Review of Week 2
Quiz B – in section during week 3

- Quiz B will be on week 2 reading and lecture material.
- Sign up on Piazza!!!
What does “lateralization” of function mean?
  - Can you think of different examples from lecture and the reading?

What are the main functions of the four lobes of the brain?
  - Are any of these function lateralized?

What are the language centers of the brain?
  - Where are they?

From the lecture and your reading – identify the: corpus callosum, Broca’s area, Wernicke’s area, the frontal, temporal, parietal and occipital lobes

What does the Wada test establish? What is it used for? How does it work?

What are the differences between Broca’s aphasia and Wernicke’s aphasia?
  - In lesion areas?
  - In impairment of language production and/or comprehension?
  - What about conduction aphasia?
What is the simplified Broca-Geschwind model of different aphasias?
  - Are there ways in which the model is simplistic

What are the major sulci that divide between the different lobes?

Where are the primary motor & primary somatosensory cortices located in the brain?

What is the homunculus?

How do the right and left hemispheres differ and how do they communicate?

What is the relationship between hand and hemisphere dominance?

What are Broadmann’s areas (you don’t need to know the different ones, just know the basics of what they are.)

What is meant by the “average brain is skewed”?

What are some anatomical differences between the hemispheres?

What are some functional differences between the hemispheres?

Identify important regions of the brain that are vulnerable to damage when undergoing brain surgery.
  - Why would someone undergoing this procedure in the first place?
  - How are these regions mapped out?

Provide examples of when brain function was altered but enabled localization of function.
What is meant by the “average brain is skewed”?
What are some anatomical differences between the hemispheres?
What are some functional differences between the hemispheres?
Identify important regions of the brain that are vulnerable to damage when undergoing brain surgery.
  - Why would someone being undergoing this procedure in the first place?
  - How are these regions mapped out?
Provide examples of when brain function was altered but enabled localization of function.
Be able to describe anomia and aphasia.
What is the purpose of electrically stimulating Neil’s cortex while he names off the objects on each slide?
What was significant about the planum temporale?
  - Where is it located?
  - How does it differ across both hemispheres?
Who set the framework for genetics?
What is the basic structure of DNA and RNA?
   - What are the functions of each?
What is GWAS? What does it stand for and what does it measure?
Understand the central dogma of genetics.
What is the epigenome?
What is DNA methylation?
   - How is it studied?
   - How does it affect RNA transcription and gene expression?
What differences in DNA and glia cells are observed in individuals with autism?
What is Recount 2? How does it facilitate biological studies?
Can we use expression data to predict tissue?
What is CBDS?
   - Who does it target?
What factors influence genetics research?
What are some variables that must be accounted for?
What is polygenic inheritance? How does this affect the risk of diseases like diabetes?

What is GWAS? What are its applications? Give an example of the applied analysis of GWAS.

What are some limitations of such a kind of study?

What are SNPs and how are they utilized in GWAS?

How did GWAS seek to find the relationship between one’s genes and their educational attainment?

What is the relationship between sample size and the ability of GWAS to detect correlation?

Identify the potential misuse of genetic prediction.