**Pre-Lab 3: EEG and recording EEG**

**Quiz Instructions**

This quiz is open media. The questions and answers are based on three videos found on [this webpage.](https://www.lynnwhite-suu.com/blank)

"EEG basics part 1"  watch 5 min 44 sec through 7 min 15 sec  
                                  watch 30 min 17 sec through to the end

"EEG basics part 2"  watch 5 min 3 sec through 14 min 55 sec  
                                 watch 23 min 1 sec through 27 min 35 sec

"EEG setup, recording, cleaning procedures"  watch all of this one

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**EEG records electrical activity \_\_\_\_\_**

throughout the brain

directly from the cortical surface of the brain

through the skull and from the cortical surface of the brain

from the entire nervous system

**Why is it important to know where your electrodes are relative to brain's cortical surface?**

It's not - why would we even care about this?

depending of where we see the most electrical activity, we can infer different things because different areas of cortex are specialized to do different things

depending on where we see the most electrical activity, we know what the brain is up to because we have mapped specific behaviors onto specific cortical locations

if an electrode shorts out, we must be able to assess which part of the cortical surface might have been impacted

**EEG is recording \_\_\_**

IPSPs and EPSPs

only IPSPs

only EPSPs

action potentials

**EEG records activity on the \_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_**

dendrites : sensory neurons

dendrites and soma : all types of cells

axons : pyramidal cells

dendrites : pyramidal cells

**If you are told that the frequency of a waveform is 10 Hz, the means \_\_\_\_\_\_**

nothing important

there are 10 peaks in the waveform every 60 seconds

there are 60 peaks in the waveform every 10 seconds

there are 10 peaks in the waveform per second

A graph showing different types of frequency

Description automatically generated

**This graph (above) is telling us that \_\_\_\_\_\_\_**

gamma has the greatest power

frequencies in the 8-12 Hz range have the greatest amount of electrical energy

alpha has the highest frequency

F&%$#

**What is the relationship between impedance and signal quality?**

they are not related

as impedance goes up, signal quality goes up

as impedance goes up, signal quality goes down

impedance is a constant whereas signal quality is a variable

**When an EPSP is generated \_\_\_**

current flows toward the brain's surface and the waveform deflects up

current flows toward the brain's surface and the waveform deflects down

current flows away from the brain's surface and the waveform deflects down

current flows away from the brain's surface and the waveform deflects up

**When you see an EEG waveform on the computer screen, what you are seeing is \_\_\_\_\_\_\_\_\_**

Magical

electrical activity under a single electrode  
the difference in electrical activity between the active electrode and a reference electrode

the sum of electrical activity between the active electrode and a reference electrode

**In our lab, we use "active electrodes". This means \_\_\_\_\_\_\_**

they have built in amplifiers to magnify the signal

they actively control for eye movement artifacts

they actively control for any type of artifact

they filter out 60 Hz noise that might be coming from other electronic devises in the room

**When connecting wires to the amplifier or battery, it is critical to \_\_\_\_\_\_\_\_**

Group of answer choices

listen to your favorite tunes and or have an animated conversation with someone else

twist the wires counter clockwise

twist the wires clockwise

NEVER twist the wires

**Before you connect the electrodes to the amplifier, it is IMPORTANT that you first \_\_\_\_\_\_**

pray that nothing goes wrong

connect the ground electrode to your participant

connect all electrodes to your participant

do nothing - just connect all the electrodes to the amplifier

**You should choose a cap that is \_\_\_\_\_ than the circumference of the participant's head.**

one size larger

one size smaller

the same size as

it makes no difference

**The instructions for setting up the EEG, connecting the participants, and using the recording software are \_\_\_\_**

nowhere to be found

found only in the setup and recording video

in printed instructions found in the EEG lab

found on google

**Before the electrodes can be gelled and installed into the cap, it is CRITICAL that**

Fp1 and Fp2 be gelled and green first

Fp1 and Fp2 be gelled and green last

fz be gelled and green first

it make no difference which is gelled and green first

**Before you insert an electrode into the electrode cap, you must first \_\_\_\_\_\_**

tuck aside all the hair that is inside the hole under the cap to expose the scalp

make sure that as much hair as possible remains in the hole

clean the scalp in the hole with a Q-Tip doused in alcohol

bring all of the hair that is in the hole outside so it hangs on top of the electrode cap

**When inserting and removing electrodes into and from the cap \_\_\_\_\_\_\_\_\_\_\_**

give them a quick tug and push respectively

NEVER twist or pull the wires

put generous amounts of electrode gel in and around the hole so that essentially the entire cap is gelatinous

hold your breath and ask the participant to do the same

**The dongle that runs the software must always be \_\_\_\_\_\_ when not in use.**

in Lynn's office

in the computer's USB port

in the large hard shelled EEG case

in the box stored at the back on the desk drawer

**Which of the following statements about washing the EEG electrodes is TRUE? Select all that apply.**

use barely warm water

attach the cable to the FRONT of your shirt

never let the splitter box get wet

hold each electrode by the wire

use a toothbrush to remove the gel from each electrode

use soap

**To clean the cap \_\_\_\_\_**

bring it home and wash it

give it to Lynn - she has a special washing machine designed for cap washing

let it sit in a sink with warm soapy water for 10 min then rinse well

run it under warm water and make sure all the gel is rinsed out

**It is clearly evident that \_\_\_\_\_**

Lynn is anal

EEG setup, recording, and cleanup have rules that must be meticulously followed

EEG is impossible to master

everything about EEG is so easy – even a caveman could do it

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