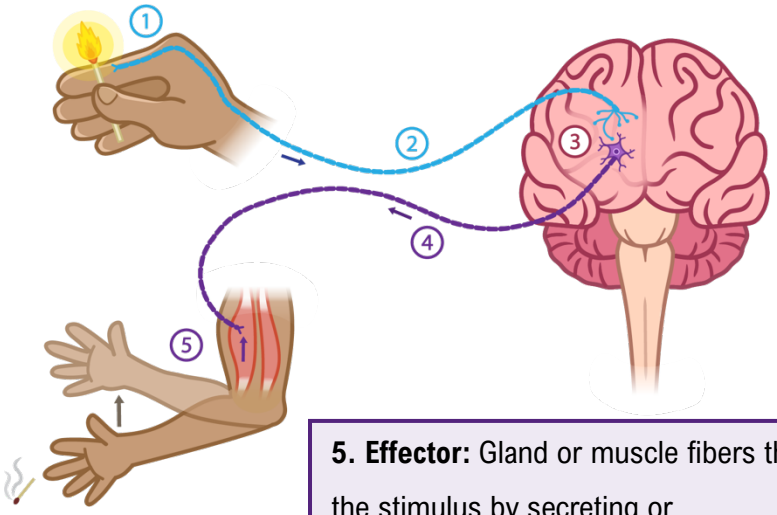
TOPIC: INTRODUCTION TO REFLEX ARCS

- **Reflex:** Rapid, _____ response to a stimulus.
- *Recall* - **Interneuron:** Transmits impulses between motor and sensory neurons.
- **Reflex Arc:** Neuronal pathway that controls a reflex action. Has _____ steps:

1. Receptor: A sensory receptor _____ a stimulus.

2. Sensory Neuron: Transmits impulses from receptor to the _____ nervous system.



3. Integration Center: Consists of inter_____ (or a single synapse) between sensory & motor neurons.

4. Motor Neuron: Conducts impulses from the integration center to the _____.

5. Effector: Gland or muscle fibers that responds to the stimulus by secreting or _____.

EXAMPLE: Which of the following is the first step in a reflex arc?

a) Motor neuron activation.
b) Integration.
c) Stimulus detection.
d) Effector response.

PRACTICE: Which stage of a reflex arc would be significantly different in a reflex that is initiated by the brain compared to a reflex that is initiated by the spinal cord?

a) Stage 1- Receptor.
b) Stage 2- Sensory neuron.
c) Stage 3- Integration center.
d) Stage 4- Motor Neuron.
e) Stage 5- Effector.

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Types of Reflex Arcs

- There are multiple criteria that can be used to classify a reflex. Here are some that you should know:

1. **Development:**
   - Innate reflex: genetically programmed during natural _____.
   - Acquired reflex: complex, _____ motor patterns.
2. **Response Type:**
   - Somatic reflex: rapid, involuntary _____ response to a stimulus.
   - Autonomic (visceral) reflex: non-skeletal response carried out in _____ organs.
3. **Complexity:**
   - Monosynaptic reflex: a _____ synapse during integration.
   - Polysynaptic reflex: _____ synapses during integration.

	Knee-Jerk Reflex	Babinski Reflex	Conditioned Taste Aversion
			
Development			
Response Type			
Complexity	_____synaptic	_____synaptic	_____synaptic

EXAMPLE: How would you classify the pupillary light reflex, which causes your pupils to constrict when the eye is exposed to bright light?

a) Somatic, innate, polysynaptic.

b) Autonomic, innate, polysynaptic.

c) Somatic, acquired, monosynaptic.

d) Autonomic, acquired, monosynaptic.