

Journal Prompt: Reflex Arcs and Reaction Time

Your hand pulls away from a hot stove before you consciously register the pain.

Prompt: Explain why a reflex response, such as the patellar reflex, occurs faster than a response requiring conscious thought. Trace the pathway a signal takes through a reflex arc and identify where this pathway differs from one involving the cerebral hemispheres ([Outcome](#), [Outcome](#)).

Where to start:

- What structures make up a reflex arc, and in what order does the signal travel through them?
- Where does a reflex arc bypass the brain, and why does this save time?
- How does the all-or-none response affect how quickly a neuron fires ([Outcome](#))?
- What role does the spinal cord play that differs from its role in voluntary movement?

Stretch:

Compare the pupillary reflex to the patellar reflex. Explain how each protects the body despite involving different organs and effectors.