

### Class Preparation: Mental Health #1

**Directions:** Fill in the charts below. Identify what mental health disorders can occur when each neurotransmitter is increased or decreased.

|                       | <b>Functions</b>  | <b>Increase</b>               | <b>Decrease</b>   |
|-----------------------|---|-------------------------------|---|
| <b>Dopamine</b>       | Fine muscle movements, integration of emotions and thoughts, decision making, stimulates hypothalamus to release hormones | Schizophrenia, mania          | Parkinson's disease, depression                                     |
| <b>Norepinephrine</b> | Mood, attention and arousal, fight or flight response to stress   | Anxiety, mania, schizophrenia | depression  |
| <b>Serotonin</b>      | Mood, sleep regulation, hunger, pain perception, aggression, libido   | anxiety                       | depression  |
| <b>GABA</b>           | Reduces anxiety, aggression, pain perception, anticonvulsants and muscle-relaxing properties                              | Reduction of anxiety          | Anxiety disorders, schizophrenia, mania                             |
| <b>Acetylcholine</b>  | Plays a role in learning and memory, regulates mood, mania, sexual aggression, stimulates parasympathetic nervous system  | depression                    | Alzheimer disease, dementia, Parkinson disease, Huntington's chorea |

### Structures of the Brain

| <b>Brain Structure</b> | <b>Function</b>   |
|------------------------|---|
| The limbic System      | Process and regulate emotions and memory, sexual stimulation, learning, behavior, motivation, long-term memory, sense of smell  |
| Frontal Lobe           | Voluntary movements, expressive language for managing higher level executive functions, cognitive skills, planning, organization, initiative, self-monitoring, goal orientation |
| Parietal Lobe          | Sensory perception and integration, managing taste, hearing, sight, touch, and smell  |
| Temporal Lobe          | Interpreting sounds, recognizing and using language, object recognition, long term memories   |
| Occipital Lobe         | Visual processing, visuospatial processing, distance and depth perception, color determination, object and face recognition, and memory formation                               |