

CHAPTER 11	Investigation 11.A: Move Fast! Reflex Responses	BLM 11.1.5
HANDOUT		

Safety Precautions

Do *not* use excessive force when testing the knee-jerk reflex.

Materials

- cotton balls
- 20 cm by 20 cm clear plastic sheet
- room light
- chair

Procedure

Part 1: Pupillary Reflex

1. Work with a partner. Dim the lights in the room for a few minutes. Look at the pupils in your partner's eyes.
2. Turn on the lights. Check the size of the pupils.

Part 2: Blink Reflex

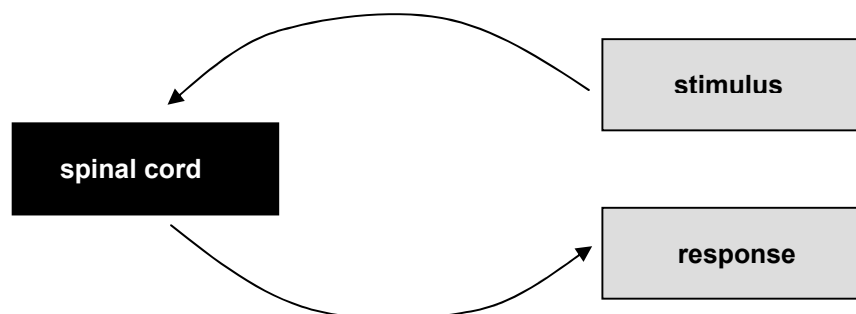
1. Have your partner hold a piece of clear plastic in front of the face.
2. Without warning, quickly throw a cotton ball at your partner's eyes. Your partner should blink, demonstrating the blink reflex.

Part 3: Knee Jerk (Patellar) Reflex

1. Have your partner sit in a chair with legs crossed, so the top leg can swing freely.
2. Hit the top leg softly, just below the knee, with the side of your hand. The leg should kick out immediately, demonstrating the patellar reflex.

Analysis

1. Use the following diagram as a model to represent and summarize each of the reflex responses that you tested and observed in this investigation.



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2. Explain why reflexes are important for the body.

Conclusion

3. Describe how the three reflexes tested in this investigation might protect the body.

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Applications

4. A student puts her hand on hot glassware, but withdraws her hand *before* she feels the pain. Explain how and why her awareness of the pain is delayed.
5. Design a procedure to test one of the other reflexes of the body. Hypothesize what the reflex arc might look like for the reflex you are testing, and suggest a way in which this reflex would help to protect the body. Obtain your teacher's approval before carrying out your procedure.