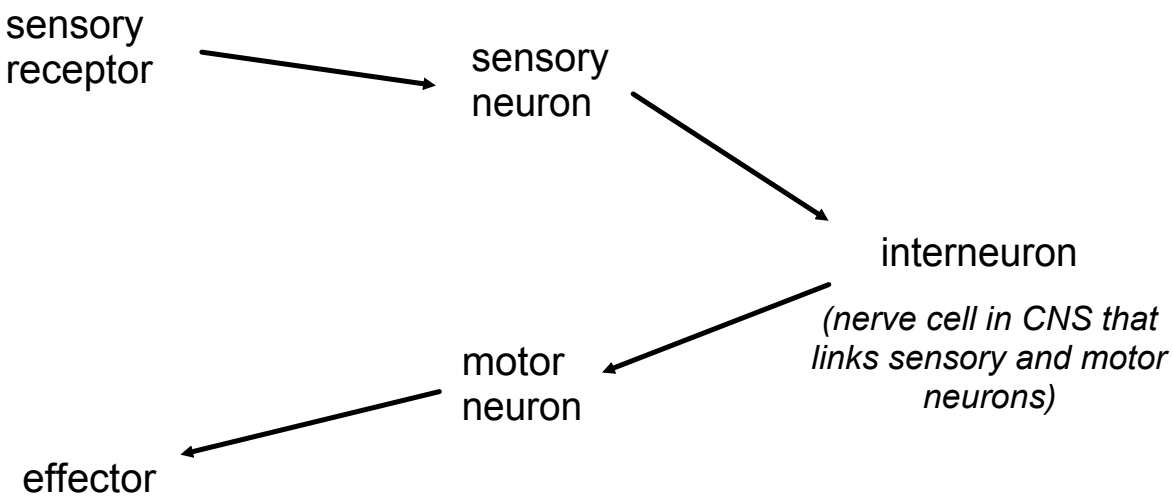
The Reflex Arc

A "reflex" action is an involuntary response to a stimulus

- snatching your hand away from a hot pot on the stove
- blinking when something moves towards or touches your eye
- knee jerk when the doctor taps it

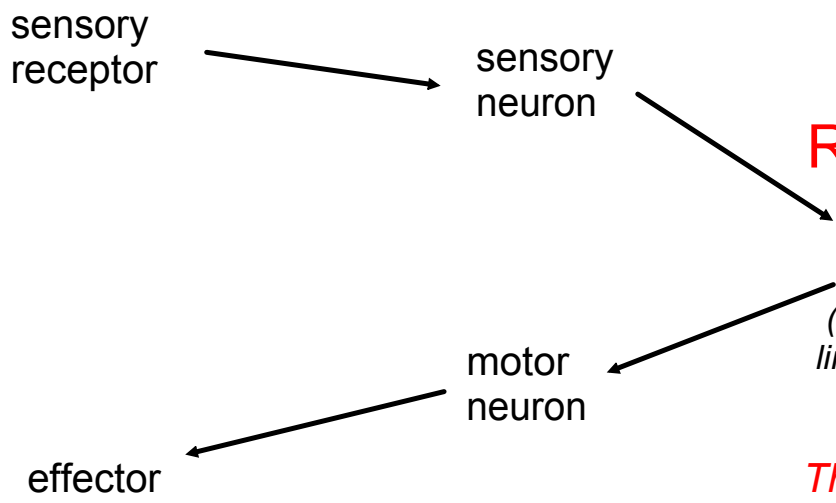
Parts of a Reflex Arc



What's missing???

Reflex Arcs

Parts of a Reflex Arc



NO REGULATOR

(nerve cell in CNS that links sensory and motor neurons)

The message from the stimulus does not make it to the brain, but only to the spinal cord before action is taken!

http://www.youtube.com/watch?v=Y5nj3ZfeYDQ

Reflex Arcs

The reflex response is managed by the CNS, but by the interneurons of the spinal cord rather than the brain. The result is an unconscious reaction to the stimulus.

This saves time and energy.

In the case of pain, a signal is transmitted to the sensory cortex via another set of neurons. Pain is only consciously experienced after the effector (skeletal muscle) has removed the body from the source of pain.....and then you say "Owwwww!"

Reflex Arc Visual Communication Assignment

Choose a reflex from the list below (or come up with your own). Visually communicate the reflex arc with a diagram, flow chart or illustration. Include the sensory receptor, sensory nerve, motor nerve, effector, spinal cord, interneurons and their association to the brain. Use arrows to show the direction of the nerve impulses.

- an insect flying towards your eye
- touching a hot pot on the stove
- knee-jerk test (deep tendon reflex)
- stepping on a tack
- sneezing when you step outside on a sunny day
- Infant reflexes: touch side of baby's face(rooting), touch roof of baby's mouth (suckling), startle reflex, touch baby's palm (palmar reflex) or foot (plantar reflex)

In addition to your visual communication, include some written background information on your reflex arc to convey detail and depth of understanding.