

Grip Strength and Muscle Fatigue



Lab # 16

Miss School, Miss Out!

Grip Strength and Muscle Fatigue

Question: Whose muscles fatigue more quickly, males or females?

Prediction/Hypothesis:

Procedure:

Observations/Data:

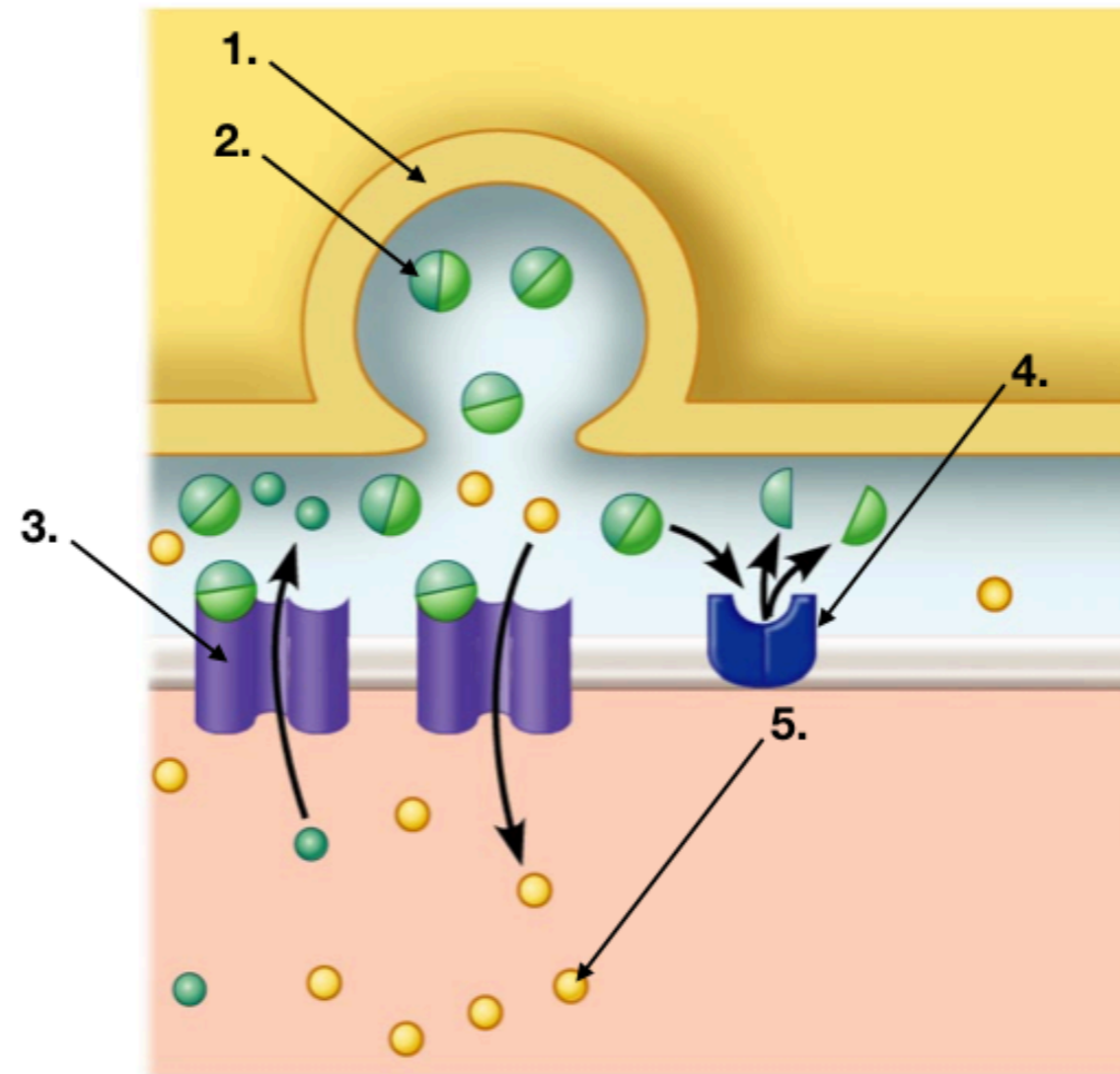
Analysis/Conclusion:

Continuous Grip

| Time interval | Maximum force (N) | Minimum force (N) | Δ force (N) |
|---------------|-------------------|-------------------|--------------------|
| 0-10 s | | | |
| 20-30 s | | | |
| 40-50 s | | | |
| 60-70 s | | | |
| 80-90 s | | | |



Closeup of the Synaptic Cleft



*

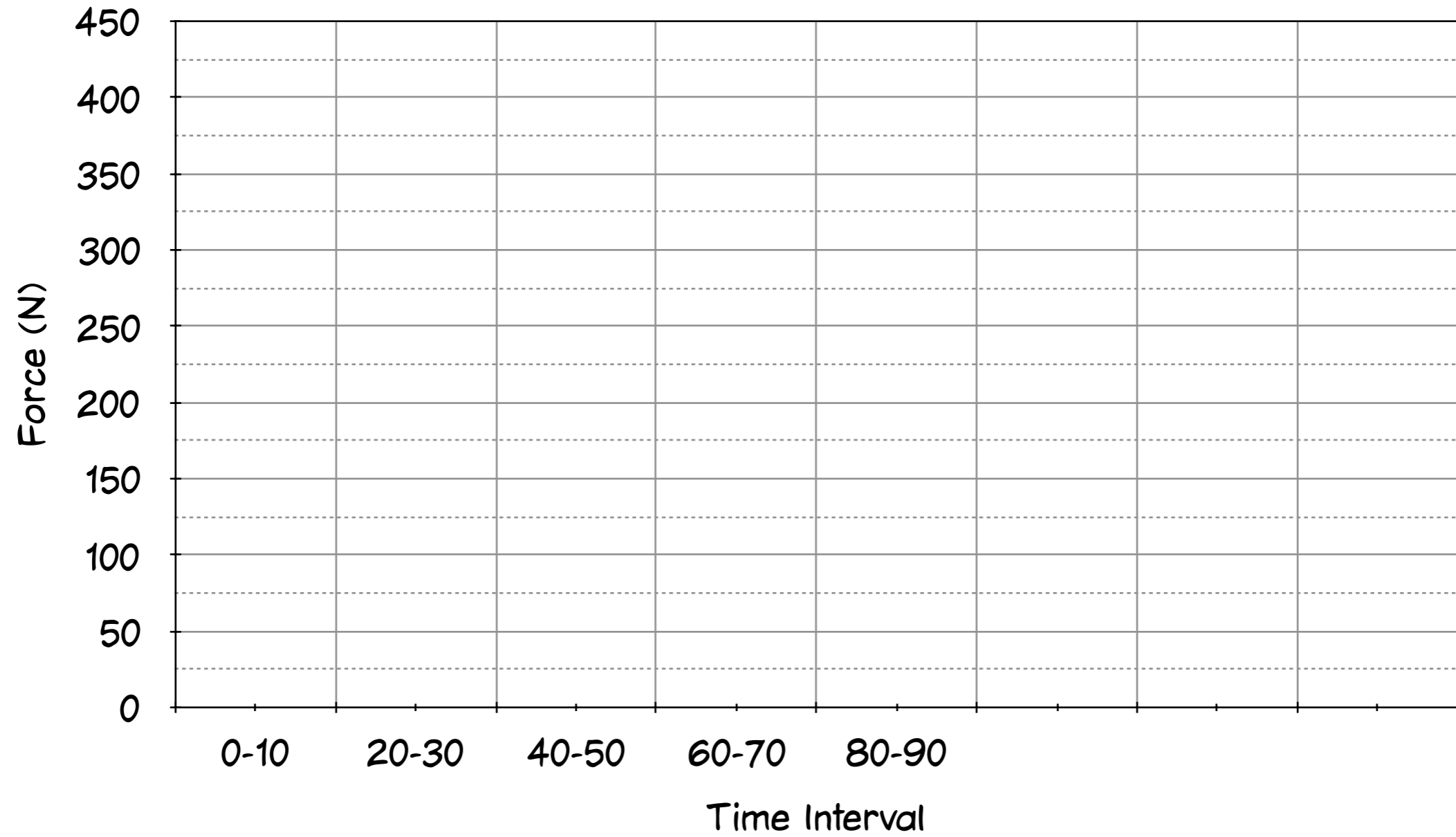
5 points

| | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| sodium ions (Na ⁺) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| synaptic vesicle | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| chemical gated ion channel | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| AChase (acetylcholinesterase) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ACh (acetylcholine) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

■ Maximum Force

■ Δ Force

Grip Strength and Muscle Fatigue



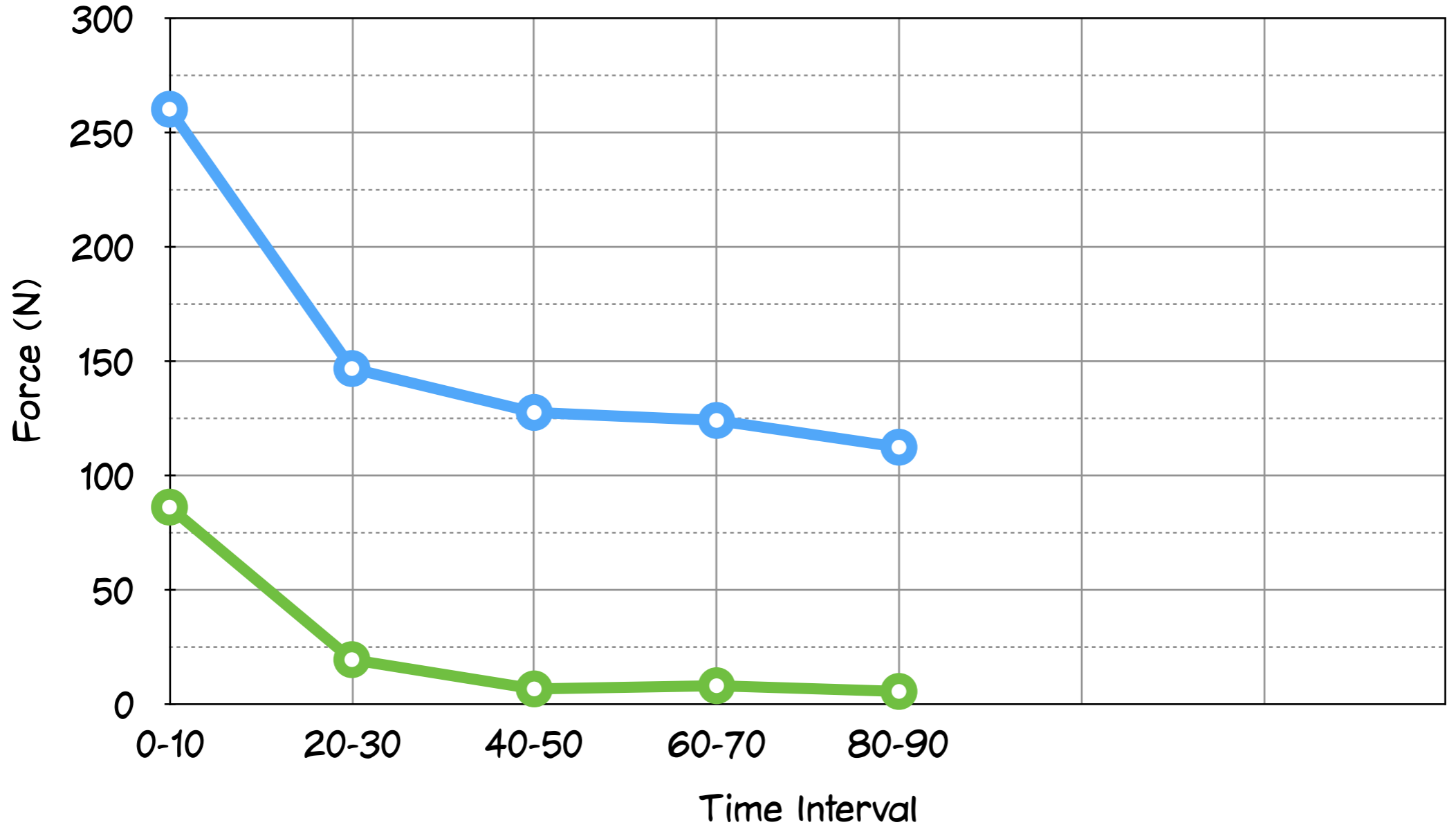
Continuous Grip

| Time interval | Maximum force (N) | Minimum force (N) | Δ force (N) |
|---------------|-------------------|-------------------|--------------------|
| 0-10 s | 259.9 | 174 | 85.9 |
| 20-30 s | 146.5 | 127.3 | 19.2 |
| 40-50 s | 127.3 | 120.9 | 6.4 |
| 60-70 s | 123.8 | 116 | 7.8 |
| 80-90 s | 112.1 | 106.8 | 5.3 |

| | Maximum Force | Difference in Force |
|-------|---------------|---------------------|
| 0-10 | 259.9 | 85.9 |
| 20-30 | 146.5 | 19.2 |
| 40-50 | 127.3 | 6.4 |
| 60-70 | 123.8 | 7.8 |
| 80-90 | 112.1 | 5.3 |

○ Maximum Force ○ Δ Force

Grip Strength and Muscle Fatigue



| | Maximum Force | Difference in Force |
|-------|---------------|---------------------|
| 0-10 | 259.9 | 85.9 |
| 20-30 | 146.5 | 19.2 |
| 40-50 | 127.3 | 6.4 |
| 60-70 | 123.8 | 7.8 |
| 80-90 | 112.1 | 5.3 |

■ Maximum Force ■ Δ Force

Grip Strength and Muscle Fatigue

