

# Old / Mid / New

## Brain areas worksheet

Here are the list of brain areas:

amygdala	medulla	Wernicke's area
Angular Gyrus	motor cortex	
association areas	pons	New ones: Just FYI
Broca's area	reticular formation	Don't put in blanks
cerebellum	sensory cortex	Caudate nucleus
corpus callosum	spinal cord	Nucleus Accumbens
hippocampus	thalamus	Anterior Cingulate Cortex
hypothalamus	visual cortex	Basal Ganglia

1. Which areas are involved in movement (e.g. walking)? (there are about 4 areas)

\_\_\_\_\_

2. Which areas are primarily relay stations (i.e. send signals from one area to another in the brain)? (there are about 4 areas)

\_\_\_\_\_

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Directions: Use the names of brain areas above to fill in the blanks (don't use lobes). Use each name once below (they will be repeats from first 2 questions).

### "Old brain" keep you alive - Subcortical Brain

- awake/sleep, how alert you are \_\_\_\_\_
- breathing, heart beating \_\_\_\_\_
- carries signals from body to brain \_\_\_\_\_
- **coordinates** voluntary muscle movement, **controls** other involuntary (automatic) movements like walking or holding the expression on your face \_\_\_\_\_
- relay station - sends info from one brain area to another (esp. about movement) \_\_\_\_\_
- relay station - sends info from one brain area to another (esp. about senses) \_\_\_\_\_

### Limbic System - rat / cat / dog - (sometimes midbrain, sometimes forebrain)

- basic emotion -- fight or flight, strong fear, aggressive response \_\_\_\_\_
- basic memory -- makes new memories, remembers simple things \_\_\_\_\_
- basic instincts -- sex, hunger, thirst, some anger too \_\_\_\_\_

(some times mid, some times forebrain)

## Cortexes (cerebral cortex) New Brain

- figures out what you see \_\_\_\_\_
- receives input from sense of touch \_\_\_\_\_
- sends messages quickly from one side of cortex to other \_\_\_\_\_
- sends signals to body, how to move when you are thinking about it \_\_\_\_\_
- thinking, planning, organizing, and any area of cortex we are not sure what it does \_\_\_\_\_

## Cortexes - Left Side (One Hemisphere)

*Patterns – serial, ordered, step-by-step*

- produces speech \_\_\_\_\_
- understands speech \_\_\_\_\_
- puts visual language into auditory (sound) (e.g. reading, not looking at art) \_\_\_\_\_

## Cortex – Right Side

*Patterns – all at once, Gestalt*

*Facial recognition, inferences in reading*

*Subtle Emotions*

## Relay Stations

Uba's midbrain, and many areas in the middle of brain, and in between other parts.

BEGIN THINKING ABOUT THIS (we'll do it as part of the in class exercise)

Which brain areas would be **more active than usual** in the following?

1. Parent watching 3 year old who at playground on slide, etc.
2. The moment you see a grizzly bear (before you run)
3. Being called on in Spanish class when you are not sure of the answer.
4. The instant you wake up from a dream where you were falling.

For the exam, be prepared:

Find one area of the text that talks about brain areas related to some other topic. E.g. in memory where it talks the hippocampus, in the disorders chapter where it talks about dopamine hypothesis for schizophrenia; there's many examples, look up any brain area in the index.