPT B**

Today's Tools of Discovery

**CONCEPT C**

Yesterday's Tools of Discovery

**ESSENTIAL QUESTIONS A**

How has the brain developed over time and why?

**ESSENTIAL QUESTIONS B**

What are the technologies that have been used to study the brain in the past and now – in the present?  
How do these technologies assist us in better understanding the brain?

**ESSENTIAL QUESTIONS C**

What are the technologies that have been used to study the brain in the past and now – in the present?  
What are the commonalities of the past technologies with those of today?

**VOCABULARY A**

Cognitive revolution, technology, brainstem, medulla, thalamus, reticular formation, cerebellum, limbic system, amygdala, hypothalamus, cerebral cortex, pons, spinal cord, pituitary, corpus callosum

**VOCABULARY B**

Lesion, Electroencephalogram (EEG), CT (computed tomography) scan, PET (positron emission tomography) scan, MRI (magnetic resonance imaging), fMRI (functional MRI), brain mapping

**VOCABULARY C**

Flakes, knapping, scrapers, trepanation

**ADDITIONAL INFORMATION/MATERIAL/TEXT/FILM/RESOURCES**

Textbook Chapter on Biological Bases (Studying the Brain and Older Brain Structures)  
Various Videos  
Personal Accounts from the book, [The Tale of the Dueling Neurosurgeons](#)