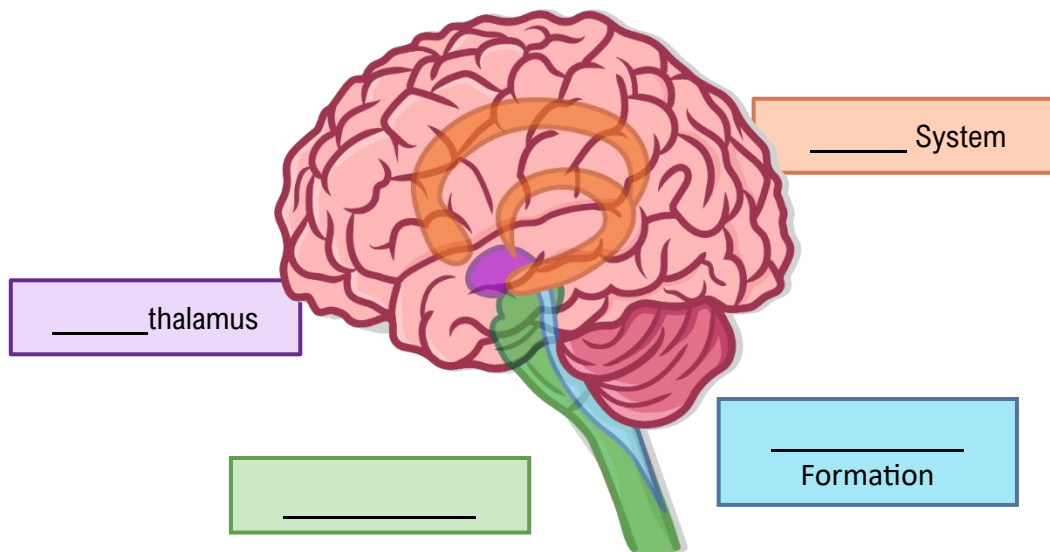


TOPIC: CONTROL OF THE ANS

Review of Relevant Brain Anatomy

- Recall the following brain structures:

Structure	Function
Hypothalamus	_____ of autonomic functions (ex: heart rate, blood pressure, arousal, digestion). • Anterior hypothalamus – directs parasympathetic activity. • Posterior hypothalamus – directs _____ activity.
Brainstem	Relay center for communication between brain and body. Contains _____ that control autonomic functions.
Reticular Formation	A functional system - regulates skeletal and visceral muscle activity. Has _____ influence on autonomic functions.
Limbic System	Processing and interpretation of _____ stimuli; located in the cerebrum.



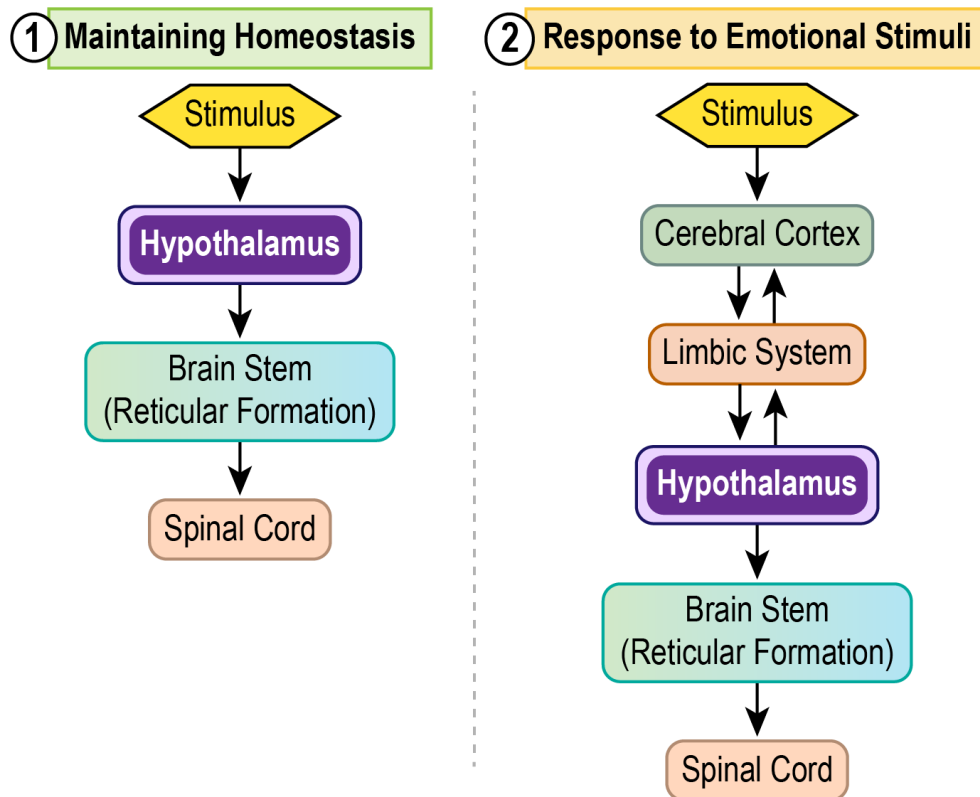
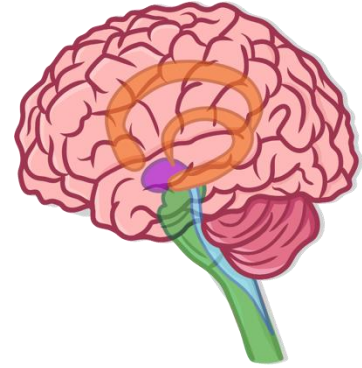
EXAMPLE: A lesion on the anterior hypothalamus would have the *most* effect on the _____ division of the autonomic nervous system.

- a) Sympathetic.
- b) Parasympathetic.
- c) Somatic.
- d) Involuntary.

TOPIC: CONTROL OF THE ANS

Levels of Control in the ANS

- The **hypothalamus** is the _____ integration center of the ANS.
- The ANS primarily operates in _____ ways:
 1. Maintaining _____.
 2. Responding to emotionally _____ or stressful events.
- These two functions involve *slightly* different pathways:



EXAMPLE: The _____ acts as an integration center between areas of the brain that govern emotion and regions of the brain that control visceral functions.

- | | |
|-------------------------|-------------------|
| a) Hippocampus. | c) Hypothalamus. |
| b) Reticular formation. | d) Limbic system. |

PRACTICE: Which of the following brain regions is NOT involved in maintaining routine, homeostatic activity?

- | | |
|-----------------------------|---------------------------|
| a) The hypothalamus. | c) The brainstem. |
| b) The reticular formation. | d) The prefrontal cortex. |