C. How can we study the brain
1. Accidents destruction of a part of the brain would allow us to study the brain and how its parts function
2. Lesions (which are holes) into the brain.
   a. Full frontal lobe cutting off parts of the brain
3. Technological breakthroughs
   a. CAT which uses X rays but cannot study what happens when you are thinking
   b. MRI which uses magnetic rays and also cannot study what goes on while you are thinking
   c. PET which uses glucose and can show what happens when you are thinking
   d. fMRI uses (functional MRI) really fast magnetic images but can also show what you are thinking

D. Brain Structure and function
1. the Hindbrain
   a. generally concerns our most basic biological functions needed for survival
   b. Medulla: BP, pulse, breathing
   c. Pons (“bridge”) bridges the hindbrain to the midbrain and the forebrain but also recognizes control of facial expressions
   d. Cerebellum (“little brain) coordinates brain motor activity
2. The Midbrain
   a. integrates some simple movements with sensory information
   b. Reticular formation (RAS) regulates body arousal and the ability to focus; if it’s off you fall into a coma
3. The Forebrain- largest part of the brain most of it is the cerebrum
   a. Thalamus general resends signal
   b. Hypothalamus: sex, temperature, hunger, thirst (note how it SOUNDS like a “Hyper _thermometer)
   c. Amygdala regulates memory, decision making and emotional reactions. Amy is always angry
   d. Hippocampus and memory processing (like a “hyper campus”)
4. The Cerebral cortex (brain’s outer layer)
   a. Corpus callusum big squishy stuff you would see if you would open your brain, massive connective tissue (connecting tissue)
   b. Lobes
      a. Sensory cortex area that responds and controls the senses
      b. Motor cortex controls motion
      c. Frontal lobe and controls emotions (“frontal lobotomy”)
      d. Somatosensory cortex (sounds like...) soma which means body, controls bodily actions and systems
      e. Occipital lobe (sounds like optical) controls vision and visual information
      d. Temporal lobe (forget “time” it sounds like an orchestra) controls audio or hearing, sound
      e. Broca’s area part of the frontal lobe that controls the muscles that allow speech
      f. Wernicke involved in processing speech, can’t process what you hear
5. The brain over time
   a. Baby’s brains are more elastic, skull is very weak