

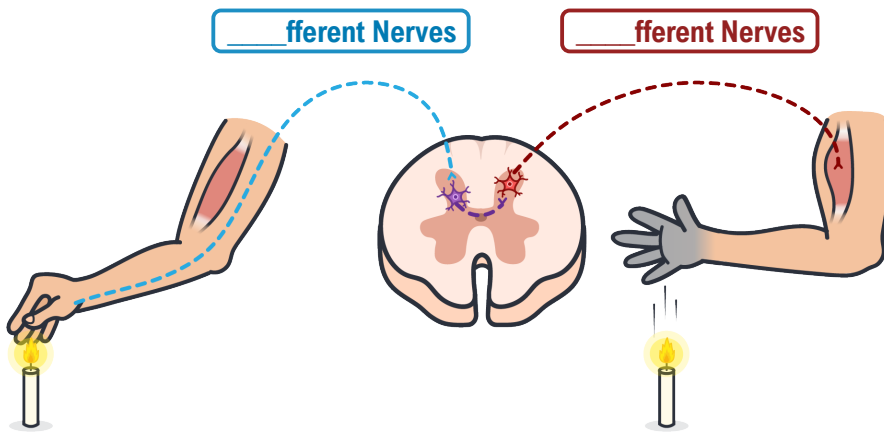
CONCEPT: PERIPHERAL NERVOUS SYSTEM

Introduction to PNS

- ◆ **Recall:** Collective name for all the nervous tissue found _____side the CNS.
 - Sends information to CNS and carries out _____.
- ◆ **Nerves:** bundles of _____, can be classified by the direction of the flow of information:
 - **_____fferent:** Transmit sensory information to CNS.
 - **_____fferent:** Transmit motor information from the CNS.

MEMORY TOOL

S : Sensory
A : Afferent
M : Motor
E : Efferent



EXAMPLE

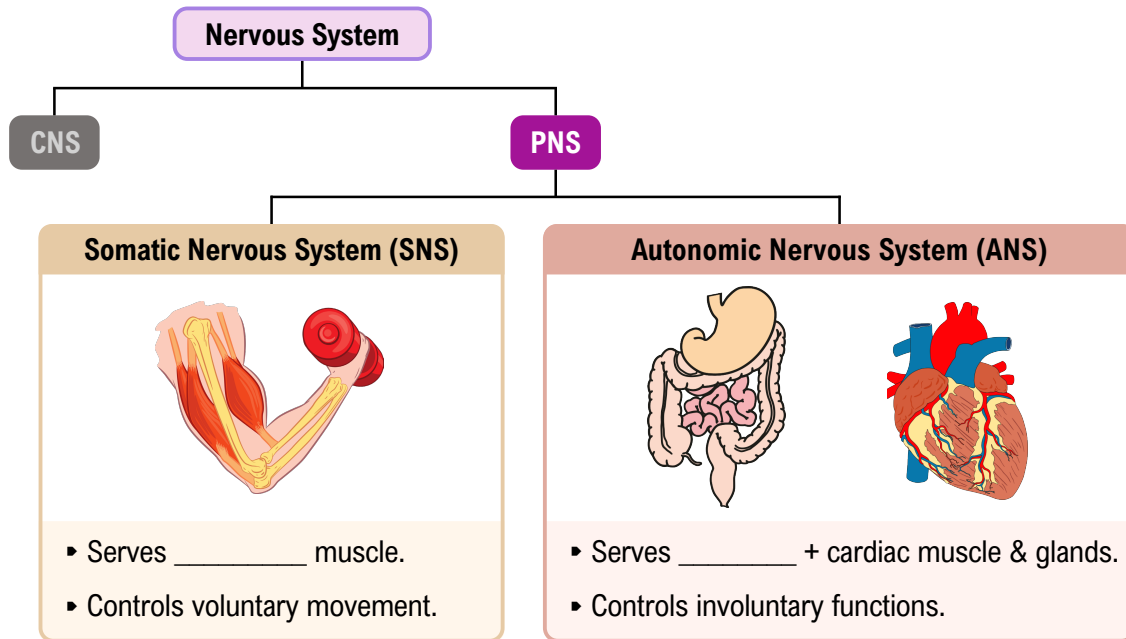
Identify which nerves, afferent (A) or efferent (E), play the final role in the following situations.

- a) _____ You miss your bus and start walking home.
- b) _____ You feel cold when you step outside on a snowy day.
- c) _____ Being able to identify the food from taste without seeing it.
- d) _____ Messaging your dad to ask him to pick you up from school.

CONCEPT: PERIPHERAL NERVOUS SYSTEM

Subdivisions of the PNS

◆ PNS has ____ functional subdivisions.



EXAMPLE

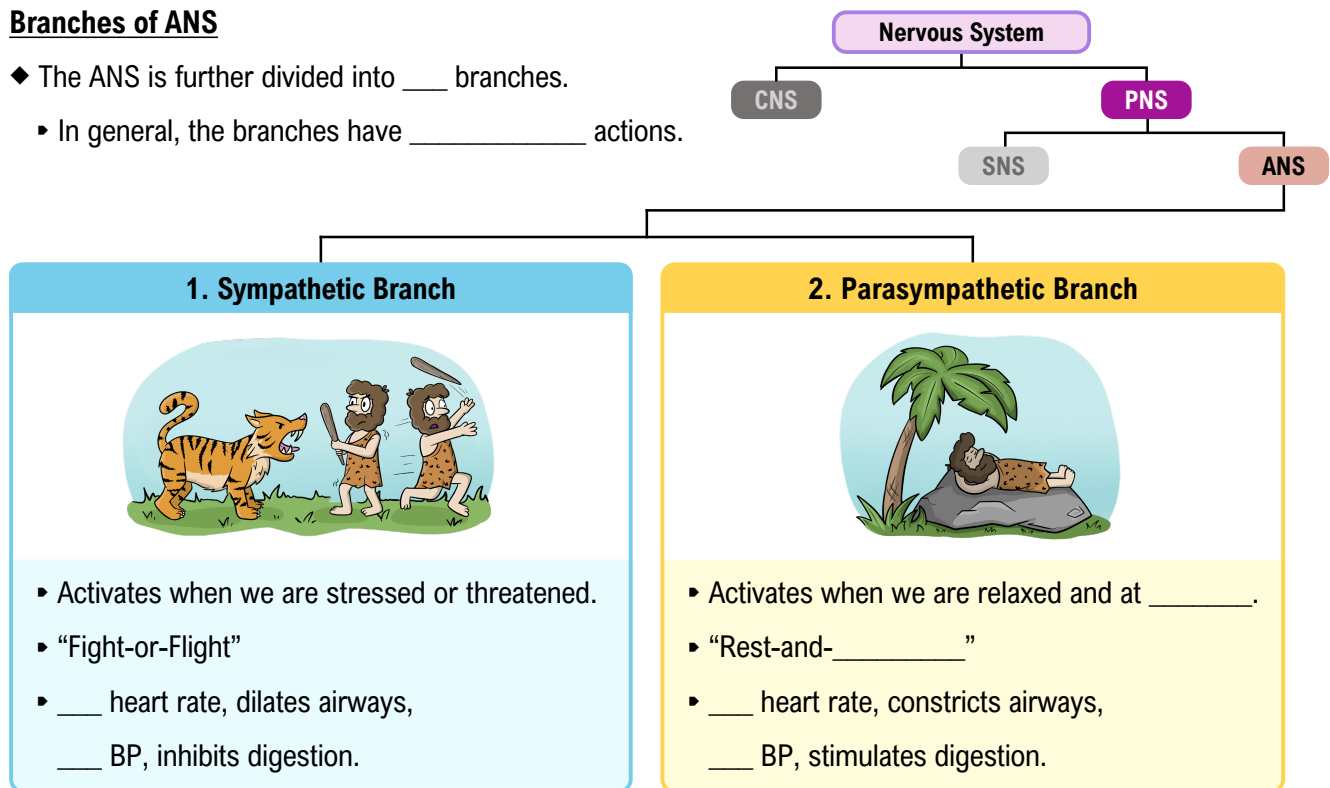
Identify the following actions as either coordinated by the somatic nervous system (S) or autonomic nervous system (A).

- | | |
|----------------------------------|-------------------------------------|
| a) ____ Increasing heart rate. | d) ____ Throwing a ball in the air. |
| b) ____ Secretion of adrenaline. | e) ____ Feeling sleepy at night. |
| c) ____ Typing on a computer. | f) ____ Reacting to a jump scare. |

CONCEPT: PERIPHERAL NERVOUS SYSTEM

Branches of ANS

- ◆ The ANS is further divided into ____ branches.
 - In general, the branches have _____ actions.



EXAMPLE

Fill in the blanks with sympathetic (S), parasympathetic (P), increases (↑), or decreases (↓).

Ruby has just eaten a large meal and is now laying down on the couch to relax. Her ____ branch of ANS becomes active, ____ her heart rate, and stimulates digestion. After a while, she decides to watch a horror movie, which causes her ____ branch of ANS to take over as her heart rate ____ and sweat glands become active.

PRACTICE

Which of the following statements is true about the components of the PNS?

- a) Efferent nerves take sensory information to CNS and afferent nerves bring motor information to skeletal muscles.
- b) Somatic nervous system controls vital involuntary functions such as breathing and heart rate.
- c) During physical activity sympathetic branch of ANS increases heart rate and speeds up digestion.
- d) In a stressful situation, the parasympathetic branch of ANS prepares the body for fight-or-flight response.
- e) Autonomic nervous system controls digestion including the release of digestive enzymes from glands.