Muscle Fatigue Lab

Question – How do the muscles of your fingers, hand and forearm tire with repeated exercise?

Hypothesis – _____

Procedure

1. Decide who will be timekeeper and who will exercise.
2. Hold the clamp in your dominant hand in the position shown.
3. Squeeze the test tube clamp between your thumb and first two fingers of your hand until they meet; then relax your grip until the clamp is back in its resting position. This is considered as one squeeze. Make sure you are squeezing like this for the whole lab.
4. Using a timer, your partner will record the number of squeezes you can do every 30 seconds for a total of 150 continuous seconds. Count the number of squeezes out loud.
5. At the end of each time period, your partner will say "Time". Without pausing, continue to squeeze and begin counting again from 1 while your partner records the number of squeezes you made in their table in their comp book.
6. At the end of the 150 seconds, your partner will say "Stop". He or she will record the number of squeezes you made in the final 30 second. When this is done, switch roles and repeat steps 2 through 6.
7. When everyone is done, share and record your data. Then return your materials to the blue table and answer the questions in your comp book.

Observations

30 Second Intervals	Squeezes of Partner 1	Squeezes of Partner 2
1 - 30 seconds		
31 – 60 seconds		
61 – 90 seconds		
91 – 120 seconds		
121 – 150 seconds		

Questions (No, you do not need to write the question or answer in complete sentences)

1. Create a line graph of you and your partner's data. Use one color for your data and a different color for your partner's data.
2. What happened, in general, to the number of squeezes made per 30-second trail?
3. How did your muscles feel at the beginning of the exercise? How did they feel when you continued to use them, even when they were tired?
4. On the basis of what you have learned about how your body releases and uses energy, explain why you think muscles tire.
5. What do you think you could do to increase your muscle endurance?