*NAME:*_____*BLOCK:*_____*DATE:*_____

Thumbs Up, Thumbs Down

1. Observe your hand (all fingers and thumb.) Notice the relationship of your thumb to the rest of your thumb of your fingers and the rest of your hand. Describe the relationship.

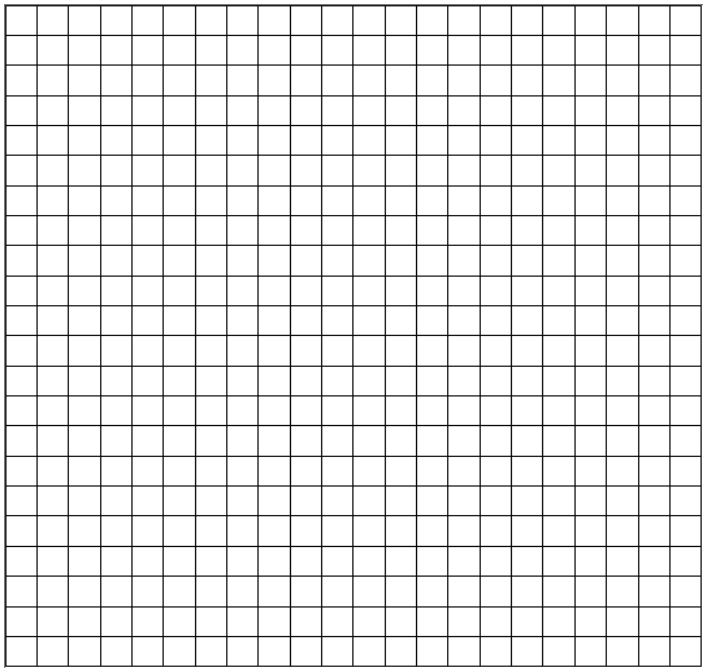
2. Note also that your thumb can move in a number of directions and angles. Record a description of this range of motion.

3. You and a partner will complete the tasks below two times. In trial 1, each student will complete the tasks regularly and a partner will time how long it took to complete each task. In trial 2, the student will have their thumbs taped down and complete the tasks again while their partner times how long it takes to complete. Switch roles with your partner.

Activity	Trial 1 (s) (With thumb)	Difficulty level (1=easy, 10 = hard)	Trial 2 (s) (Without Thumb)	Difficulty Level (1=easy, 10 =hard)	Time difference (s)
1. Flip a coin 10 times					
2. Rip a paper in half					
3. Take a cap off a marker and write your first and last name					
4. Take off and put back on your shoe					
5. Cut a heart from a piece of paper					
6. Open a text book to page 50					
7. Create your own:					

4. Which tasks required the least thumb involvement? The most? Explain.

5. Choose 5 tasks from the table and graph the times from trial 1 and trial 2. Your graph must compare the times for trial 1 and trial 2 so choose the most appropriate form of a graph. BE SURE TO INCLUDE A TITLE, AND AXES LABELS.



6. List 3 advantages of having an opposable thumb? Are there any disadvantages?

7. Many scientists believe the opposable thumb has helped humans adapt to their environment survive. Using your data as a guide, write 3-5 sentences to explain some of the ways in which the use of the thumb enables humans to better survive in this environment.